

CRITICAL GEOGRAPHIES

A Collection of Readings



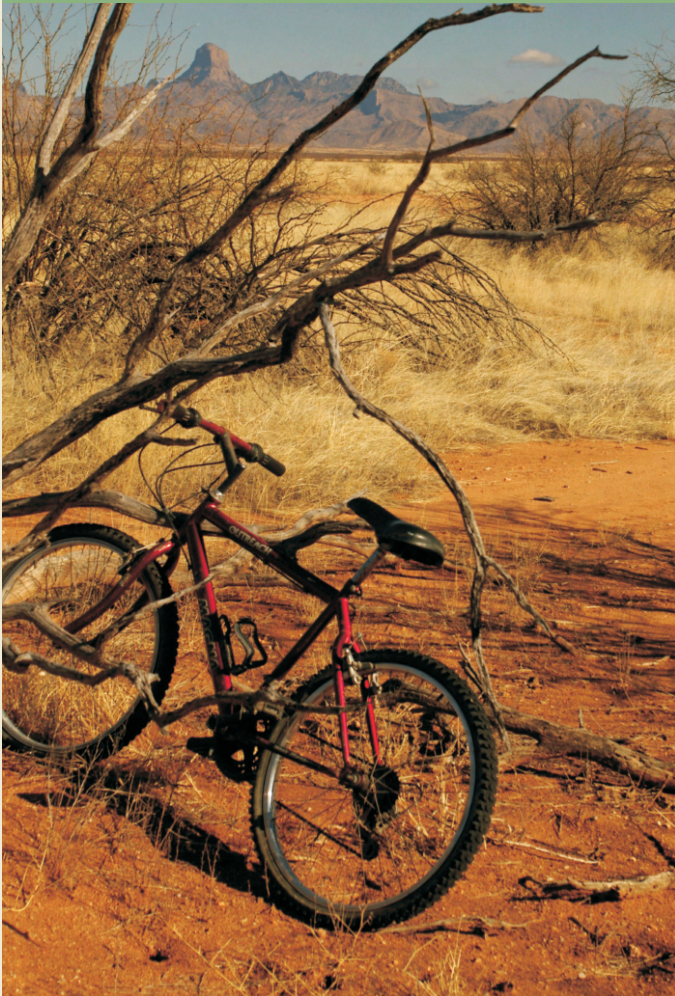
Edited by

Harald Bauder and Salvatore Engel-Di Mauro

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Critical Topographies Series

CRITICAL GEOGRAPHIES

A Collection of Readings



Critical Geographies introduces students, scholars and activists to wide-ranging approaches, topics and theories associated with critical geographical scholarship. A selection of thirty-six chapters of previously published work, spanning over 150 years, is organized into four thematic sections with editorial introductions, addressing the themes of critical reflection within academic geography, theorizing the relationship between space and society, outlining geographical approaches towards human-environment relations, and a critical view on representing Earth. The collection offers a series of snapshots of the multi-directional and meandering paths of critical thought in the geographic discipline.

Harald Bauder is an Associate Professor of Geography at the University of Guelph in Canada. Salvatore Engel-Di Mauro is an Assistant Professor of Geography at the State University of New York at New Paltz in the USA.

Contributors: Anouar Abdel-Malek, Kay Anderson, Harald Bauder, James Blaut, Nicholas K. Blomley, Judith Carney, Vera Chouinard, Jeremy W. Crampton, Guy Debord, Caroline Desbiens, Matthew H. Edney, Jody Emel, Kim V. L. England, David Harvey, Brian Hudson, Cindi Katz, Peter Kropotkin, Yves Lacoste, Melissa Leach, Doreen Massey, Suzanne MacKenzie, Linda McDowell, Robin Mearns, Katharyne Mitchell, Janice Monk, John Pickles, Richard Peet, Laura Pulido, Elisee Reclus, Paul Robbins, Nadine Schuurman, Joni Seager, Neil Smith, Richard A. Walker, Michael Watts, Bobby M. Wilson, Ben Wisner, Jennifer Wolch.

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Critical Geographies: A Collection of Readings

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Harald Bauder and Salvatore Engel-Di Mauro

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For our students

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Preface

“Free Critical Geographies”¹

Compiling key works of critical geographies is an impossible task. We began this task by conducting a survey among the editorial board members of the journal [*ACME: An E-Journal of Critical Geographies*](#), asking their opinion for the three most important texts of critical geographies. We anticipated a few key works to emerge from this survey, which we would then include in this collection. However, the survey revealed that no consensus existed among *ACME* board members and other colleagues we consulted on what the key texts in the field are. In fact, not a single text was even mentioned twice by the survey participants.

Furthermore, the idea of compiling “key” texts of critical geographies is highly problematic. Initially, we intended to call this collection “A Reader in Critical Geographies.” A colleague, who heard about our intention, remarked that a “reader” suggests “authorization and authority” and cynically added: “Not exactly the natural positions of ‘critical geography’...”. We began to realize the impossibility of our project. Yet, we decided to continue with it because critical scholarship to us means precisely to engage with the contradictions of our discipline at the practical level.

Our above-mentioned colleague suggested the title of “Free Critical Geographies,” which would have suited a non-authoritative book and our aims to deliver critical geographies for “free” in an open-access format to audiences around the globe. This title, however, would have been dishonest to our audience because the authority of the editors could not be avoided and, in the end, did shape the contents. The current title *Critical Geographies: A Collection of Readings* does not deny this editorial authority and, at the practical level, still appeals (we hope) to the audiences we seek to reach.

Most importantly, the title reflects the processes by which we selected the chapters. This selection processes was guided by several factors. First, we included texts that were mentioned in the survey. Second, we attempted to maintain a balance and range of geographical themes and topics. Third, we depended on the copyright

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owners for the rights to republish the texts. If we did not obtain these rights, we searched for alternative texts to be included. In the end, we obtained a “collection of readings” based on the input by fellow geographers, restrictions imposed by institutional gatekeepers as well as our editorial authority.

Although *Critical Geographies* may represent a compromise in the manner in which its contents were selected, it does translate important principles of critical geographies into practice. The primary purpose of this book is to implement these principles:

First, the book makes critical geographies accessible to new audiences. It is not only a book for the “converted” but also for students who are interested and less familiar with critical work in Geography. The “model” reader we had in mind when editing the texts is a typical student at one of our own universities who asks important questions about the geographic discipline, space and society, people and environment, and representations of Earth, but who has little prior exposure to critical geographies. This book is thus intended as a modest contribution to an infrastructure that enables teaching critical geographies in the classroom and beyond. We fully realize the lack of accessibility of this book for people whose language is not English. It is beyond our abilities and means, however, to include critical geographical work unavailable in English or to provide translations into other languages. It is therefore our hope that this initiative will be replicated by others for speakers of other languages and for other cultural contexts where such an initiative makes sense.

Second, as teachers at institutions of higher education, we believe that education should be democratic and free. However, due to the lack of free textbooks, we have found ourselves often in the situation of assigning textbooks in our classes that were too expensive for many students. Moreover, the ever accelerating publication of new editions has undermined the used-book market and literally sucks money out of students’ pockets. Once a book is available as a new edition, charities ask us to donate the old books to be shipped to poorer countries, where students are apparently expected to learn using the texts no longer used in the wealthier countries. To address this problem, *Critical Geographies* is freely available from anywhere in the world. Although we realize that speedy internet access – a prerequisite for downloading the chapters contained in this book – is still exclusionary along the global digital divide, we believe that open-access is a model of textbook distribution that corresponds with the roles and responsibilities of higher education.

Third, as educators we have been uneasy with the idea that the education we deliver in the classroom is used by corporate publishers to accumulate capital (Bauder and Engel-Di Mauro, forthcoming). It would be cynical, in our eyes, for example, to compile a textbook on *critical* geographies and then collect royalties from a corporate publisher to print the book and sell it at a high price to privileged university students who can afford it, while it remains inaccessible to potential readers who do not possess

the means to buy the book. *Critical Geographies* cuts out the corporation that stands between the authors who wrote the chapters reprinted in this book and their audiences.

Fourth, *Critical Geographies* intends not only to educate students but also to challenge instructors and researchers to modify their teaching practices and knowledge production. Similar to teachers who must recognize the political economy of textbook publishing, researchers must be aware of the consequences of where they publish their work. We could not include many excellent papers in this book because publishers demanded (sometimes outrageously) high copyright fees. After briefly considering paying the fees for some copyrighted material, we decided to make a point of republishing only work for which publishers and copyright owners permitted republication without charging us anything. Our intention was to stimulate authors' awareness of how the copyright to their texts and research will be administered, who will be excluded from access to their work and who will profit from it. Our experience in compiling the copyrights to this book is that a few publishing houses are becoming the gatekeepers of geographical knowledge and they have little interest in sharing this knowledge in a democratic manner (see also Blomley, 2006). At the same time, we appreciate and acknowledge those publishers and copyright owners who support the free and open-access circulation of geographical knowledge and let us republish the work they own in this collection.

We recognize that this book only makes a very small contribution towards realizing these ambitious principles. If you continue reading some or all of the following chapters, our intentions will have been more than realized.

Harald Bauder, Stuttgart
Salvatore Engel-Di Mauro, New Paltz

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How to Use This Book

Critical Geographies caters to several audiences. First, we envision the primary audience to be upper-level undergraduate students at English-speaking colleges and universities. Second, the collection may provide interesting discussion material for graduate students. Third, we hope to attract readers outside of the university classroom, who are interested in critical geographies.

We designed this book to appeal to these three audiences. Accordingly, the individual chapters reflect varying levels of difficulty. We do not anticipate that many people will devour the collection chapter-by-chapter, from cover to cover (more realistically, we will also be glad if students will read any of it). Rather, most students and instructors will likely read and assign individual chapters according to their needs and interests.

The chapters in this collection represent an edited version of original texts. We organized these chapters based on broad themes (critical reflections, space and society, people and environment, and representing Earth). Although we briefly introduce these themes, we do not claim any authority in categorizing and subdividing the discipline. In fact, readers may find it more useful to read across the themes and follow their own path through the collection. To instructors, in particular, we propose to select individual chapters and help their students to situate these in the context of the given course and the geographic discipline through discussion and/or by providing additional information. The url (*uniform resource locator*, or simply: internet address) of the book and the chapters can be posted directly into the course syllabus and permit instructors to redesign the sequence of individual chapters. In addition, posting the url in the syllabus or course homepage makes the material easily and directly accessible to students.

We edited these texts with several objectives in mind. First, copyediting ensured that the individual chapters conform to a common style of citation, referencing and other editorial details. We intended to make the collection more reader-friendly while maintaining the idiosyncrasies of language use by each author. Second, by explaining some terms and ideas, we attempted to make the texts accessible to an audience unfamiliar with the worst jargon used by critical geographers. In cases when individual terms or concepts are still incomprehensible, we encourage readers to consult a dictionary or [Wikipedia](#). Third, in some cases we cut text that was not immediately relevant to convey the central argument and/or which obstructed the flow of the text. All alterations from the original are marked in [square or box brackets], omissions are marked [...]. In a few instances we converted square brackets in the original text into {curly brackets or braces}.

Finally, please remember that this book is free and may not be sold!

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Preface

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1

Introduction: Critical Scholarship, Practice and Education

Harald Bauder and Salvatore Engel-Di Mauro¹

“Critical geography” is both an approach to scholarship and a practice of scholarship. The term “critical” refers to a tradition of critical theory. An often cited representative of this tradition is the so-called Frankfurt School. This “school” consisted of a network of researchers affiliated with the [Institute for Social Research](#) in Frankfurt, Germany, which operated from 1923 to 1933, moved to New York during the Nazi regime, but reopened in Frankfurt in 1950. Although the label “Frankfurt School” is problematic and inexact (Behrens, 2002), it does permit associating some basic ideas with the notion of “critical”. According to Herbert Marcuse (1964: x), a prominent member of this school: “To investigate the roots of [social] developments and examine their historical alternatives is part of the aim of a critical theory, a theory which analyzes society in the light of its used and unused or abused capacities for improving the human condition.”

Achieving this aim, however, is complicated by the inability of researchers to assume objective viewpoints and completely dissociate themselves from the social world and the technologies they use. In fact, scholars and scientists as well as the institutions in which they operate are firmly embedded in the social and political world. If scholarship is uncritical towards its social embeddedness, it is prone to reproduce existing social order and inadvertently promote political, social and cultural interests. Critical scholarship therefore does not deny these interests but rather incorporates them into its approach. Critical scholarship addresses the inevitable dilemma of being a social and political activity by focusing on the tension between the existing social and material world and the possibility for changing this world. With this focus, critical scholarship realizes its role in society not to blindly reproduce existing social order, but to create the conditions in which progressive change can occur. This

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focus also means that the separation between scholarship and practice cannot be maintained. Rather, critical scholarship embraces the connection to critical practice.

In the discipline of Geography, critical scholarship has a long tradition. This tradition, however, has varied considerably based on the places and language-communities in which geographical knowledge is produced and geographical education occurs. The still largely ‘white’, Eurocentric viewpoints that prevail in ‘Anglophone’ academic geography, as Laura Pulido points out in Chapter 7, reflects its institutional provenance in and spread from central and western Europe. The publications included in this Collection necessarily suffer from this narrow perspective and from the continuing emphasis in ‘Anglophone’ academia on constructing and drawing from narrow historical and intellectual lineages and selective evidence (see Diop, 1974). Anglophone histories of critical geography still largely ignore the contributions of African, Asian and Latin American knowledge systems and the geographical knowledges developed in other cultures. An example is Chapter 9 by Elisée Reclus, included in this collection. This is a mid-19th Century work, originally in French, which influenced ‘Anglophone’ geographers associated with the so-called “New Left” and “radical geography” in the 1960s and 1970s (Peet, 1977). The New Left and radical geography had the great merit of rediscovering and reworking critical approaches from both within and outside geography. However, the main sources of theoretical inspiration came from ‘white’, male, heterosexual European perspectives². We do not suggest that a critical outlook is impossible through a single or limited cultural framework (Marxist work, for example, has had much applicability beyond white males in Europe and North America). Recently, however, the perspective has been broadened with the development of feminist, sexuality, and postcolonial approaches. These recent approaches, along with earlier radical approaches, have contributed to the emergence of the term “critical geographies” (Gibbons, 2001; Peet, 1998).

Despite the long tradition of critical thinking in Geography, the label of “critical geography” is a rather recent phenomenon. It gained popularity, for example, in Scandinavia in the early 1980s with the establishment of an annual meeting for critical geography. In the United States, an annual mini-conference on critical geography was initiated in 1994. In the United Kingdom, some geographers organized under the label critical geography in the mid-1990s, opposing the sponsorship of the Royal Geographical Society by Shell Oil, a corporation associated with a brutal military regime in Nigeria (Berg, 2002; Blomley, 2008; Watts, 2001). In an effort to foster international linkages, critical geographers have been congregating for the bi-annual International Conference on Critical Geography since 1997 and met in Canada, South Korea, Hungary, Mexico and India (see Chapter 6).

² In addition, there is still an uncritical tendency to reproduce Eurocentric knowledge genealogies, often starting in Greece some 2000 years ago (e.g., Gibbons, 2001) or in Britain about 500 years ago (e.g., Johnston, 2003).

A particular issue, with which critical geographers have been concerned, is the link between geographical scholarship and activism. While some critical geographic research has sought to support activist struggles “on the street”, other research has chosen activism as a research topic. In addition, critical geographic scholarship has been concerned with finding ways in which the university and the very nature in which scholarship is practiced can be transformed (Banerjee-Guha, 2002; Blomley, 2008; Castree, 2000; Fuller and Kitchin, 2004; Moss et al., 2002, 3; Peet, 1998).

Today, critical geographies embrace wide-ranging topics, themes and theories. Yet, one can and should distinguish between critical scholarship and “uncritical” scholarship, which may entail critical thinking but otherwise lacks the recognition of subjectivity, self-reflexivity and the awareness of social and political embeddedness (Blomley, 2006). The texts selected in this book belong to this wider range of critical scholarship in the tradition of critical theory that exists within academic geography.

However, the label of critical scholarship is also contested (Katz, 1998). For example, one author, whose work is included in this book, explicitly rejected the label critical geographer and preferred to be called a socialist geographer. Critical scholarship, which follows critical approaches and practice, in fact, reaches far beyond the community that identifies itself as “critical geographers”. At the risk of excluding critical audiences that do not embrace the label “critical geographies” and including authors who do not wish to carry this label, we used the term as the title in this Collection because, in our eyes, it represents inclusiveness and reflects the nature of the work published in the book. In addition, we chose the title for strategic reasons, seeking to claim the notion of “critical geographies” for an open-access publication intended to be “owned” by the geographic community before it is appropriated by the corporate publishing industry. Even in selecting a title for this book, we are confronting the problem that critical scholarship and practice are inseparably intertwined. There is no way around it.

In geographical education, the link between scholarship and practice is particularly important. Perhaps the ideas of critical theory translate most directly into practice in the context of education. The core of critical scholarship relates to the ideas developed by enlightenment thinkers in the 18th and 19th Centuries (Behrens 2002). The German philosopher Immanuel Kant, for example, showed that the categories and concepts, which make up the human world, are formed within the human subject itself. To be “critical”, in this context, means to explore the origin and the limits of reason (Werlen, 1999, 198). Now, consider Kant’s famous quote from 1783 (2008/1783, emphasis in the original):

Enlightenment is a person's release from his self-imposed tutelage. Tutelage is a person's inability to use of one's own reason without guidance from someone else. Self-imposed is this tutelage when its origin does not lie in the lack of reason but in the lack of resolve and courage to use one's reason without guidance from someone else. Sapere

aude! “Have courage to use *your own* reason!” – that is the motto of enlightenment.³

It is an important objective of critical education to enable students to use their own reason and not uncritically internalize dogma, reproduce existing norms or regurgitate conventional knowledge. Independent thinking and reasoning, however, has to be exercised with caution and discretion, because it harbours the potential to loop back to dogma and convention, and lead to destruction and violence, as illustrated in the catastrophes of Nazism and Stalinism in the 20th Century (Horkheimer and Adorno, 2002/1944).

Another important figure in critical scholarship is Karl Marx, who recognized the role of education and the educator. In 1845, Marx (1969/1845) scribbled eleven theses in response to a book by Ludwig Feuerbach, whom he critiqued for neglecting the influence of human practice and activity on shaping the human world (first thesis). Before arriving at the famous eleventh thesis “The philosophers have only *interpreted* the world in various ways; the point is to *change it*,” Marx wrote in the third thesis:

The materialist doctrine [followed by Feuerbach] concerning the changing of circumstances and upbringing forgets that circumstances are changed by people and that it is essential to educate the educator him or herself. This doctrine must, therefore, divide society into two parts, one of which is superior to society.

The coincidence of the changing of circumstances and of human activity or self-changing can be conceived and rationally understood only as *revolutionary practice*.

Scholarship and education are activities that influence the course of history and shape the world. Rather than conveying objective truths about the world from a hypothetical and non-existing vantage point located outside of the world, scholarship and education always occur in a particular geographical context and point in history. They are practical and “revolutionary” activities because they shape the manner in which people understand the world and how people act on the basis of this understanding (see also David Harvey, Chapter 11).

The importance of pedagogy was not lost on geographer and anarchist Peter Kropotkin. In Chapter 2, which he wrote in 1885, he makes several proposals to teach geography in a manner that cultivates a sense of commonality of all people as human beings, belonging to the same species. As part of what would now be called pedagogical activism, Kropotkin insisted that egalitarianism should be practiced in the

³ Different translations exist of this text, which was originally published in German. We translated Kant’s original text (and Marx’ text below) in a manner that best reflects, in our eyes, its meaning in the context of this Introduction.

classroom and that teaching should lead to the development of self-teaching. It was not until the past few decades, however, that such classroom strategies have gained wide-ranging attention in the educational systems of North America and Europe.

As Kropotkin understood, pedagogical practices are directly connected to one's understanding and practice of geography (Kearns, 2004). But only in the last three decades have English-speaking geographers begun critiquing the objectivity and truth claims assumed in mainstream geography. They have begun recognizing the subjective, persuasive and "poetic" nature of geographical inquiry (e.g. Barnes and Gregory, 1998). For example, geographers who have drawn on the French historian Michel Foucault have made the relationship between knowledge and power a central theme of their scholarly activities. These geographers acknowledge that scientific knowledge, language and our understanding of the everyday world are inseparably intertwined. Contemporary critical geographers generally realize that their work as scientists, their roles as educators and their participation in public life are deeply political. This realization, however, raises questions of what to do and how to use one's abilities (and "reason" as Kant pointed out) to change the world.

The following chapters offer a wide range of answers to these questions. They all engage in some way with the idea that critical scholarship, if unhappy with the circumstances it uncovers, must help create the conditions for progressive change. The chapters of Part I of this Collection are summarized under the rubric "critical reflections." These chapters look inward, focusing on the practices of academic geographers themselves. What might look to outsiders as exercises in navel-gazing, are to critical geographers valuable assessments of their own practices and important discussion on how to rectify undesirable circumstances. The chapters of Part II fall under the label "space and society." These chapters examine geographical perspectives of society, aiming to facilitate social change. Part III features chapters that engage with our relations with the rest of nature, or the environment. A common theme throughout many of these chapters is not to take received ideas about nature or the environment for granted. Rather, these ideas are ideological reflections of the societies in which they occur, often intertwined with practices of social distinction and subordination. Another theme consists in understanding environmental problems as deeply social in character, intimately intertwined with issues of social justice. Finally, the fourth set of chapters represents work on cartography (i.e., map-making) and Geographic Information Systems that shows the impossibility of neutrality and objectivity in representing the Earth's surface.

The four Parts of the book cover a vast thematic and theoretical terrain of geographical knowledge and reflection. Rather than offering a focused overview of a particular body of critical work, this book involves a diverse set of geographical topics, perspectives or approaches. This diversity should illustrate the wide range of problems to which geographers are applying critical scholarship and inspire readers to address geographical problems in fresh and creative ways. It represents a sort of "hypertext", showing multiple ways of understanding and interpreting similar issues and concerns.

In Roland Barthes's term, hypertext produces "writerly" texts that do not dominate the reader and insist on particular readings, but instead engage the reader as an "author" and insist upon the openness and intertextuality of the text – that is, its openness to other texts and readings (Pickles, Chapter 33, 6).

We hope to have reinforced, through this collection, this openness to a variety of critical approaches, as well as the necessary dialogue among these perspectives that promotes the further development of "critical" political ideas.

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Part I

Critical Reflections



Fun Fair in Front of the Marx Monument Chemnitz (formerly Karl-Marx-Stadt), Germany, 2007. Photo and © by Bernd Adamek- Schyma.

An important aspect of critical scholarship is to look in the mirror and reflect on one's own practices. The essays in Part I represent such reflections. They discuss the role of geography in society and education, and the practices that characterize the institutional contexts and workplaces of geographers. Reflection means raising uncomfortable questions about the discipline's own shortcomings, including tackling issues of racism and sexism within the geographic community or the compliance with problematic institutional politics. Asking these uncomfortable questions is an important step in creating opportunities to address them. Through reflection

geographers have thought to create the conditions that enable progressive transformation of their own community and its institutional context.

The essays below address a variety of issues, ask a range questions and offer diverse suggestions and solutions. They are impressions of the time and place in which they were written. For example, the essay by Russian anarchist Peter Kropotkin (1842-1921) with its passion for science is situated in a period following Alexander von Humboldt (1769-1959) that was marked by the “revival of Natural Science” in geography (Richard Peet’s discussion in Chapter 14 further illustrates how Kropotkin’s thinking about human society is framed by the belief in the natural evolutionary process). Furthermore, his calls of international cooperation and exchange occurred at a time when Europe’s political order congealed around the configuration of the nation state (Hobsbawm, 1989). While some of Kropotkin’s ideas may seem hopelessly outdated to the contemporary reader, others are still as inspiring as they were more than 120 years ago. Conversely, the chapter by French essayist, filmmaker and founder of the Situationist International, Guy Debord (1931-1994), is situated in a very different historical context. His critique of urban geography is also a critique of the urban Paris of the 19th and 20th Century, while developing and applying the notion of *psychogeography* to capture geographies of emotion and behaviour.

The remaining essays in Part I outline the contours of more recent debate in English-speaking academic geography about academic practices and conventions, and about the contradictions between the ideas and concepts geographers advocate and teach and how geographers act. An early example of this recent trend of self-reflection is Nicholas Blomley’s essay, in which he asks important questions about the responsibilities and opportunities of academics to facilitate change outside of the academy. His essay ignited a vibrant and still on-going discussion of how critical geographers should engage in activism inside and outside their own workplace (e.g. Tickell, 1995; Castree, 1999, 2000, [Fuller and Kitchin](#), 2004). Similarly, Vera Chouinard calls on her fellow geographers not to lose sight of the aims of critical scholarship. As geographers seek to reinvent themselves and embrace new ideas and theories, they also should apply these ideas and theories to understand processes of oppression and exclusion.

That even in academia reflection can connect to action is exemplified in the report by Neil Smith and Caroline Desbiens on the Inaugural International Conference on Critical Geography. Smith and Desbiens show how critical geographers are meeting the tyranny of contemporary forces of globalization with “political optimism” and the formation of the International Critical Geography Group (ICCG) that set itself ambitious political goals. At the intersection of applying and theorizing critical geography, the group has sought to resolve practical barriers to internationalism, such as deciding in which language to communicate, and internal criticism, such as issues of representation and inclusion, through open debate (e.g. Katz, 1998). The ICCG continues to be active and last met in November, 2007, in Mumbai, India.

The difficulties with which the ICGG is grappling are part of a larger change among geographers towards greater sensitivity to issues of justice and equality. Discourses of race and gender, in particular, have occupied a prominent position in the research and writings of academic critical geographers over past decades (see, for example, Chapters 15, 16, 17 and 20, and Kobayashi and Peake, 1994). Many geographers have felt, however, that this thematic focus on race has not been matched by critical practice within the discipline. By using her own biography as an example, Laura Pulido illustrates the practical problems confronted by non-white geographers at North-American universities and shows how the “whiteness” of the geographic discipline has shaped geographic scholarship.

While these chapters illustrate that highly problematic practices have existed within geography and its institutions, the final essay in Part I, by Harald Bauder, investigates how and why these practices are reproduced by academic geographers. Students, junior scholars and seasoned professors all play critical roles in the reproduction of the academic institution with all its practices. The transformation of these practices will require not only that academic geographers recognize these forces of reproduction, but also that they consciously mobilize the particular resources at their disposal with the positions they occupy.

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2

What Geography Ought to Be¹

Peter Kropotkin

1885. *The Nineteenth Century* 18, 940-56.²

It was easy to foresee that the great revival of Natural Science which our generation has had the happiness to witness for thirty years, as also the new direction given to scientific literature by a phalanx of prominent men who dared to bring up the results of the most complicated scientific research in a shape accessible to the general reader, would necessarily bring about a like revival of Geography. This science, which takes up the laws discovered by its sister sciences, and shows their mutual action and consequences with regard to the superficies of the globe, could not remain an outsider to the general scientific movement; and we see now an interest awakened in Geography which very much recalls the general interest taken in it by a proceeding generation during the first half of our century. We have not had among us so gifted a traveller and philosopher as Humboldt was; but the recent Arctic voyages and deep-sea explorations, and still more the sudden progress accomplished in Biology, Climatology, Anthropology, and Comparative Ethnography, have given to geographical works so great an attraction and so deep a meaning that the methods themselves of describing the earthball have undergone of late a deep modification. The same high standard of scientific reasoning and philosophical generalisations which Humboldt and Ritter had accustomed us to, reappear again in geographical literature. No wonder, therefore, if works both of travel and of general geographical description are becoming again the most popular kind of reading.

¹ Keltie, J. Scott. 1985. *Geographical Education*. Report to the council of the Royal Geographical Society. London.

² Text downloaded from anarchy archives, <http://anarchyarchives.org> (abridged version), with permission from Dana Ward.

It was quite natural also that the revival of taste for geography should direct the public attention towards geography in schools. Inquiries were made, and we discovered with amazement that of this science – the most attractive and suggestive for people of all ages – we have managed to make in our schools one of the most arid and unmeaning subjects. Nothing interests children like travels; and nothing is dryer and less attractive in most schools than what is christened there with the name of Geography. True that the same could be said, with almost the same words, and with but a few exceptions, with regard to Physics and Chemistry, to Botany and Geology, to History and Mathematics. A thorough reform of teaching in all sciences is as needful as a reform of geographical education. But while public opinion has remained rather deaf with regard to the general reform of our scientific education – notwithstanding its having been advocated by the most prominent men of our century – it seems to have understood at once the necessity of reforming geographical teaching: the agitation recently started by the Geographical Society, the above-mentioned Report of its Special Commissioner, its exhibition, have met with general sympathies in the Press. Our mercantile century seems better to have understood the necessity of a reform as soon as the so-called “practical” interests of colonisation and warfare were brought to the front. Well, then, let us discuss the reform of geographical education. An earnest discussion will necessarily show that nothing serious can be achieved in this direction unless we undertake a corresponding, but much wider, general reform of all our system of education.

Surely there is scarcely another science which might be rendered as attractive for the child as geography, and as powerful an instrument for the general development of the mind, for familiarising the scholar with the true method of scientific reasoning, and for awakening the taste for natural science altogether. Children are not great admirers of Nature itself as long as it has nothing to do with Man. The artistic feeling which plays so great a part in the intellectual enjoyments of a naturalist is yet very feeble in the child. The harmonies of nature, the beauty of its form, the admirable adaptation of organisms, the satisfaction derived by the mind from the study of physical laws, – all these may come later, but not in early childhood. The child searches everywhere for man, for his struggles against obstacles, for his activity. Minerals and plants leave it cold; it is passing through a period when imagination is prevailing. It wants human dramas, and therefore tales of hunting and fishing, of sea travels, of struggles against dangers, of customs and manners, of traditions and migrations, are obviously one of the best means of developing in a child the desire of studying nature. Some modern “pedagogues” have tried to kill imagination in children. Better ones will understand what a precious auxiliary imagination is to scientific reasoning. They will understand what Mr. Tyndall tried once to impress on his hearers namely, that no deeply-going scientific reasoning is possible without the help of a greatly-developed imaginative power; and they will utilise the child’s imagination, not for stuffing it with superstition but for awakening the love of scientific studies. The description of the Earth and its inhabitants surely will be one of the best means for reaching that aim. Tales of man struggling against hostile forces of nature, – what can be better chosen for inspiring a child with the desire of penetrating into the secrets of

these forces? You may very easily inspire children with a “collecting” passion and transform their rooms into curiosity-shops, but at an early age, it is not easy to inspire them with a desire of penetrating the laws of nature; while nothing is easier than to awaken the comparative powers of a young mind by telling it tales of far countries, of their plants and animals, of their scenery and phenomena, as soon as plants and animals, whirlwinds and thunderstorms, volcanic eruptions and storms are connected with man. This is the task of geography in early childhood: through the intermediary of man, to interest the child in the great phenomena of nature, to awaken the desire of knowing and explaining them.

Geography must render, moreover, another far more important service. It must teach us, from our earliest childhood, that we are all brethren, whatever our nationality. In our time of wars, of national self-conceit, of national jealousies and hatreds ably nourished by people who pursue their own egotistic, personal or class interests, geography must be – in so far as the school may do anything to counterbalance hostile influences – a means of dissipating these prejudices and of creating other feelings more worthy of humanity. It must show that each nationality brings its own precious building stone for the general development of the commonwealth, and that only small parts of each nation are interested in maintaining national hatreds and jealousies. It must be recognised that apart from other causes which nourish national jealousies, different nationalities do not yet sufficiently know one another; the strange questions which each foreigner is asked about his own country; the absurd prejudices with regard to one another which are spread on both extremities of a continent – nay, on both banks of a channel – amply prove that even among whom we describe as educated people geography is merely known by its name. The small differences we notice in the customs and manners of different nationalities, as also the differences of national characters which appear especially among the middle classes, make us overlook the immense likeness, which exists among the labouring classes of all nationalities – a likeness which becomes the more striking at a closer acquaintance. It is the task of geography to bring this truth, in its full light, into the midst of the lies accumulated by ignorance, presumption, and egotism. It has to enforce on the minds of children that all nationalities are valuable to one another; that whatever the wars they have fought, mere short-sighted egotism was at the bottom of all of them. It must show that the development of each nationality was the consequence of several great natural laws, imposed by the physical and ethnical characters of the region it inhabited; that the efforts made by other nationalities to check its natural development have been mere mistakes; that political frontiers are relics of a barbarous past; and that the intercourse between different countries, their relations and mutual influence, are submitted to laws as little dependent on the will of separate men as the laws of the motion of planets.

This second task is great enough; but there is a third one, perhaps still greater; that of dissipating the prejudices in which we are reared with regard to the so-called “lower races” – and this precisely at an epoch when everything makes us foresee that we soon shall be brought into a much closer contact with them than ever. When a French statesman proclaimed recently that the mission of the Europeans is to civilise

the lower races by the means he had resorted to for civilising some of them – that is, by bayonets and Bac-leh massacres – he merely raised to the height of a theory the shameful deeds which Europeans are doing every day. And how could they do otherwise when from their tenderest childhood they are taught to despise “the savages,” to consider the very virtues of pagans as disguised crime, and to look upon the “lower races” as upon a mere nuisance on the globe – a nuisance which is only to be tolerated as long as money can be made out of it. One of the greatest services rendered of late by ethnography has been to demonstrate that these “savages” have understood how to develop highly in their societies the same humane sociable feelings which we Europeans are so proud to profess, but to seldom practise; that the “barbarous customs” which we readily scoff at, or hear of with disgust, are either results of a rough necessity (an Esquimaux mother kills her new-born child, so as to be able to nourish the others, whom she cherishes and nurses better than millions of our European mothers do), or they are forms of life which we, the proud Europeans, are still living through, after having slowly modified them; and that the superstitions we find so amusing when we see them amidst savages, are as alive with us as with them, the names alone having been changed. Until now the Europeans have “civilised the savages” with whiskey, tobacco, and kidnapping; they have inoculated them with their own vices; they have enslaved them. But the time is coming when we shall consider ourselves bound to bring them something better – namely, the knowledge of the forces of nature, the means of utilising them, and higher forms of social life. All this, and many other things have to be taught by geography if it really intends becoming a means of education.

The teaching of geography must thus pursue a treble aim: it must awaken in our children the taste for natural science altogether; it must teach them that all men are brethren, whatever be their nationality; and it must teach them to respect the “lower races.” Thus understood, the reform of geographical education is immense: it is nothing less than a complete reform of the whole system of teaching in our schools.

[...]

... [N]atural sciences surely are not behind the study of languages as a means of accustoming the children to self-reasoning and self-inquiry. But where they are infinitely in advance, is in opening to our youths an immense field of *new* researches, of *new* inquiries. However limited the knowledge acquired in natural science – provided only it be a serious knowledge – young men, at every stage of their development, are enabled to make new inquiries, to collect new data, to discover, or to prepare the materials for the discovery of new valuable facts. Professor Partsch at Breslau has already achieved with his students a most valuable work, certainly worth being published.³ But the same could be done everywhere, even in the best-explored countries, even with scholars far less advanced than Professor Partsch’s students.

³ *Geographical Education*. Appendix P, 135.

As to the sudden progress made by a young man or girl in their intellectual development, as soon as they have made their first independent inquiry— Who has not observed it on some body or on himself? The reasoning deepens with a striking rapidity; it becomes wider and surer – and more cautious at the same time. I shall never forget the case of a young man of twenty, who had made, hammer and barometer in hand, his first independent geological inquiry. His elder brother, who closely watched his development, seeing his intellect suddenly taking a new strain, could not help exclaiming one day: – “How rapidly you are increasing in intelligence, even in a few months! You must have studied hard the German *résumé* of Mill’s Logic which I gave you!” – Yes, he had; but in the field, amidst the complicated stratification of rocks.

[...]

[H]umanitarian feelings cannot be developed from books, if all the life outside school acts in an opposite direction. To be real and to become active qualities, the humanitarian feelings must arise from the daily practice of the child. The *rôle* of teaching proper is very limited in this direction. But, however limited, nobody would recklessly refuse even this modest help. We have so much to achieve in raising the moral development of the majority to the high level reached by a few, that no means can be neglected, and surely we will not deny the importance of the mythical element of our education for approaching this aim. But why limit, then, this element to Roman and Greek tales? Have we not tales to tell and retell from our own life – tales of self-devotion, of love for humanity, not invented but real, not distant but near at hand, which we may see every day around us? And, if it be established that folklore better impresses the childish mind than the stories of our daily life, why are we bound to limit ourselves to Roman and Greek traditions? As a means of education, no Greek myth – almost always too sensual – will supersede the finely artistical, the chaste, the highly humanitarian myths and songs of, say, the Lithuanians or the Fins; while in the folklore of the Turco-Mongols, the Indians, the Russians, the Germans – in short, of all nationalities – we find such artistic, such vigorous, such broadly human tales, that one cannot see without regret our children fed on Greek and Roman traditions, instead of making them familiar with the treasures concealed in the folk-lore of other nationalities. In fact, rightly understood, ethnography hardly could be compared with anything else, as an instrument for developing in children and youths the love to mankind as a whole, the feelings of sociability and solidarity with every human creature, as well as self-devotion, courage, and perseverance – in a word, all the best sides of human nature. [...] It introduces education by the natural sciences the necessary humanitarian element.

If such a meaning be given to geography, it will cover, both in the inferior schools and in the universities, four great branches of knowledge, sufficiently wide to constitute in the higher instruction four separate specialties, or even more, but all closely connected together. Three of these branches – orogeny, climatology, and the zoo-and phyto-geography – would correspond, broadly speaking, to what is described now as physical geography; while the fourth, embodying some parts of ethnology,

would correspond to what is partly taught now under the head of political geography; but they would so widely differ from what is at present taught under these two heads, both as to their contents and their methods, that the very names would soon be replaced by other and more suitable ones.

[...]

As to the technical part of the instruction to be given in geography – the pedagogic methods of, and the appliances for, teaching geography – I shall limit myself to a few remarks. However low the level of geographical education in most of our schools, there are isolated teachers and institutions which have already elaborated excellent methods of teaching and highly perfect appliances for use in school. A mere selection has to be made of the best of them, and the best way to that is the way chosen by the Geographical Society: an exhibition of geographical appliances, and a congress of teachers held in connection with it. Modern pedagogy is already in an excellent way for elaborating the easiest methods of teaching, and if inspired with the high aims of geographical education just mentioned, it will not fail to discover the best means for reaching these aims. There is now in pedagogy – we must recognise that – a tendency towards taking too minute a care of the child's mind, so as to check independent thought and restrain originality; and there is also a tendency towards too much sweetening [of] learning, so as to disaccustom the mind from intellectual strain, instead of accustoming it gradually to intellectual efforts. Both these tendencies exist; but they must be considered rather as a reaction against methods formerly in use, and surely they will be but transitory. More freedom for the intellectual development of the child! More room left for independent work, with no more help on behalf of the teacher than [...] strictly necessary! Fewer school-books, and more books of travel; more descriptions of countries written in all languages by our best authors, past and present, put in the hands of our scholars – these chief points never ought to be lost sight of.

It is obvious that geography, like other sciences, must be taught in a series of concentric courses, and that in each of them most stress must be laid on those departments which are most comprehensible at different ages. To subdivide geography into *Heimatskunde* [the study of the 'homeland'] for the earlier age, and into geography proper for an advanced age is neither desirable nor possible. One of the first things a child asks his mother is: "What becomes of the sun when it goes down?" and as soon as he has read two descriptions of travel, in polar and in tropical countries, necessarily he will ask "why palms do not grow in Greenland." We are bound then to give notions of cosmography and physical geography from the earliest childhood. Of course, we cannot explain to a child what the ocean is, if we do not show it a pond or a lake close by; and what a gulf is, if we do not point out to it a creek on the banks of a river. It is only on minor inequalities of ground around us that we can give children an idea of mountains and table-lands, of peaks and glaciers; and it is only on the map of its own village, or town, that the child can be brought to understand the conventional hieroglyphs of our maps. But the favorite reading of a child will always be a book of distant travel, or the tale of Robinson Crusoe. The creek of a pond, the rapids of a

streamlet will acquire interest in a child's imagination only when it can imagine in the creek a wide gulf, with ships at anchor and men landing upon an unknown coast; and in the rapids of the streamlet, the rapids of a Canadian *ffjärden* [fjords] with the emaciated Dr. Richardson who throws himself in the *ffjärden* to land a rope on the other bank.

Things near at hand are very often less comprehensible for the child than things far away. The traffic on our own rivers and railways, the development of our own manufactures and our shipping trade are, without comparison, less comprehensible and less attractive at a certain age than the hunting parties and customs of distant primitive stems. When I revert to my boyhood, I discover that what made me a geographer and induced me at the age of eighteen to inscribe myself in a regiment of Cossacks of the Amur, instead of the Horse Guard, was not the impression left by the excellent lessons of our excellent teacher in Russian geography, whose textbook I fully appreciate only now, but much more the great work of Defoe in my earlier years, and later on – first of all, above all – the first volume of Humboldt's *Cosmos*, his *Tableaux de la Nature* [Views of nature], and Karl Ritter's fascinating monographs on the tea-tree, the camel, and so on.

Another remark which ought to be impressed on the mind of all those who make schemes of reform for geographical education is, that no sound instruction can be given in geography as long as the instruction given in mathematical and physical sciences remains what it is now in most of our schools. What is the use of giving brilliant lessons in advanced climatology if the pupils never have had a *concrete* conception of surfaces and angles of incidence, if they never have *made* themselves surfaces and have not drawn lines to meet them at different angles? Can we make our hearers understand the motion, of masses of air, of currents and whirlwinds, as long as they are not quite familiar with the principal laws of mechanics? To do this would simply mean to spread that kind of instruction which unhappily spreads too speedily, the knowledge of mere words and technical terms, without any serious knowledge beneath. The instruction given in exact sciences must be far wider than it is now, and go deeper. And it must be also rendered more concrete. Can we expect to find in our pupils mindful hearers, when speaking of the distribution of plants and animals on the Earth's surface, of human settlements and so on, if they have not been accustomed to make for themselves a complete geographical description of some limited region, to map it, to describe its geological structure, to show the distribution of plants and animal son its surface, to explain why the inhabitants of the villages have settled there and not higher up the valley, and, above all, to compare their own description with like ones made of other regions in other countries? However excellent the relief-maps of continents which we put into the hands of our children, we shall never accustom them to a concrete comprehension and a love for maps, if they have not made maps themselves – that is, as long as we have not put a compass into their hands, brought them to an open country and said: "There is a landscape; in your compass and in your path you have all you need for mapping it; go and map it." Is it necessary to say what a pleasure it is for a boy of fifteen to wander thus alone in the woods, on the roads, and

on the banks of rivers, and to have them all – forests, roads, and rivers – drawn on his sheet of paper; or to say how easily these results are obtained (I know it from my own school experience) if geometrical knowledge has been rendered concrete by applying it to measurements in the field?

Another feature to be introduced in our schools ought to be mentioned here. I mean the exchange, between schools, of correspondence on geographical subject, and of their natural science collections. This feature, already introduced in several schools of the United States by the “Agassiz Association,” cannot be too warmly advocated. It is not enough to collect specimens of rocks, plants, and animals, from its own limited regions. Each village school ought to have collections from everywhere: not only from all parts of its own country, but from Australia and Java, from Siberia and the Argentine Republic. It cannot purchase them: but it may have, it can have, them in exchange for its own collections, from schools scattered everywhere on the surface of the globe.

Such is the great idea which presided at the creation of the “Agassiz Association” – an association of schools which has already seven thousand members and six hundred “Chapters,” or sections.⁴ The children of this Association are accustomed to study natural sciences in the field, amidst nature itself; but they do not keep their treasures to themselves. They write to other branches of the Association: they exchange with them their observation, their ideas, their specimens of minerals, plants, and animals. They write about the scenery of Canada to friends in Texas. Their Swiss friends (for something similar exists also in Switzerland) send them the *Edelweiss* of the Alps [*Leontopodium alpinum*], and their English friends instruct them in the geology of England. Shall I add that in proportion as the existence of the Association becomes known, specialists, professors and *amateur*-naturalists, hasten to offer their services to their young friends for lecturing before them, for determining their specimens, or for climbing with them on the hills in geological and botanical excursions? No need to say that: there is plenty of good-will among those who have instruction in anything; it is only the spirit of initiative which is wanting for utilising their services. Is it necessary to insist on the benefits of the “Agassiz Association,” or to show how it ought to be extended? The greatness of the idea of establishing a lively connection between all schools of the Earth is too clear. Everybody knows that it is sufficient to have a friend in a foreign country – be it Moscow or Java – to begin to take some interest in that country. A newspaper paragraph entitled “Moscow” or “Java” will henceforth attract his attention. The more so if he is in a lively intercourse with his friend, if both pursue the same work and communicate to one another the results of their explorations. More than that. Let English children be in a continuous exchange of correspondence, collections, and thoughts with Russian children; and be sure that after some time neither English nor Russians will so readily grasp at guns for

⁴ Ballard, Harlam H. 1884. *Handbook of the Agassiz Association*. Lenox, Mass.

settling their misunderstandings. The “Agassiz Association” has a brilliant future; similar ones will surely extend all over the world.

Yet this is not all. Even if all our education were based on natural sciences, the results achieved would be still very poor if the general intellectual development of our children were neglected. The final aim of all our efforts in education ought to be precisely this “general development of intellect;” and, notwithstanding that, it is the last thing which is thought of. We may see, for instance, in Switzerland, real palaces for sheltering schools; we can find there the choicest exhibitions of pedagogical appliances; the children are very advanced in drawing; they perfectly know historical data; they point out, without hesitation, on the map, any town of importance; they easily determine the species of many flowers; they know by heart some *maxims* [of] *Jean Jacques Rousseau*, and repeat some criticisms of the “theories of LaSalle;” and at the same time they are utterly devoid of “general development;” in that respect the great bulk are behind very many pupils of the most backward old-system schools.

So little attention is given to the general development of the scholar that I am not even sure of being rightly understood in what I say, and had better refer therefore to an example. Go for instance, to Paris, Geneva, or Bern; enter a *café*, or a *brasserie*, where students are in the habit of meeting together, and join in their conversation. About what subjects will it be? About women, about dogs, about some peculiarity of some professor, perhaps about rowing; or – at Paris – about some political event of the day, a few sentences taken from leading newspapers being exchanged. And go now to a students’ room in the Vassili Ostrov at St. Petersburg, or in the famous “Sivtseff’s Ravine” at Moscow. The scenery will be changed, and still more the subjects of conversation. The questions discussed there will be, first, the *Weltanschauung* – the Philosophy of the Universe – painfully elaborated by each student separately and by all together. For a Russian student may have no boots in which to go to the University, but he must have his own *Weltanschauung*. Kant, Comte, and Spencer are quite familiar to them, and while innumerable glasses of tea, or rather of tea-water, are consumed, the relative importance of these philosophical systems is carefully discussed. The economical and political *Anschaungen* [viewpoints] may differ at Vassili Ostrav and in the Sivtseff’s Ravine, but here and there Rodbertus, Marx, Mill, and Tchernyshevski will be discussed and boldly criticised. Be sure that Spencer’s “Evolutionist Moral” is already a quite familiar book in Sivtseff’s Ravine, and that it is considered there a shame not to be acquainted with it. This example shows what I mean by “general development:” the capacity and the taste for reasoning about subjects far above the meannesses of our daily life; the broader development of mind; the capacity of perceiving the causes of phenomena, of reasoning thereon.

Wherefore the difference? Are we better taught in our Russian schools? Certainly not! Pushkin’s words: “We all have learned not too much, and in a haphazard way,” are as true with regard to the Vassili Ostrov students as to those of the Boulevard St. Michel and Lake Leman. But Russia is living in a phase of its life when much stress is laid upon the general development of a young man. A student of the

University, or of the higher classes of a lyceum, who would limit his readings only to class-books, would be despised by his comrades and find no respect in society. In consequence of a peculiar phase of intellectual awakening which we are now going through, the life outside the school imposes this condition. We have been brought to revise all forms of our previous life; and all social phenomena being closely connected together, we cannot do it without looking at all of them from a higher point of view. The school, in its turn, has responded to this need by elaborating a special type of teacher – the teacher in Russian literature. The *utchitel slovesnosti* [literature teacher] is a quite peculiar and a most sympathetic type of the Russian school. To him nearly all Russian writers are indebted for the impulse given to their intellectual development. He gives the scholars what none of the other teachers can give in his special classes: he sums up the knowledge acquired; he throws a philosophical glance on it; he makes his pupils reason about such subjects as are not taught in school. Thus, when speaking, for instance, of the Russian folk-lore, he will not spend all his time in analysing the form of the popular poetry, but he will make an excursion into the domain of æsthetics in general; he will speak of epic poetry as a whole, of its meaning, and of the influence of Greek poetry on the general intellectual development of Europe; Draper's theories and Quinet's *Merlin l'Enchanteur* [the magician] will be mentioned; the ethics of Russian folk-lore, and ethics in general, its development in the course of centuries, will be discussed; and so on, without limiting himself by an official programme, and always speaking in accordance with his own inspiration, his own tastes. And so on each occasion throughout his "course." One easily understands what an influence a sincere and inspired teacher can exercise on young men when he speaks of these and like subjects, and what an impulse is given to thought by these lectures on the philosophy of the intellectual development of humanity, delivered in connection with the Russian literature. No matter that many points of the lecture will not be understood in their fullness by boys of fourteen to sixteen. The charm of it is perhaps yet greater there-for; and one must have seen a class of turbulent boys hanging on the lips of their teacher, whose inspired voice alone is heard amidst an absolute silence to understand the intellectual and moral influence exercised by such men.

As to the necessity of such lectures for the intellectual development of the young people, it is obvious. At each period of the development of the young man somebody must help him to sum up the knowledge acquired, to show the connection existing between all various categories of phenomena which are studied separately, to develop broader horizons before his eyes, and to accustom him to scientific generalisations.

But the teacher of literature perforce deals with only one category of philosophical instruction – the psychological world; while the same generalisations, the same philosophical insight must be given in respect of the natural sciences altogether. The natural sciences must have their own *utchitel slovesnosti*, who would also show the relations which exist between all the phenomena of the physical world, and develop before the eyes of his hearers the beauty and harmony of the *Cosmos*. The philosophy of nature will surely be considered one day as a necessary part of

education; but in the present state of our schools, who could better undertake this task than the teacher of geography? It is not in vain that the *Cosmos* was written by a geographer. While describing the globe – this small spot lost amidst an immeasurable space– while showing the variety of mechanical, physical, and chemical agents at work modifying its surface, setting in motion aerial and aqueous oceans, raising continents and digging abysses; while speaking of the wonderful variety of organic forms, of their co-operation and struggles, of their admirable adaptations; while describing Man in intercourse with Nature – Who could better bring the young mind to exclaim with the poet –

Du hast mir nicht umsonst
Dein Angesicht im Feuer zugewendet,
Gabst mir die herrliche Natur zum Königreich,
Kraft sie zu fühlen, zu geniessen. Nicht
Kalt staunenden Besuch erlaubst du nur,
Vergönntest mir in ihre tiefe Brust,
Wie in den Busen eines Freunds, zu schauen.⁵

Where to find teachers for performing the immense task of education? That is, we are told, the great difficulty which lies across all attempts at school-reform. Where to find, in fact, some hundred thousand of Pestalozzis and Fröbels, who might give a really sound instruction to our children? Surely not in the ranks of that poor army of schoolmasters whom we condemn to teach all their life, from their youth to the grave; who are sent to a village, deprived there of all intellectual intercourse with educated people, and soon accustomed to consider their task as a curse. Surely not in the ranks of those who see in teaching a salaried profession and nothing more. Only exceptional characters can remain good teachers throughout their life, until an advanced age. These precious men and women must therefore constitute, so to say, the elder brethren of the teaching army, the ranks and files of which must be filled with volunteers who are guided in their work by those who have consecrated all their life to the noble task of pedagogy. Young men and women consecrating a few years of their life to teaching – not because they see in teaching a profession, but because of their being inspired with the desire to help their younger friends in their intellectual development; people in more advanced age who are ready to give a number of hours to teaching in the subjects

⁵ Editors' note:

Not vainly hast thou turn'd
To me thy countenance in flaming fire:
Gayest me glorious nature for my realm,
And also power to feel her and enjoy;
Not merely with a cold and wondering glance,
Thou dost permit me in her depths profound,
As in the bosom of a friend to gaze.
Johann Wolfgang von Goethe, *Faust* Part 1;
quoted from: <http://www.gutenberg.org/dirs/etext02/faust10.txt>

they best like – such will be probably the teachers' army in a better – organised system of education. At any rate, it is not by making teaching a salaried profession that we can obtain a good education for our children, and maintain among pedagogues the freshness and openness of mind which are necessary for keeping pace with the ever-growing needs of science. The teacher will be a real teacher only when inspired with a real love both for children and for the subject he teaches, and this inspiration cannot be maintained for years if teaching is a mere profession. People ready to consecrate their powers to teaching, and quite able to do so, are not wanting even in our present society. Let us only understand how to discover them, to interest them in education, and to combine their efforts; and in their hands, with the aid of more experienced people, our schools will very soon become quite different from what they are now. They will be places where the young generation will assimilate the knowledge and experience of the elder one, and the elder one will borrow from the younger new energy for a common work for the benefit of humanity.

3

Introduction to a Critique of Urban Geography

Guy Debord

1955. *Les Lèvres Nues*
Translated by Ken Knabb¹

Of all the affairs we participate in, with or without interest, the groping quest for a new way of life is the only thing that remains really exciting. Aesthetic and other disciplines have proved glaringly inadequate in this regard and merit the greatest indifference. We should therefore delineate some provisional terrains of observation, including the observation of certain processes of chance and predictability in the streets.

The word *psychogeography*, suggested by an illiterate Kabyle as a general term for the phenomena a few of us were investigating around the summer of 1953, is not too inappropriate. It is not inconsistent with the materialist perspective that sees life and thought as conditioned by objective nature. Geography, for example, deals with the determinant action of general natural forces, such as soil composition or climatic conditions, on the economic structures of a society, and thus on the corresponding conception that such a society can have of the world. Psychogeography sets for itself the study of the precise laws and specific effects of the geographical environment, whether consciously organized or not, on the emotions and behavior of individuals. The charmingly vague adjective *psychogeographical* can be applied to the findings arrived at by this type of investigation, to their influence on human feelings, and more generally to any situation or conduct that seems to reflect the same spirit of discovery.

It has long been said that the desert is monotheistic. Is it illogical or devoid of interest to observe that the district in Paris between Place de la Contrescarpe and Rue

¹ Reprinted with permission from Ken Knabb. Translation available in *Situationist International Anthology* (revised and expanded edition), Bureau of Public Secrets, 2006, and <http://www-bopsecrets.org/SI/urbgeog.htm>.

de l'Arbalète conduces rather to atheism, to oblivion and to the disorientation of habitual reflexes?

Historical conditions determine what is considered "useful." Baron Haussmann's urban renewal of Paris under the Second Empire, for example, was motivated by the desire to open up broad thoroughfares enabling the rapid circulation of troops and the use of artillery against insurrections. But from any standpoint other than that of facilitating police control, Haussmann's Paris is a city built by an idiot, full of sound and fury, signifying nothing. Present-day urbanism's main problem is ensuring the smooth circulation of a rapidly increasing number of motor vehicles. A future urbanism may well apply itself to no less utilitarian projects, but in the rather different context of psychogeographical possibilities.

The present abundance of private automobiles is one of the most astonishing successes of the constant propaganda by which capitalist production persuades the masses that car ownership is one of the privileges our society reserves for its most privileged members. But anarchical progress often ends up contradicting itself, as when we savor the spectacle of a police chief issuing a filmed appeal urging Parisian car owners to use public transportation.

We know with what blind fury so many unprivileged people are ready to defend their mediocre advantages. Such pathetic illusions of privilege are linked to a general idea of happiness prevalent among the bourgeoisie and maintained by a system of publicity that includes Malraux's aesthetics as well as Coca-Cola ads – an idea of happiness whose crisis must be provoked on every occasion by every means.

The first of these means is undoubtedly the systematic provocative dissemination of a host of proposals tending to turn the whole of life into an exciting game, combined with the constant depreciation of all current diversions (to the extent, of course, that these latter cannot be [diverted] to serve in constructions of more interesting ambiances). The greatest difficulty in such an undertaking is to convey through these apparently extravagant proposals a sufficient degree of *serious seduction*. To accomplish this we can envisage an adroit use of currently popular means of communication. But a disruptive sort of abstention, or demonstrations designed to radically frustrate the fans of these means of communication, can also promote at little expense an atmosphere of uneasiness extremely favorable for the introduction of a few new conceptions of pleasure.

The idea that the creation of a chosen emotional situation depends only on the thorough understanding and calculated application of a certain number of concrete techniques inspired this somewhat tongue-in-cheek "Psychogeographical Game of the Week," published in *Potlatch* #1:

In accordance with what you are seeking, choose a country, a large or small city, a busy or quiet street. Build a house. Furnish it. Use decorations and surroundings to the best advantage. Choose the season and the time of day. Bring together the most suitable people, with appropriate records and drinks. The lighting and the conversation should obviously be suited to the occasion, as should be the weather or your memories.

If there has been no error in your calculations, the result should prove satisfying.

We need to flood the market – even if for the moment merely the intellectual market – with a mass of desires whose fulfillment is not beyond the capacity of humanity's present means of action on the material world, but only beyond the capacity of the old social organization. It is thus not without political interest to publicly counterpoise such desires to the elementary desires that are endlessly rehashed by the film industry and in psychological novels like those of that old hack Mauriac. (As Marx explained to poor Proudhon, "In a society based on *poverty*, the *poorest* products are inevitably consumed by the greatest number.")²

The revolutionary transformation of the world, of all aspects of the world, will confirm all the dreams of abundance.

The sudden change of ambiance in a street within the space of a few meters; the evident division of a city into zones of distinct psychic atmospheres; the path of least resistance that is automatically followed in aimless strolls (and which has no relation to the physical contour of the terrain); the appealing or repelling character of certain places – these phenomena all seem to be neglected. In any case they are never envisaged as depending on causes that can be uncovered by careful analysis and turned to account. People are quite aware that some neighborhoods are gloomy and others pleasant. But they generally simply assume that elegant streets cause a feeling of satisfaction and that poor streets are depressing, and let it go at that. In fact, the variety of possible combinations of ambiances, analogous to the blending of pure chemicals in an infinite number of mixtures, gives rise to feelings as differentiated and complex as any other form of spectacle can evoke. The slightest demystified investigation reveals that the qualitatively or quantitatively different influences of diverse urban decors cannot be determined solely on the basis of the historical period or architectural style, much less on the basis of housing conditions.

The research that we are thus led to undertake on the arrangement of the elements of the urban setting, in close relation with the sensations they provoke, entails

² Translator's note: the quotation is from Marx's *The Poverty of Philosophy* (chapter 2).

bold hypotheses that must be constantly corrected in the light of experience, by critique and self-critique.

Certain of De Chirico's paintings, which were clearly inspired by architecturally originated sensations, exert in turn an effect on their objective base to the point of transforming it: they tend themselves to become blueprints or models. Disquieting neighborhoods of arcades could one day carry on and fulfill the allure of these works.

I scarcely know of anything but those two harbors at dusk painted by Claude Lorrain³ – which are in the Louvre and which juxtapose extremely dissimilar urban ambiances – that can rival in beauty the Paris Metro maps. I am not, of course, talking about mere physical beauty – the new beauty can only be a beauty of situation – but simply about the particularly moving presentation, in both cases, of a *sum of possibilities*.

Along with various more difficult means of intervention, a renovated cartography seems appropriate for immediate utilization.

The production of psychogeographical maps, or even the introduction of alterations such as more or less arbitrarily transposing maps of two different regions, can contribute to clarifying certain wanderings that express not subordination to randomness but total *insubordination* to habitual influences (influences generally categorized as tourism, that popular drug as repugnant as sports or buying on credit).

A friend recently told me that he had just wandered through the Harz region of Germany while blindly following the directions of a map of London. This sort of game is obviously only a feeble beginning in comparison to the complete creation of architecture and urbanism that will someday be within the power of everyone. Meanwhile we can distinguish several stages of partial, less difficult projects, beginning with the mere displacement of elements of decoration from the locations where we are used to seeing them.

For example, in the preceding issue of this journal [*Les Lèvres Nues*] Marcel Mariën proposed that when global resources have ceased to be squandered on the irrational enterprises that are imposed on us today, all the equestrian statues of all the cities of the world be assembled in a single desert. This would offer to the passersby – the future belongs to them – the spectacle of an artificial cavalry charge which could even be dedicated to the memory of the greatest massacres of history, from Tamerlane to Ridgway. It would also respond to one of the main demands of the present generation: educative value.

³ Translator's note: two such paintings (Lorrain painted several of the same type) are included in Debord's film *The Society of the Spectacle*.

In fact, nothing really new can be expected until the masses in action awaken to the conditions that are imposed on them in all domains of life, and to the practical means of changing them.

“The imaginary is that which tends to become real,” wrote an author whose name, on account of his notorious intellectual degradation, I have since forgotten.⁴ The involuntary restrictiveness of such a statement could serve as a touchstone exposing various farcical literary revolutions: that which tends to remain unreal is empty babble.

Life, for which we are responsible, presents powerful motives for discouragement and innumerable more or less vulgar diversions and compensations. A year doesn’t go by when people we loved haven’t succumbed, for lack of having clearly grasped the present possibilities, to some glaring capitulation. But the enemy camp objectively condemns people to imbecility and already numbers millions of imbeciles; the addition of a few more makes no difference.

The primary moral deficiency remains indulgence, in all its forms.

⁴ Translator’s note: the quotation is from André Breton’s *Le Revolver à cheveux blancs*.

4

Activism and the Academy

Nicholas K. Blomley

1994. *Environment and Planning D: Society and Space*, 383-85.¹

We often use editorials to fulminate about the state of the world, and offer suggestions as to how to make it better. I am not comfortable with either of those options for the moment (though I have done my share of both in the past). Rather, I would like to worry away at what seems to be an unexplored bifurcation in my political-academic life and, I suspect, in the lives of others. Put crudely, my anxiety centres on the fact that we tell ourselves and our students that everything is simultaneously political and theoretical, yet we seem to have a hard time connecting the two outside the university.

On the one hand, I am involved with a section of the academy – well represented by readers of and contributors to this journal – that likes to call itself such things as oppositional, critical, progressive, and even emancipatory. I have just come back from the San Francisco meetings of the Association of American Geographers. As usual, the sessions that I attended were thick with calls for challenging power and contesting hierarchy. I have been an active participant in these conversations, many of which I find useful and politically engaging. However, these battle cries, all too frequently, were in a language that made sense only to the cognoscenti. There was little if any talk of the political purchase of critical ideas beyond the walls of the classroom or the pages of academic journals.

At the same time, I have found myself increasingly embroiled in political activism outside the academy. This includes work around neighbourhood organizing

¹ Reprinted with permission from Nicholas K. Blomley and Pion Limited, London. Editors' Note: This "editorial" was followed by a commentary by Adam Tickell (1995. Reflections on Activism and the Academy. *Environment and Planning D: Society and Space*. 13, 235-237) and a reply by Blomley.

and the democratization of the planning process, as well as active involvement in local community radio. I find this work personally satisfying and politically important. I know that there are many others who are similarly engaged.

I have been struggling with the linkages between the academic world and my community activism. The two clearly feel like they should be linked – many of my interests in one sphere fold over into the other. There is an assumption that what we do as academics will “make a difference,” although how and where are left unclear. So can I be an academic and an activist at the same time? If so, how? Asking this question, it seems to me, takes us to the heart of many knotty and unsettling questions that also relate to academic inquiry and critical theory. These include personal questions of self-validation (who gives a damn about academic angst anyway?), institutional dilemmas (our status as highly paid professionals in a rapidly proletarianizing world), and political or intellectual issues (what is our work supposed to *do*?).

There seems to be a notable lack of discussion about progressive activism and the academy. In geography we used to worry about it a lot more, as witnessed by early issues of *Antipode*, or the examination of “relevance.” Clearly, this is not something that worries the academic ‘mainstream,’ which in my discipline has long been intently activist, although the politics here range from the liberal to the downright reactionary, as geographers market themselves to capital or the state to facilitate their interventions in space.

So why the silence? Several reasons spring to mind. One likely option is that, for many, it is not an issue, given that many progressive academics seem to think that “activist” work is not really “intellectual” work. If people engage in “external” struggle, they do so “on their own time,” as citizens. Certainly this is something that tenure committees seem to believe. For example, my university carefully codes it as “community service” and weighs it as some small percentage of my total academic worth. That uncoupling of the categories “academic” and “activist” seems, for me, difficult to sustain. I was struck by the view of one friend, who noted that she did not see herself as an academic occasionally engaged in activism, but thought of herself as an activist who happens to be an academic. It could also be said that such a distancing evades a special charge – what Noam Chomsky once termed the political “responsibility of intellectuals.” Intellectuals in the academy enjoy a special privilege that comes from political liberty, access to information, and freedom of expression. “For a privileged minority”, Chomsky (1969, 324) insists, “Western democracy provides the leisure, the facilities, and the training to seek the truth behind the veil of misrepresentation, ideology and class interest through which the events of current history are presented to us.” To neglect that responsibility is, at the very best, to acquiesce to oppression.

There are more recent reasons for this self-silencing, perhaps, as we come to embrace a postmodern humility, and caution against speaking for the Other. Although

such a prudence is laudable, it can also all too easily become a self-serving excuse for inaction. We certainly need to be alert to the perils of the academic colonization of community life, but we should also avoid any romantic assumptions of some authentically ‘pure’ field of activism. The activists I have encountered have all had complex, and occasionally self-serving, agendas. As we all occupy multiple subject positions, so activism is a field of contradiction and diversity.

My search for models of academic activism took me to Cornel West’s (1991) four models of “intellectual vocation.” Although all of these are in some senses personally appealing, none seems ultimately sufficient. Two of these centre on the politics of the academy. The first he terms the oppositional professional intellectual. This, drawing upon Foucault, directs us to do political work where we are, in the academy, perhaps through critiques of the production of knowledge and the regimes of truth, revealing the manner in which intellectual knowledges can constitute objectionable forms of subjectivity, for example. This is a struggle confined to the classroom, conference, or journal. A second, related position is that which centres on the building of critical groupings within the academy, using academic resources to build comradely networks, sustaining and nourishing oppositional intellectual communities. Both of these are appealing – I feel myself implicated in both – but both also seem insufficient. There is also an implicit (sometimes explicit) assumption that this is as far as we can go – perhaps because of the chilly climate of 1990s neoconservatism outside the academy. However, precisely because of this, failure to engage in ‘wider’ activism seems inexcusable.

So what of academic activism outside the university? West offers two models, the latter being the one he feels comfortable with. First is the position of the professional political intellectual. Here the call is for direct critical intervention by intellectuals in civic discourse and public debate. There are several examples of this in an American context, including Edward Said, Catherine MacKinnon, bell hooks, Alexander Cockburn, and Noam Chomsky. These interventions can take various forms, including those that centre on struggles over the creation of meaning (MacKinnon) or those that take on the more traditional role for the academic as tenacious documenter. Chomsky’s (1969) injunction to “speak truth to power” falls into this latter category.

There can be no doubt of the mobilizing and inspirational role of such figures. Yet there are real problems with such strategies, as these individuals would, I am sure, recognize. First, there is the fact that to engage fully in public discourse, critical insight must pass through the screens and filters of the dominant media. I have done enough work in alternative media to have a clear sense of what that can do to ideas. Second, there is the personality cult that can go with exalted public position. Although this is something that can be consciously used by the intellectual – Chomsky comes to mind here – it can also lead to elitism and the reproduction of hierarchy.

Finally, West offers his preferred model of the intellectual as a critical organic catalyst. This requires that the academic function inside the academy in order to stay attuned to “the most sophisticated reflections about society and culture” (Chomsky, 1969, 34) whilst also being grounded outside the academy in progressive organizations. To be a critical organic catalyst, for West, is to “fuse the best of the life of the mind from within the academy with the best of the organized forces for greater democracy and freedom from outside the academy” (Chomsky, 1969, 35).

Again, this seems engaging at some levels. The idea of a “double grounding” is attractive, for example. However, it seems distant from much of the activism that I have engaged in. The divide between the academy, with its “life of the mind,” and the “organized forces” outside the academy, seems difficult to sustain. At its worst, it implies an elitist model of community groups as the instruments of activism, rather than its subjects. Not only are many of the community folks I have worked with leery of the academy and of academics – often for good reason – but the life of the mind is often a lot healthier in many of the community settings in which I have found myself. Also, the role I have been asked to play – if I am a self-identified academic – takes many and different roles. My supposed position as an “impartial academic” means that one group I have worked with has used me as a strategic mouthpiece, given that individuals feared the consequences of speaking out publicly for themselves. In other cases, it is the material resources of the university – data, libraries, contacts – that people seek through me, rather than critical insight.

Yet critical insight is an undeniably powerful political resource. This does not mean that academics are not the only ones with that insight, of course – there are still many organic intellectuals out there. Yet there is still space for progressive academics to offer useful contributions; perhaps by offering theoretical narratives or conceptual framings for local events.

But I am still left with a search for an alternative model, one that navigates between the opposed perils of academic elitism and political disengagement. How can we contribute to and learn from progressive struggles without reinforcing the hierarchies of privilege, silencing those with whom we work? What can I offer? What do grass roots activists stand to lose from such an exchange? Does my status and economic power necessarily create distance? Is our role that of catalyst, facilitator, or student? How much of my angst entails a quest for self-validation or ‘holier-than-thou’ status? How much of ourselves are we willing to put on the line, given an institutional system that rewards docility and obedience?

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5

Reinventing Radical Geography: Is All That's Left Right?

Vera Chouinard

1994. *Environment and Planning D: Society and Space* 12, 2-6.¹

These are indeed both trying and heady times for radical geographers. Politically, many of us are feeling battered and bruised by backlashes against progressive ideas and politics. In the social sciences, the emergence of postmodern and poststructuralist philosophies, theories, and methods has deeply shaken our faith in modernist science, and in social theories and methods which claim broad and extensive explanatory power. Radical traditions of inquiry, in particular Marxism, have been subjected to severe and sweeping criticism as the “incarnation” of the flaws of rationalist social science (for example, Deutsche, 1991; Harvey, 1992; Mouffe, 1988; Palmer, 1990). If every age has its demons, historical materialism is certainly a central one for postmodern scholars.

The feminist movement, now a force to be reckoned with in and outside the academy, continues to endure serious political backlash within our communities: threatening the credibility of its members, their political projects, and sometimes even their lives (Faludi, 1991). Within academia, feminists worry about their on-going marginalization and exclusion from power, and about whether or not men will engage with their work in ways that further, distort or obstruct feminist agendas (McDowell, 1992).

It is vital to recognize that we are living through a period of the re-representation of and re-creation of progressive research, in which not only the terms and conditions of our work are being radically altered, but also possible ways of discussing its meaning and import. In the language of the times, new “interpretive

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communities” are being developed, communities that may well end up being as or even more exclusionary and oppressive than their predecessors. One indication of this are the ways in which radical alternatives, such as Marxism, are being re-represented in the literature and debate. The representation of Marxist work as “modernist science,” for instance, invokes the very interpretive closure these scholars claim to critique. By casting any work within this tradition as a “totalizing metanarrative” critics leave no openings for a reconstructed Marxism, and distort and negate the many contributions made by scholars drawing on historical materialist traditions. Sadly, there are a great many examples of this in the literature and in our own discipline (for example, Blomley and Clark, 1990; Collins, 1982; Deutsche, 1991; Mouffe, 1988; Saunders and Williams, 1986). Even quite sophisticated accounts of theory and explanation in Marxist work, such as that provided by Barnes (1992), seem intent on reductionist representations of the tradition where, in this case, the common denominator in all explanations is a single metaphor (reproduction). It is a short, if dubious, step from this biological metaphor to the claim that there is no room for human agency in this tradition. But the important point is that this step is dependent on representing Marxist explanation in a very reductionist way.

Clearly, then, one of the dangers of reinventing ourselves in postmodern ways is that we will be “seduced” by representations of radical research which distort past work and are relatively empty of substantive proposals for building progressive and transformative geographies (see also Harvey, 1992). In the process we are likely to jettison prematurely the many valuable legacies of the New Left, including a clear political understanding that our projects must be deliberately and self-reflexively constructed to “connect” with struggles against oppression and exploitation. McDowell (1992) makes the related and important point that the adoption of new textual and interpretive strategies, without greater engagement with radical traditions like feminism, risks creating academic approaches which are elitist, closed, and divorced from efforts to confront and change the politics of science. Ironically enough, there is often a marked ‘disjuncture’ between representations of interpretive and poststructuralist approaches as ‘progressive,’ and their actual political substance.

Indeed there is sobering evidence that the “interpretive turn” is in many instances a detour around and retreat from political engagement in struggles outside the academy. Palmer (1990), reviewing developments in social theory and in social history, observes that the adoption of poststructuralist and postmodern approaches by eminent scholars on the Left has been closely tied to a retreat from politics. Fraser (1989), examining the work of the French Derrideans, demonstrates that the “interpretive” or postmodern turn has been associated with an extremely confused treatment of political questions and decreased emphasis on the politics of academic work. Closer to home, in geography, I have been struck by how seldom we discuss, in print or at conferences, the implications of our “reinvented” approaches for the politics of academic work. And yet surely it is precisely during a period of major revision and reconstruction of our approaches that we most need to discuss political matters. That is

unless, of course, part of the hidden or perhaps not fully recognized agenda of at least some postmodern shifts is the jettisoning of radical political projects.

There is, of course, no doubt at all that the “turn” has stimulated a flurry of intellectual activity and a sense of excitement about critical work in the humanities and social sciences. Representation, discourse, and metaphor have become new “watchwords” or, if I can be permitted religious metaphor, “mantras” of the postmodern age (Barnes and Duncan, 1992; Jackson, 1991; Ross, 1988). We are learning, too, about the complex ways in which texts, images, and discourse shape our understanding of and responses to power (for example, hooks, 1992; Smart, 1989; Weedon, 1987). Following in paths carved by poststructuralist thinkers like Foucault, we are beginning to see how power and oppression are imbricated in multiple sites of experience and practice, in virtually every aspect of our lives, and how in a very real sense challenging our oppressions requires reinventing ourselves (compare Harding, 1991) and our relations to others.

Somehow, and I’m sure we will find a way, we need to figure out how to balance our celebration of these intellectual accomplishments, with thoughtful and inclusive discussions about what may be missing from the new radical geographies, whether or not it matters, and what we can do about it. It is interesting, for example, to observe how the working class and other disadvantaged groups, like the disabled, are often curiously absent from the landscapes represented in postmodern cultural geographies of the city (for example, Knox, 1991; Ley and Mills, 1993). It is not that these analyses are in themselves technically deficient (in fact both of those cited are very good), but that the interpretive “lenses” of postmodern theory and culture seem to shift attention to relatively affluent professionals (like us!) and landscapes of “consumption” and “spectacle.” For the disadvantaged, on the margins of our economies and cultures, these landscapes have a radically different meaning: one of exclusion and negation. If the divergent meanings and experiences associated with different oppressions and landscapes in our societies are not being brought into focus by the new critical perspectives, perhaps we need to consider adjusting our conceptual and methodological “lenses.”

In rethinking radical geographies, it is important to remind ourselves that research is in itself a political process quite irrespective of whether or not we choose to discuss those politics explicitly (Harding, 1991). The use of theories that focus on the lives of middle-class professionals (us again!) is a way of aligning ourselves with that group in the creation and dissemination of knowledge. That is to say, of treating our/their knowledges as especially interesting and important. Similarly, the use of theories and methods incorporating the vantage points of oppressed groups, like women or the disabled, is a political act and, potentially at least, a political alliance. So, a very important question for us, as we respond to and incorporate postmodern views of science and social theories in our research, is where is this leading us in terms of a politics of science and research? And if it is leading us in liberal or conservative or

even just “plain old confused” directions, maybe this isn’t exactly where we want to be.

A related challenge for us, as we try to negotiate the “interpretive turn” or, as Slater (1992) puts it the “postmodern interruption,” is to discuss openly and inclusively what we want to accomplish, in a substantive sense, through our research. Is playful, or for that matter sober, description of the “pastiche” and “whirl” of postmodern existences and destabilization or deconstruction of the metaphors and assumptions used to interpret that existence really enough? Yes, in principle this opens up our narratives to multiple voices and perspectives. But in practice this alone merely creates representations of inclusion in our discourses and texts without necessarily challenging lived relations of exclusion and marginalization in the creation of texts, discourses, and knowledge.

Do we face a real danger, then, as Eco in *Foucault's Pendulum* (1988) suggests, of becoming so enamoured of and driven by our own accounts and understandings of life’s meaning, in our shared but partial interpretive acts and accounts, that our work and our lives become increasingly “unreal” and insular: detached from and uninformed by the existences, struggles, and knowledges of those outside our texts and discourses? Do we, in other words, risk recreating some of the worst flaws of modernism in the guise of postmodern social research?

We need to discuss as well what we see our work contributing, socially, in an era where description and interpretation are the fashion and the status of explanation is at best rocky. I think, as the “interpretive turn” has reminded us, that we need to pursue radical research which challenges the privilege accorded to academic and expert vantage points in rationalist social science. But this does not mean that we are necessarily limited to idiosyncratic or elitist description and interpretation. Politically engaged research designs, which have as part of their project the inclusion of nonacademics involved in the study, offer one way of decentering academic perspectives without necessarily eschewing explanations of processes of social change (Chouinard and Grant, 1993). Equally important is reminding ourselves and others that any explanation is partial and open. At the end of the day, however, if we cannot reasonably claim that our research contributes to better understandings of the causes and consequences of social power and oppression, however partial and limited those may be, it is time to hang up our hats (at least the radical ones) and go home. For if all knowledges are equal, and every interpretation valid, at least in the eyes of the present elite academic “interpretive community,” the most radical thing we could do would be to resign en masse so that our places could be filled with more representative cross-sections of people and particularly people who now tend to be excluded from and marginalized within academia (for example, women, the disabled, gays and lesbians, the poor). Imagine how quickly the “old” assumptions would be deconstructed then!!

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6

The International Critical Geography Group: Forbidden Optimism?

Neil Smith and Caroline Desbiens

1999. *Environment and Planning D: Society and Space* 18, 379-382.¹

At the end of the fulcrum year of 1989 Casper W. Weinberger, Reagan's ex-secretary of Defence, rejoiced over the “enormously heartening, daily rejection of Communism” in Eastern Europe and issued an appeal (Weinberger, 1989). As publisher of the business magazine *Forbes*, which subtitles itself “Capitalist Tool,” Weinberger admonished his readers that the United States could “profit in every sense of the word” from these events, but that it all “starts with geography” (Weinberger, 1989). Less than a decade later, 1997 proved to be as pivotal as 1989 – this time economically more than politically – as the neo-liberal globalization from which Weinberger eagerly sought to profit showed the first signs of fatal weakness. Overproduction in Asia after an extraordinary 30-year industrial revolution transformed with lightening efficiency into a global stock market meltdown. But in geographical circles, 1997 may turn out to be significant for other reasons: it was also the year in which a very different vision of global geography was launched, one which puts a radical twist on Weinberger’s assertion of the importance of geography.

In August 1997 approximately 300 geographers, activists and academics from 30 different countries and five continents came together in Vancouver for the Inaugural International Conference on Critical Geography organized by faculty and graduate students at Simon Fraser and the University of British Columbia. Many countries already have a long tradition of organized critical geography – including Japan, the Nordic countries, South Korea, and more recently the United Kingdom – whereas others also claim significant contingents of critical geographers – Mexico, Canada, Italy, Brazil, Spain, the USA, Australia, France, India, South Africa, and

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many others. If there was a single galvanizing optimism at the polyglot and eclectic Vancouver conference it was that the time is ripe to build on these many national political seeds and to fashion an international grouping of geographers committed to a critical and geographical response to the global and local events that are now reshaping our worlds.

This is a political optimism quite different from that of contemporary globalization discourses. Establishment visions of globalization generally herald “the end of geography” as an economic variable; theirs is a world “beyond” geography rather than a world in which geography is again and again manifested in new and changing forms. Local economies and cultures are to be bound into global networks in such a way that particularisms can and should be overcome to facilitate the efficient flow of capital. Whether benign or malignant, these particularisms are always subject to cultural, political, economic, and ultimately even military flattening. Where geographical difference is increasingly catered in pre-packaged form, the message is that the spatial configurations of race and gender, sexuality and class, nationality and religion are either irrelevant or inimical to global oneness, as are the social theory and political activism that have brought them to the forefront. And yet the defense and assertion of local difference is at times equally violent and reactionary: Serb genocide in the 1990s and the NATO response in Kosovo play out both sides of this dynamic. Globalization is not beyond geography but is instead an intensely geographical project.

Our ambition for an International Critical Geography (ICG) is to express an alternative social dialectic of global and local, while affirming the importance of scale in our attempts to connect and organize politically. The need and desire to reach across separated contexts should not deflect our attention from the fact that geographical difference is expressed at all levels, from the interpersonal to the institutional, from the national to the international, and everywhere in between. If poststructuralism and identity politics have highlighted and acted upon smaller geographies through which subjects are made and individual perspectives take shape, our task is to develop a political practice that is rooted in these separate locations and yet remains relational and wide-ranging. We understand that geography determines the possibilities *as well as* the limitations of an international critical movement; our aspirations are for a grounded approach to political change, therefore our critical practice is also a self-reflexive one. It addresses the world’s geographical expression at its core, that is, in the various situated perspectives that we bring to our global, geographical ambition. Our purpose is to develop new theoretical tools and revivify the political activism that makes such an ambition a reality.

The Vancouver conference was an inspiring beginning toward these goals. It kindled numerous new connections between people, ideas and movements and opened up a dialogue that has grown in different directions. Much of the enthusiasm about the conference was expressed in a lively series of editorials, letters and responses published in this journal [*Environment and Planning D: Society and Space*], which documented ways in which the event touched, engaged and at times frustrated some

participants (Katz, 1998). Despite the breadth of representation, most attendees came from a few countries in Europe and North America. This and other shortcomings raised crucial questions and concerns. How do we each speak from our particular, situated places while seeking to build a collective political vision? How do we include the struggles of people not yet represented in the ICG but that we deem vital for success? How do we bridge the gap between academia and activism when most of us dwell in the former but aspire to the latter? Is academic activism enough? What forms does it take through teaching? As for the linguistic difficulties of communicating in many languages, do we accept English as the linguistic default? More prosaically, how do we eschew the academic professionalism of conference programming, organization building, and personal contacts that is often internalized as a *sine qua non* of a 1990s academic career? What do the imaginative alternatives look like? Furthermore, how do we do this while at the same time pursuing the thoroughly professional sources of travel funding and conference support that will allow unfunded critical geographers to participate in a more egalitarian way? Can we expand our ranks not just among geographers and academics but also among activists?

An ICG steering committee of 16 people was formed at the Vancouver conference in order to build around these issues and continue the work already started. We have drafted an ICG Statement of Purpose and, in addition to e-mail deliberations, the steering committee has held meetings in Honolulu, Mexico City and Venice. Byung-Doo Choi and other South Korean colleagues and comrades organized a very successful regional conference – [the East Asian Regional Conference on Alternative Geography in Kjongju and Taegu in January 1999](#) – and plans are underway for a Second International Critical Geography Conference in South Korea in August 2000, to be held before the International Geographical Congress in Seoul. Fujio Mizuoka has established an e-mail list (icgg-ml@econgeog.misc.hit-u.ac.jp) for the purpose of organizing conferences, political events, and other relevant forms of action, as well as to discuss more general issues regarding an international critical geography.

Following these steps, one immediate task seems to be imposing itself. Most of us have so far resisted trying to outline what a “critical” geography might stand for, but the benefits of nondefinition can also have debilitating effects that flow from a lack of focus. It seems vital now to have that discussion. We append the ICG statement of purpose here in order to help stimulate a political and intellectual discussion about critical geography, and we will post this editorial to the [International Critical Geography Group](#) (ICGG) list simultaneously with its paper publication.² This document represents the collective effort of the steering committee; it is a work in progress and should be used as a sounding board to start shaping our approach, at the same time as we reflect on it. As a result of the Mexico City steering-committee meeting, Latin American colleagues are already revising the text.

² Editors’ Note: The ICGG’s website features translations of the ICG Statement of Purpose in [French](#), [German](#) and [Japanese](#).

The statement of purpose is a deliberately polemical call to action and it is perhaps appropriate to preface it with a few more general comments. As we see it, the purpose of the ICGG is to encourage research and activism that supports, reports on, and contributes to political struggles seeking egalitarian social transformation and justice. This should not be interpreted as an indiscriminate endorsement of all political struggles but rather an attachment to those movements and struggles which are capable in victory, or even in defeat, of expanding political consciousness and organization toward the goal of social transformation. These struggles may be based on movements definitively rooted in gender or class, race or sexuality, but always make the connections across social and spatial differences. Or they may have a broader focus as in anti-imperialist, antirepression or environmental justice movements. What unites them is the political demand for and commitment to egalitarian social change, globally and locally. If we have learned anew in the last decades of the 20th century that political activism is often the font of theory, the latter is equally a vital part of these struggles, an indispensable basis for political organizing. We understand that social theory cannot be divorced from prescription, nor critique from political action, and seek to reconfirm how the two necessarily overlap in the same realm.

Finally, existing national geographical societies are increasingly captured by a corporate notion of the discipline's future that aligns with rather than challenges a global neoliberalism. Consequential as they may be for academic careers, these national societies are less and less amenable to the kind of oppositional organizing implied by an international critical geography; an ICG group, network or organization provides a parallel as well as an alternative. The building of an international critical geography and the political movements with which it allies itself is not a short term project, but it is a necessary one. This is the most ambitious of geographies; it rests on the belief that the changing realities we call 'globalization' can also brace a political vision of peace, equality and justice. Such a project is clearly adverse to Weinberger's appeal to "bring back geography," and to the rash optimism that accompanies it. Yet, much as his geo-strategic view of the world expresses the very power we oppose, Weinberger was dead right that geography matters to politics. What remains to develop and assert within the ICGG is our own vision of an 'applied' geography.

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Statement of Purpose

A World to Win!

The International Critical Geography Group (ICGG) is comprised of geographers and non-geographers committed to developing the theory and practice necessary for combating social exploitation and oppression. We have formed this international association to provide an alternative to the increasingly institutionalised and corporate culture of universities. We believe that a 'critical' practice of our discipline can be a political tool for the remaking of local and global geographies into a more equal world.

- We are CRITICAL because we demand and fight for social change aimed at dismantling prevalent systems of capitalist exploitation; oppression on the basis of gender, race and sexual preference; imperialism, neo-liberalism, national aggression and environmental destruction.
- We are CRITICAL because we refuse the self-imposed isolation of much academic research, believing that social science belongs to the people and not the increasingly corporate universities.
- We are CRITICAL because we seek to build a society that exalts differences, and yet does not limit social and economic prospects on the basis of them.
- We are CRITICAL because in opposing existing systems that defy human rights, we join with existing social movements outside the academy that are aimed at social change.
- We are INTERNATIONAL because oppression obeys no national boundaries; indeed, the hasty celebration of transnationalism and globalisation often serves to protect privilege and expand dominant systems of exploitation.
- We are INTERNATIONAL because we are differently located in terms of geography, race, class, gender, sexuality. Our privilege and access to various resources is unequal. We are committed to taking responsibility for these inequalities, and facilitating the inclusion of all voices in our debates and actions.
- We are INTERNATIONAL because we want the world.
- We are critical and internationalist as geographers because the discipline has long served colonial, imperial and nationalist ends, generating the ideological discourses that help to naturalise social inequality. We recognise the ties between knowledge and power and are committed to unmasking them. We work as geographers because we believe that knowing the world in its detail and its geographical

differences, from the local to the global scale, is a vital key to confronting political power.

The ICGG seeks to include – in a non-hierarchical way – theorists, activists and researchers throughout the world who identify with this broad commitment to socio-geographical change. We will meet regularly at rotating venues which are envisioned less as academic conferences than as workshops using widely varied formats. We strongly encourage regional and local organisation of workshops, conferences and groups affiliated with the ICGG as vital building blocks of an international agenda. Inreach of members toward their own academic and activist community is as important as outreach toward the larger ICGG forum.

Therefore, our slogan, “A world to win,” has a triple meaning. It expresses our political ambition in geographical terms; it indicates the ‘critical’ yet global breadth of that ambition; and it makes clear that changing the world requires a lot of work, but that victory is there for the winning.

Reflections on a White Discipline

Laura Pulido

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Introduction

Several years ago I shifted my research focus from environmental racism/justice to questions of race, social movements, and political activism. Aside from the fact that these were deep passions, I was also driven by other factors. For one, I felt somewhat like a “poster child” when it came to people of color and environmental issues. Though confident that I was invited to speak frequently on these issues because of genuine interest in an alternative viewpoint, I was uncomfortable with often being the only person of color at such events. Second, and more important for this discussion, was my frustration with the absence of a substantive dialogue on race within the environmental racism/justice literature. This observation is not an indictment of geographers working in the field, but rather reflects some fundamental problems with the discipline itself. In particular, critical work on race remains relatively contained within urban and social geography, thus precluding a disciplinary conversation on the subject of race, with significant consequences for geography as a whole.

The confinement of the study of race to limited parts of geography has presented a real problem to me, as my academic life has been a continual struggle to integrate my anti-racist politics and participation in ethnic studies with geography. While aware of the importance of structural conditions, I have experienced this disjuncture as largely personal. Inspired by recent autobiographical work by geographers (Moss, 2000; Liverman, 1999), however, I have begun to rethink my personal history and concerns as indicative of larger disciplinary problems. As such,

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my academic history is both an embodiment of the relationship between geography and race, as well as a product of engagement with a white discipline.

Although environmental racism/justice is a relatively small topic, it provides a window into the larger discipline. If race was more central, *all* human geographers would have a deeper understanding of it, which would, hopefully, be expressed in their research. I argue that the study of race has remained isolated within parts of geography because of disciplinary fragmentation, the limited number of people of color within the discipline, and our weak ties to ethnic studies.

Using a partially-autobiographical format, the first part of this essay traces my intellectual history and efforts to link Chicana/o Studies and environmental problems. Second, I consider geography's engagement with the study of race, and in particular, how the whiteness of the discipline has skewed our intellectual production. Using autobiography is not without its problems, however. Not only is it based on one person's experiences, but some may consider it self-indulgent. My hope, however, is that by revealing parts of my past we can gain a deeper understanding of how disciplinary cultures and practices, in addition to research, can have a significant affect on both scholars and scholarship.

Becoming an Academic: Geography versus Chicana/o Studies

Like many geographers, I stumbled onto the discipline. I took a California Geography course at the local community college and was immediately hooked. Geography, it seemed, provided answers to questions I was deeply curious about. For instance, growing up in southern California, I never understood why it didn't snow there. Equally perplexing was the apparent concentration of Blacks in south L.A., and Mexicans in east L.A. I decided that any discipline that could address both issues was for me.

Upon transferring to California State University Fresno, I majored in geography while participating in La Raza Studies.² I took every environmentally-related course in the major, partly out of enthusiasm, and because that was what was offered. I simply accepted the divorce between my interests in Chicana/o Studies and Geography/Environmental issues – they were two separate worlds – and I had no idea how to integrate them. At the suggestion of one of my professors, I applied to the

² I should note that it was in a La Raza Studies course that I had my first Chicana instructor, Dr. Lea Ybarra. Because of her, I learned that it was possible for women like me to become academics. Politically, I am not a strong supporter of the "role model" strategy, but I must admit to the power of being shown the possibilities

University of Wisconsin which offered a special fellowship for underrepresented minorities.³

At Madison, I initiated my first attempt to combine my interests in Chicana/o Studies and Geography. My thesis examined farmworkers' experiences and perceptions with agricultural chemicals in the southern San Joaquin Valley. I somehow managed to complete my thesis, but was ultimately dissatisfied with the project.⁴ For one, I lacked the theoretical background to explain the structural vulnerability of farmworkers. In addition, having administered a survey, I was acutely aware of its inability to capture the complexity of exposure and the politics of environmental relationships. My advisors directed me to various literatures, including the work on urban hazards (Berry et al., 1977; Cutter, 1987; Johnson and Zeigler, 1986), as well as the political ecology literature (Hecht and Cockburn, 1989; Rocheleau, 1984; Watts, 1983). I was excited by the hazards research insofar as it was exploring urban inequalities, but I also found it theoretically unsatisfying, as it brought me no closer to understanding how race and racism worked. In contrast, I was drawn to political ecology, especially its oppositional nature, but I had enormous difficulties translating the inequalities of the "third world" to that of "domestic minorities". While I knew that race could only be understood in terms of larger power relations, I was not aware of any scholar who was making these connections within the human-environment tradition at the time – and I simply lacked the intellectual skills and maturity to make them myself. Of course, numerous geographers *were* studying race at the time, but most of it was in urban and social geography (Anderson, 1987; Jackson, 1987; Jackson and Smith, 1981; Peet, 1985), and operating within the human-environment tradition, I was not exposed to this work due to disciplinary fragmentation (see Hanson, 1999). This insularity is a major problem to which I will return.

An important part of my Madison experience was interacting with other Chicana/o graduate students. Ironically, both Chicano Studies and Geography were located in the same building. Though convenient, there was no programmatic or intellectual connection between the two units. This was even reflected in my social life: I had my geography friends (predominantly white), and my Chicana/o friends (not white). My Chicana/o colleagues were invaluable as we collectively faced the problem of how to integrate our interests in Chicana/o Studies with traditional disciplines that exhibited varying degrees of acceptance/hostility towards us and our work. Exacerbating the problem, of course, was the almost complete absence of any faculty of color. Through our association I began to see the problem in more structural terms. I

³ I am grateful to Professor Jerry Towle for informing me about the Advanced Opportunity Fellowship, which still exists.

⁴ I never would have completed my master's thesis without the tremendous support of my advisor, Diana Liverman, who continues to be a mentor. My dissatisfaction with the project in no way reflects on her, but on my own shortcomings.

became critical of the University and geography, wondering why so few students of color were attracted to the discipline and its (and [my]) seeming inability to systematically address the connection between racism and environmental issues.

Things took a radical turn, however, as I began my Ph.D. in Urban Planning at UCLA. It was not that race was being seriously theorized there, but the department did take social justice seriously. Not only did I begin to study social theory, but there was a critical mass of students of color, including people like Clyde Woods, [who] provided a fertile ground for student activism, critiquing the white academy, and studying race. In addition, there was a dynamic Chicano Studies Research Center that I worked with. Besides being in an environment that supported me and my research interests, there was a simultaneous trend towards exploring the relationship between people of color and environmentalism. The United Church of Christ's study, *Toxic Waste and Race in the United States*, was published in 1987, and suddenly my research topic shifted from "minorities and the environment" to "environmental racism".⁵ My doctoral research on working class Chicana/o environmentalism could not have happened at a more opportune time.

Environmental Racism Research in Geography

I was confident that environmental racism/justice would develop rapidly within the discipline. It is difficult to think of a more geographic topic, as it includes nature-society relations, spatial analysis, and mapping. In addition, it encompasses different types of intellectual work, including empirical studies, policy-making, community activism, and theorizing. I believe that geography *should* have been the disciplinary home of environmental racism/justice, but instead, cognate disciplines, such as sociology, took the lead in exploring both environmental racism (racially unequal environmental quality) and environmental justice (the movement to counter environmental racism).⁶ I believe this was a lost opportunity – building a community of researchers around environmental racism/justice could have helped prioritized the study of race within geography.

This is not to diminish the important and diverse contributions geographers have made to the subject, including research on spatial distributions (Bowen, et al. 1995; Chakraborty and Armstrong, 2001; Cutter and Solecki, 1996), ethics and politics (Lake, 1996), land-use (Pincetl, 1996), community organizing (Berman Santana, 1996a), the environmental justice movement (Towers, 2000), and the political

⁵ The UCC report was the first national study of environmental racism and triggered a research movement.

⁶ This is an unfortunate development, because the "nature" side of the equation often gets ignored by sociologists.

economy of hazards (Heiman, 1990). Missing from this impressive body of literature, however, is a systematic focus on race, which to me, is a core concept of environmental racism (Berman Santana, 1996b; Pulido, 2000, 1996). Regardless of motive, it is difficult to avoid the conclusion that geographers studying this topic have shown a clear preference for not tackling directly the question of race and racism.

Though researchers have explored racial disparities in the location of hazards and pollution, geography's insights on race exceed that of spatial analysis. If we understand race to be an ideological and material process, it should be apparent that it *is* a fundamentally spatial relation. Consequently, geography should be a leading discipline in the study of race. But it is not.

Geography, Geographers, and the Study of Race

Despite historical obstacles to the study of race within geography, including the discipline's role in imperialism (Smith and Godlewska, 1994) and environmental determinism (Peet, 1985), geographers have contributed a great deal to the study of racial inequality (for excellent overviews, see Kodras, no date; Dwyer, 1997).⁷ There are many ways to analyze this large body of work, but one important distinction is between those studies that document racial differences and more recent work grounded in critical race theory. Both are valuable in their own right. The first body of literature, often adhering to a more positivist approach, is particularly significant in terms of policy. Such research findings can actually be used in political, administrative, and legal decisions. The second category, critical race theory, is less policy-oriented, but has important implications for how we think about race. One of its most important characteristics is that it does not treat racism as an aberration, but assumes that race is a fundamental social relation. In contrast, while studies that seek to document racial outcomes may or may not view race as an aberration, they *allow* racism to be treated that way. This is a key issue: if racism is inherent to a social formation, then it is difficult to segregate it, either as a topic or in one's analysis. This is not the case with methodological approaches that acknowledge the existence of racism only if the findings support such a conclusion. It is not my intent to disparage either approach, but rather to call attention to this fundamental divide and encourage geographers to begin crossing this boundary. It is my contention that at present these two sets of researchers are largely talking past each other, when instead we should be engaging each other. Critical race theorists should be encouraged to make direct contributions to policy, legal, and activist arenas, whereas those documenting racial outcomes would benefit

⁷ It is important to differentiate between scholarship on nonwhites and the study of race itself. The two are clearly distinct, but studies on people of color, particularly African Americans, often serve as a segue to the study of race, and unfortunately, sometimes as a substitute.

from asking what race is and trying to understand it in all of its complexities. Until we reach this point, geography's work on race will remain fragmented and weak.

Of course, geography is not so different from the larger society. While there is a distinct minority that insists on the reality of racism, there has been a dramatic shift in racial attitudes. Though there is no denying that many forms of overt racism have decreased, large percentages of the population, particularly whites, no longer support integration efforts and anti-racist initiatives (Edsall and Edsall, 1991), as seen in the demise of affirmative action in California. We need to appreciate that geographers are just people and in many ways reflect the experiences and dynamics of the larger population, particularly the white one.

This brings us to another reason for the marginalization of the study of race within geography: the overwhelming white composition of the discipline and its limited links to ethnic studies. While I must tread carefully here if I wish to avoid essentialist arguments, I believe there is no escaping the fact that in a discipline that is over 90% white (Association of American Geographers, 1999), many individuals feel no need or desire to investigate race, as the current racial hierarchy serves them well. Simply put, race is not a problem for most geographers in their daily lives.⁸ This individual preference for not studying race is magnified by several thousand and has become a characteristic of the discipline. Conversely, I believe that more people of color would contribute to a more robust and dynamic dialogue on race within geography. Unlike whites, the racial formation does not benefit people of color to the same extent. Depending upon one's racial/ethnic identity, economic position, gender, sexuality, ability, and location, people of color occupy various positions of racial subordination. As a result, race is a "problem" that needs to be studied. Clearly, there are a number of white geographers who have consciously stepped outside this position, but they remain a minority. And even committed white scholars must contend with numerous obstacles in the study of race, including issues of representation and the politics of fieldwork. Not only must white researchers deal with the political and ethical issues associated with whites studying racially-subordinated populations, but there is also the problem of whites telling, once again, the stories of people of color – and the subject even sometimes speaking back. These tensions might partially account for the intense popularity of whiteness studies. In addition to the admittedly important task of unpacking hegemonic racial groups and practices, it may be that whiteness is just a less problematic area of inquiry (Bonnet, 1998, 1997; Dyer, 1988; Frankenberg, 1993; Ignatiev, 1995; Jackson, 1998; Lipsitz, 1998; Roediger, 1991; for a fuller discussion of these issues see Kobayashi and Peake, 2000; Mahtani, 2001; McGuinness, 2000; Rodriguez, 1999).

⁸ There are, in fact, many ways in which we all suffer from racial inequality. However, geography, for the most part, is still trying to understand how racially-subordinated populations differ from that of the white majority. Hopefully, we can have a conversation on the collective material, social, emotional, and spiritual costs of racism one day.

The Whiteness of Geography and Intellectual Production

Certainly there is recognition that geography, ideally, should become more diverse. It has been suggested that diversification would facilitate outreach, make geography more relevant to otherwise underserved communities, and that it is simply the “right” thing to do, both morally and politically (Janelle, 1992, 380-83; Rediscovering Geography Committee, 1997, 154-55; Shrestha and Davis, 1989). What has not been argued, however, is how the whiteness of our discipline skews our intellectual production (see Zelinsky, et al. {1982}, and Rose {1993} for a similar argument in terms of gender).

I am not implying that white geographers are incapable of producing cutting-edge work on race, or that scholars of color are more likely to have more penetrating insights and analyses. On the contrary, white geographers, have produced exceptional work (some recent works include, Allen and Turner, 1997; Anderson, 1987; Blaut, 1993; Clark and Rose, 1994; Delaney, 1998; Dwyer, 1999; Elder, 1998; Gilbert, 1998; Jackson and Penrose, 1994; Nast, 2000; Pratt and Hanson, 1994; Twine, 1996; Tyner and Houston, 2000; Wilson, 1996. For a complete review, see Kodras, no date), as have geographers of color (Berman Santana, 1996a,b; de Oliver, 1996; Gilmore, 1999; Kobayashi and Peake, 1994; Wilson, 2000, 1992; Woods, 1998). Nonetheless, more geographers of color would enhance our disciplinary discourse on race in several ways. First, more people of color could create a “critical mass”, which currently does not exist. Derald Smith (1993, 255) defines critical mass as “the necessary number of persons to generate original major ideas of a regional, global or scientific breakthrough scale...”. In this case, we need sufficient scholars to generate an intellectual synergy around race. A similar process can be seen in feminist geography. Only after women gained access to academia did the study of gender flourish. Men *could* have taken the lead, but they did not. Because patriarchy was a problem for female geographers, they studied it seriously. While most early works were corrective in nature (McDowell, 1993), feminist geography has since become one of the most vibrant sites of human geography.

Evidence has shown that within nonwhite intellectual spaces, race consistently emerges as a key interest. One need only look at the conference proceedings of the National Association of Chicano Studies, the Association of Asian American Studies, the countless African American Studies organizations, or even the Latino Caucus of the American Sociology Association, to see that race, both as a reality informing people’s everyday lives, and as a dynamic area of intellectual engagement, are major themes. Certainly not all people of color will or should be interested in exploring these topics, but *were* there more geographers of color, I am confident that some of them

would. As few as fifteen people could constitute a critical mass and their energy could have a major impact on how the discipline addresses race in all its forms.⁹

Another, often overlooked dimension of a white discipline is the limited set of experiences that inform the discourse. As previously explained, we all occupy different racial positions and experience race differently. While I will argue strenuously that race is a rigorous area of scholarship, there is no denying that we all have experiences and feelings about race, since we are all racialized. Studies suggest that racial thinking pervades our mind, and consequently, these experiences inform our research, consciously or not (Devine, 1989; Lawrence, 1987). Currently, geography is unduly informed by experiences of whiteness. This does not mean that whites cannot empathize, research, or stand in solidarity with those who are racially subordinated, but it does mean that the voices and experiences of nonwhites are almost always filtered through a white lens. Undoubtedly, the literature would be enhanced by a wide-range of experiences.

Finally, more people of color would enhance geography by offering closer ties to ethnic studies. Because it is scholars of color who tend to belong to racial/ethnic scholarly associations (how many white geographers belong to the National Association of Chicano Studies?), we become, in effect, the bridges between geography and ethnic studies, where some of the most pathbreaking work on race is taking place (Kondo, 1997; Lipsitz, 1998; Lowe, 1996; Sanchez, 1993). Geography might do well to emulate American Studies which has flourished partly by reaching out to ethnic studies. Traditionally associated with “colonial” studies (i.e. unreconstructed white studies), the Association made a conscious decision to integrate itself and to reach out to the scholarly associations of various racial/ethnic groups (Lipsitz, 1995; Washington, 1998). This has led to an impressive, but still incomplete, integration of the discipline. Moreover, it has contributed to a reinvigoration of the study of race which is reverberating throughout academia. There is no reason geography should not be part of this.

Towards a New Disciplinary Culture

I have tried to identify several reasons why the study of race is both marginalized and fragmented within geography. In addition to disciplinary and institutional barriers to methodological boundary-crossing, I believe that the paltry number of geographers of color is a factor. In contrast, if geography had more people of color, for whom race is often a problematic experience, then perhaps the discipline’s racial discourse would be enriched. While I don’t have any magic solution to promote

⁹ Although it is too early to tell, it is possible that the Kentucky gathering might serve as the beginning of such a critical mass.

the diversification of the discipline, I do know, based on my own experience, what some faculty of color are drawn to. I recently changed my appointment at USC from full-time in geography to half-time in the Program in American Studies and Ethnicity (PASE).¹⁰ PASE is a relatively new interdisciplinary program that includes within it Chicano/Latino, African American, and Asian American Studies. While some have been disappointed with my lack of disciplinary loyalty, the intellectual community and overall feeling of comfort associated with PASE were simply too compelling to pass up. Obviously, the actions of a single individual are not necessarily significant, but this latest move might once again be instructive in highlighting what *attracts* at least some faculty of color.

Comfort

Few whites will ever appreciate the enormous psychological and emotional energy that many people of color expend when in all white environments. This doesn't mean that we are incapable of caring for or being friends with white colleagues, but I have had enough conversations with geographers of color to know that being a "minority" is enormously draining. I, for one, am much more relaxed and able to be myself in situations that are either racially-mixed or predominantly people of color. This may seem like whining or insignificant to some, but the daily challenge of facing predominantly white students and colleagues does take its toll. In the past, scholars of color may have just accepted this as reality, but I think that the number of women and people of color shifting into either women's studies or ethnic studies, is indicative of a discipline in dire need of change.

Intellectual Community

A second reason for my change of appointment was that it offered me a much more stimulating set of intellectual opportunities in which to deepen my understanding of race. While my PASE colleagues may not be very good at mapping and sometimes reduce spatial analysis to metaphors, they bring a wealth of experience and expertise regarding one of the key problems facing the world today: racial inequality. As a result, I enjoy a more diverse and interdisciplinary set of opportunities that are meaningful to me. Previously, I sometimes felt pressure to emphasize the geographic dimensions of race, instead of being free to study it for its own sake.

¹⁰ This should not be read as an indictment of the Department of Geography at USC, which has offered above average support. I was not so much "pushed" as "pulled" to PASE, because it offered things that geography simply could not.

Although there were other issues, comfort and intellectual community were the key reasons I made the move. It is entirely possible that these are just my own personal idiosyncrasies, but I think not, given the large and highly-talented pool of faculty of color that PASE has been able to attract. What does this mean for geography? In addition to such things as student recruitment, mentoring, and funding, we need to change the very culture of our discipline. Although this will inevitably be a multipronged project, any serious strategy must include efforts to make geography more comfortable for people of color (and others), and encourage opportunities for innovative forms of intellectual community. Maybe instead of people of color having to assimilate to the white culture(s) of academia, it's time for academia to accommodate us.

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8

Learning to Become a Geographer: Reproduction and Transformation in Academia

Harald Bauder

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[T]he institution recognizes those who recognize it.

- Pierre Bourdieu (1988, 101)

Introduction

Academic socialization begins with undergraduate and graduate education. While incoming graduate students in North American geography programs may expect that their program will teach them geographic knowledge and scientific truths, few students probably anticipate that a great deal of their program involves learning how to perform the social and cultural roles expected of academic geographers. By the time academic geographers assume faculty positions, romanticized ideas of being a knowledge-seeking scholar or Gramscian-style intellectual who changes the world may have been dashed by the realities of academic practice.

Educational institutions have always been sites where young people assume the roles of “unconscious foot soldiers” (Willis, 2003, 390) in the production and reproduction of society. In the case of graduate students and early-career faculty in postsecondary geography, their socialization serves the reproduction of academic geography itself. The realization that academia is a self-reproducing institution is nothing new, of course. Many books have been written about academic labor and

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reproduction (e.g. Becher, 1989; Gouldner, 1979; Halsey and Tow, 1971; Said, 1994). The inaugural editorial in *Antipode* critiqued institutions, academia in particular, “that often serve no purpose than perpetuating themselves (Stea, 1969, 1).” Yet, more than 30 years later, Susan Roberts observed: “Indeed, many times, the *means*, for faculty as well as students, seem to have become the *ends* (Roberts, 2000, 236, original emphasis).” Most of us continue to comply with everyday conventions and uncritically embrace both established and new academic practices that reproduce the university and enable it to pursue its current path of corporatization (Mitchell, 1999; Smith, 2000). The persistence of questionable practices of self-reproduction is precisely why we must intervene today. Recent research and professional initiatives have pointed out the anxieties and concerns among junior faculty that have arisen from professional socialization with the goal of easing their transition from graduate student to faculty member (Geography Faculty Development Alliance, 2005; Solem and Foote, 2005). However, rather than merely encouraging quick and smooth socialization of students and new faculty, we, the geographic community, must engage critically with processes of reproduction and create the spaces in which problematic professional practices can be challenged and transformed.

The audiences I have in mind for this intervention are not only faculty but also graduate students. In my department, I have taught the Ph.D. course “Geographic Scholarship and Research.” [In the Fall 2005 term], I decided to make “professional development” a key focus in the course. My own experience as recently tenured academic geographer is that professional skills and knowledge about the nature of academic work are essential for a successful entrance into an academic career. However, my course entailed not only teaching practical knowledge of academic practice but, more importantly, sought to unveil the underlying processes of institutional reproduction that structure our academic world. In this [essay] I seek to examine some of the forces of reproduction that are not always apparent to students and faculty deeply absorbed in everyday academic life.

Academia as Social Field

While the institution of the university may formally enable scientific research, facilitate social critique and embrace the spirit of intellectual freedom, it also defines the parameters of academic practice within which these activities are supposed to occur. These parameters include attracting increasing amounts of grant money, pursuing knowledge transfer to the state and/or private sectors, teaching “practical” knowledge attractive to employers, working excessive hours, and publishing in large volumes and in highly-rated journals. Our publication conventions and expectations, for example, often comply with and facilitate the corporatization of our community. When the participants of the “Beyond the Academy? Critical Geographies in Action?” conference sought a publishing outlet for their papers, the “vast majority favoured

publication in the *Antipode* book series (with REA and tenure issues being a predominant factor in a number of contributors minds)” (Fuller and Kitchin, 2004, 9-10). Only after the publisher, Blackwell Publishing, Inc., declined due to a lack of “commercial viability (Fuller and Kitchin, 2004, 10)” did the group opt for a non-commercial publisher, Praxis (e)Press. Due to this switch in publishers, some contributors withdrew their chapters. Similar to non-corporate presses, non-corporate journals, such as *ACME*, are struggling to establish reputations among academics that can match that of their corporate counterparts.

Other academic practices are also implicated in processes of capitalization, including activism and the pursuit of grant money. Numerous publications exist in which academic geographers address their difficulties of engaging in activism (e.g. Blomley, 1994; Duncan and Fuller 2004; Tickel, 1995). A problem, in my view, is that our peer-assessment conventions typically attribute greater value to attracting large sums of grant money (or to accumulating publications) than to spending large numbers of hours on activist work. The department in which I work, for example, is proud to regularly outcompete other departments in our college in respect to grant money, while faculty activist involvement typically goes unmentioned.

Of course, self-critique is not absent from academia. In geography, there have been long-standing debates about activism in academia (Blomley, 1994; Fuller and Kitchen, 2004; Tickel, 1995;), the privatization of the university (Castree and Sparke, 2000; Mitchell, 1999; Smith, 2000) and the discipline’s role in society (Castree, 2000; Castree and Wright, 2005; Ward, 2005). While much of this critique focuses on our engagement with the world “out there,” increasing attention has also been paid to the “in here” and our own academic practices (Castree, 1999, 2000). In this respect, David Stea (1969, 1) critiqued the academic incorporation of “economic values;” Jane Willis (1996, 294) lamented how our own labor practices “are squeezing [the] ‘substance’ from the lives of academics;” Noel Castree (1999, 84) suggested focussing our activism on “the academic sweatshop;” and Pamela Moss, Lawrence Berg and Caroline Desbiens (2002) outlined an agenda for non-corporate publishing. However, rarely do we address the *reproduction* of academic practices and conventions through our own everyday behaviour and interaction with students and colleagues. We rarely ask how and why we convey “the nature” of academic work to our students. While feminist geographers have attempted over the last twenty years to rescript some of the conventions that reproduce gender inequalities in academia, other questionable social and cultural practices continue unquestioned. We need, in my view, not only the collective will but also self-critical and self-reflective insights to resist and transform processes of reproduction.

Why do North American geographers seem to play a “game of self-deceit” (Bourdieu, 1988, 19) regarding their own reproduction? The answer, I think, is that we have been socialized into practices that we use to define our professional identity. More precisely, academia defines a social field with “its own logic (Bourdieu, 1988, 53),” which differs from that of, say, the business world or politics. One way of

thinking about the academic field and its practices is through habitus, which describes a system of behaviour and thought shared among the members of a social group (Bourdieu, 1977, 2002). Anglo-American academic geographers “possess a set of specific (though complex and nonunified) class habituses which arise in part from their professional status ... they dance, if you like, to the same institutional tune” (Castree, 2000, 962). Through continued exposure to academic geography and the reinforcement of its norms and values, this academic habitus is naturalized. A less jargon-laden way to think about the academic field is as a game. Academics need to be willing and able to play by the rules of the game if they want to be included as members of the institution. The sustainability of our professional identity relies on the continuation of the game and its rules.

Reproduction also solidifies existing hierarchies and configurations of prestige within academia. For example, by conveying to students and junior colleagues that publishing and attracting grant money signifies academic achievement, well-published and funded senior faculty are able to congeal their status as accomplished academics. The problem is that once we are trying to out-publish and out-fund each other, we find it more difficult to pursue collective aims, such as improving our working conditions (Willis, 1996), resisting our absorption by corporate interests (Mitchell, 1999; Smith, 2000) or changing the rules of the game in the first place. In fact, the principle of competition is an increasingly dominant rule at Anglo-American universities, as evidenced by research assessment procedures in the U.K. and promotion and tenure evaluations in North America. In this respect there are signs of convergence between US and UK university systems (Castree, 1999, 2000; Castree and Sparke, 2000; Sidaway, 1997).

Reproduction and Transformation at Early-Career

The people at the helm of the academic field (senior university administrators, officers of professional organizations, journal editors, chairs, professors, etc.) have already made large investments into the game of academia and therefore have an interest in maintaining its rules and practices. When supervising and mentoring faculty guide students and junior colleagues through the socialization process, they solidify their own position. “Patronage is power,” say Johnston and Sidaway (2004, 38). Graduate programs and non-tenured junior positions are essential to initiate new generations of academics into the academic game and constitute a critical infrastructure for the reproduction of the academic field.

Reproduction begins with the selection of suitable undergraduate students, especially those who show potential to conform and submit to academic practices. The indicators we use to assess the potential of successful socialization are listed on the graduate program application forms and typically include a record of past academic

performance and the judgments of our colleagues in the form of recommendation letters. Once students are accepted, our graduate programs teach them the cultural competence to “perform” geography (Smith, 2000). “[W]hat teaching must transmit or reinforce ... is not knowledge, not a package of scientific knowledge, but skill or, more exactly, the art of applying knowledge, and applying it aptly in practice, which is inseparable from an overall manner of acting, or living, inseparable from a *habitus* (Bourdieu, 1988, 57, original emphasis).” Incoming graduate students may wonder not only about our convoluted writing styles, but also about peculiar expectations of publishing, seeking funding or pursuing applied research. Our graduate programs expose students to these practices. The incentive to conform is the prospect of a doctorate degree. A time-limited teaching position can be seen as an “apprenticeship” (Johnston and Sidaway, 2004, 32) during which socialization into the academic habitus continues. By the time geographers receive tenure at a university, they will have internalized “proper” academic styles and conventions, accepting them as normal.

A recent essay by Michael Solem and Kenneth Foote (2004) reveals some of the strategies of socialization to which early-career faculty in North American geography departments are exposed. The article describes the results of a survey of attitudes towards “academic culture (908)” and anxieties arising from “academic socialization (908).” “[M]entoring from senior colleagues in the department,” “advice from faculty at other institutions,” “networking with peers,” and “seeking help from department chair” are all strategies that help new faculty members in “getting to know local academic culture” (Solem and Foote, 2004, 897). Similarly, “mentoring seems to have cultivated appreciation for the *nature* of faculty *work*... (900, my emphasis),” or, “lackluster performance can be linked to faculty members’ misunderstanding of performance expectations and/or their failure early on to interact constructively with peers and senior colleagues (904).” New faculty who receive mentoring from colleagues and counseling from department chairs and who develop professional networks tap “into the tacit knowledge of seasoned faculty (906),” and are therefore more likely to succeed in the academic game, measured by promotion and other performance standards. The essay illustrates how social reproduction in academic geography works through the language of professional development and well-intended assistance to early-career academics, socializing new faculty members into academia’s habitus, and thus providing the conditions for “successful and satisfying academic careers (Solem and Foote, 2004, 889).”

Increasingly, our didactical strategy of student socialization involves learning-by-doing. “(W)e suggest (students) do everything faculty members are supposed to do (Roberts, 2000, 236).” We encourage them to accumulate peer-reviewed publications, apply for grants and work excessive hours. The initiation process into academic practice is continued through postdoctoral work and non-tenured faculty positions. The competition principle demands that students, postdocs and early-career faculty comply with these practices, or be punished (or at least threatened) with dismissal from the academic community.

This strategy relies on unequal power relationships between supervisors and graduate students. At North American universities, where I completed graduate and postdoctoral work and where I work now as a tenured faculty member, subtle everyday practices continuously remind students of their lower rank and apprentice status. They are expected to knock humbly on professors' doors and patiently wait their turn to speak, while the professors typically walk right into the student's offices and immediately demand undivided attention. Graduate students are given a sense that they move up in the pecking order by being offered to address professors by their first name, distinguishing them from undergraduate students who are denied this privilege. Mentoring of junior faculty by their senior colleagues relies on similarly unequal power relationships (Hardwick, 2005).

Another important element in the reproduction of the academic field is the valorization of the field itself. For many students and early-career faculty, to be an academic geographer also means prioritizing their careers relative to their families, friends and hobbies (Roberts, 2000). In Solem and Foote's (2004, 894) interview sample, a respondent laments that "in academics in general there is not enough sensitivity to the personal demands that people have." Many of my own fellow graduate students and postdoctoral peers sacrificed their romantic relationships to pursue junior faculty positions in different cities or countries. By valorizing the academic field we endorse its practices. Having made such sacrifices for our careers, many of us are reluctant to challenge the norms and conventions that enabled these careers.

The transformation of the academic field can be initiated by external processes, such as corporatism and neoliberalism that currently penetrate academia, or by internal forces, as exemplified by feminist interventions to make the discipline more gender equitable. Senior administrators, journal editors and established professors have significant means to shape the field from the inside. They control appointments, define publishing conventions, and shape faculty assessment and tenure procedures. They can summon institutional resources – such as the program Enhancing Departments and Graduate Education (EDGE), funded by the US National Science Foundation and administered by the Association of American Geographers, which seeks to sensitize graduate education "to the experiences of women, ethnic minority, gay, and foreign students who often become marginalized in traditional academic environments (AAG, 2005)." Other established academics attempt to "shift the politics of the field (Mitchell, 2002)" through writing, teaching and other interventions. Yet, these seasoned academics also have the greatest interest in maintaining practices that endow them with power and prestige.

Junior faculty and graduate students, on the other hand, may have greater reason to contest, disrupt and transform practices that instigate destructive competition, facilitate the corporatization of academia and diminish workplace satisfaction. Thomas Kuhn (1969) once suggested that junior scientists who have previously invested little

in the dominant scientific paradigm are more likely to endorse new paradigms. In a similar way, graduate students and early-career faculty who have not yet invested decades of their careers into existing academic conventions are important potential agents in the transformation of the academic field. Despite this potential, however, they are in vulnerable positions, experience intense pressure to conform to existing conventions and practices, and are structurally least well positioned to facilitate change.

The dilemma thus is that those endowed with the capacity to initiate change have an interest in institutional reproduction, while those with an inclination for transformation typically lack the institutional authority and political resources to produce significant change. To overcome this dilemma, we – students, junior faculty and senior academics – must act collectively. First, we must recognize our own roles in reproducing academic geography and the implications of our everyday practices. Seasoned academics should see graduate students and early career faculty as agents for change, rather than instruments of reproduction, and encourage them to scrutinize established institutional practices and conventions. As radical and critical geographers, we should strive towards *Antipode*'s aims, stated on the journal's homepage, "to challenge dominant and orthodox views of the world ... , creating new spaces and envisioning new futures." Focusing on our own taken-for-granted world would move us towards this aim.

Second, established academics can help create the spaces in which to discuss processes of academic reproduction and identify the purposes these processes serve. Journals such as *Antipode*, graduate courses and junior faculty mentoring programs are important forums in which these discussions should take place. Faculty and student unions could play a role in writing new practices into collective agreements. These spaces can serve as a catalyst by which we collectively transform problematic conventions.

Through enlightened debate, I believe it is possible to change problematic conventions. For example, after publishing their book with Praxis (e)Press, Fuller and Kitchin (2004: 10) became "more comfortable" with this line of publishing. If more of us followed this example, not-for-profit publishing could become an aspired norm, challenging corporate academic publishing. Collectively, we can rescript our professional norms and align them with our wider political aims. Unlike priests or soldiers, it is our responsibility as scholars to think beyond the dogmatic conventions that structure our institution (Kant 2005 [1783]). Immanuel Kant would advise us: "Sapere aude! Have courage to use your own reason!"

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Part II

Space and Society



US/Mexico Border: Playas de Tijuana, Mexico. Photo and © by K. Flo Razowsky.

The relationship between space and society has, arguably, constituted the bulk of critical scholarship in geography. The chapters in Part II can only represent a modest selection of the vast range of topics and the variety of approaches pursued by critical geographers. The chapters also illustrate that critical geographies cannot be easily pigeonholed into singular themes. Hence, there is considerable overlap with the chapters in other parts of this book. Like the chapters in Part I, the chapters in Part II reflect the scholarly, political and material contexts of the times and places in which they were written. They range in method, style, approach and outlook, reflecting, for example, a tradition of detailed description and field observation characteristic of geographic research in the 19th Century, the political optimism of radical activism of

the 1970s, and the political momentum the feminist movement had gained in the 1980s.

The first chapter by Elisée Reclus (1830-1905) represents, to some extent, conventional geographical scholarship of the 19th Century, involving keen field observation of both the natural environment and human organization. On the other hand, Reclus also departed from conventions by expressly including society within nature, rather than separating the two. Politically, however, he was certainly far from the mainstream; he was reported to have said that “Yes, I am a geographer, but above all I am an anarchist” (Woodcock, 1988, 20, quoted in Clark, 2003, 88). This chapter represents an early stage in Reclus’ work, shaping his aversion to racism, commercial exploitation and other practices of oppression, and guiding his intellectual development towards a holistic perspective of the relationship between nature and humanity as a foundation for a vision of society that embraces the principles of “mutual aid, cooperation, solidarity, and compassion” (Clark, 2008, 89; but see Kearns, forthcoming, on the problematic civilization hierarchies in Reclus’ work).

The subsequent five chapters reflect a historical context when radical thought was beginning to reshape the discipline of Geography in North America. A catalytic role in this “revolution” was played by the journal *Antipode*, which was founded in 1969 (and still publishes rigorously) and from which these five chapters are taken. One of the pioneers of radical geography was James Blaut (1927-2000), a theorist of anti-imperialism. In his chapter, Blaut uses the term “ethnoscience” to suggest that Western science, far from revealing objective truths, is deeply implicated in imperialism and neo-colonialism. Brian Hudson goes further and considers the entire discipline of Geography as an irredeemably colonial endeavor. Unlike Blaut who spent a career in pursuit of radical scholarship, Hudson, in the words of another prominent frontrunner of the radical revolution in Geography, “disappeared after that one superb piece.” Nevertheless, this piece offers a powerful and lasting account of Geography’s role in serving colonialism, militarism, economic exploitation and cultural subordination. Some of the material presented in Part IV along with other geographical work (e.g. Hewitt, 2001) illustrates how Geography has continued to embrace this disgraceful role. The Egyptian author Anouar Abdel-Malek offers yet another perspective on imperialism by discussing the ways in which geopolitical alignments and national liberation movements mutually shape each other. This perspective is situated in the historical context of the Cold War and the revolutions that had occurred in countries such as China and Cuba.

Today, the topic of revolution is rarely seriously considered in academic scholarship and teaching (see Smith, 2007) – unless in an uncritical technical sense, for example, as in “digital” revolution. Some contemporary critical geographers may look back with envy to early radical geography for its vibrant optimism and confidence in making a difference. David Harvey, for example, seeks a “revolutionary” theory (resonating with Karl Marx’ 3rd Thesis on Feuerbach that we discuss in the Introduction) that is powerful enough to “bringing about a humanizing social change.”

An even more forceful example of the spirit of early radical geography is Richard Peet's outline of a "Geography of Human Liberation", which envisions a model of human existence that arises from the synthesis of two theories of revolution that are still often viewed as mutually exclusive.

In the 1980s, feminist geography emerged as a driving force in the theorization of the relationship between space and society. Writing in 1984, also in the journal *Antipode*, Suzanne MacKenzie (1950-1998) argued in her chapter that gender research has pursued particular politics and a socialist perspective, which shares important features with the perspectives developed earlier by radical geographers but which did not focus on gender relations. Her argument that gender is an essential factor structuring human-environment relations resonates with some of the chapters in Part III, illustrating again how integrated various themes in critical geography truly are. The chapter by Linda McDowell and Doreen Massey presents another approach to critical feminist scholarship. Through rigorous empirical and historical analyses, they demonstrate how gender relations are materially grounded in capitalist development and how the lives of women are affected by these developments in a place-specific manner. Janice Monk and Cindi Katz deploy yet another set of methods, including personal testimony and demographic analysis, to argue for a life-course perspective that situates gender in the context of the life cycle and that challenges the universal applicability of 'Western' ideas of gender relations.

Kim England also assumes a feminist perspective to reflect on research practices, scrutinize data collection and interpretation conventions, and explore the pitfalls and limits of critical scholarship. By questioning the very process in which scholars are "making geography", England penetrates the very core of what the term "critical geographies" represents (see Introduction and the chapters in Part I). Katharyne Mitchell's chapter also assumed an inward looking perspective and warns her fellow geographers not to celebrate prematurely concepts and ideas as transformative, when these concepts and ideas may indeed reproduce hegemonic processes of capital accumulation. To ensure that academic concepts, such as "hybridity", are not appropriated by profit-making interests, Mitchell suggests that such concepts should always be grounded in a historical and geographical context. The final chapter in Part II, by Bobby Wilson, accomplishes precisely such a historical and geographical contextualization by exposing the geographical variability of racism in the making of places, such as in Birmingham (US) and Johannesburg (South Africa).

The widely differing emphases and concerns in the chapters in Part II show both the great diversity within critical geography and the importance of geographical and historical contexts in the making of critical geographers' arguments and perspectives. Understanding the context of intellectual currents (their social and political embeddedness) enables the very recognition of subjectivity and self-reflexivity that are fundamental to developing critical approaches. For instance, the centrality of gender relations in the making of places was not appreciated until after feminist geography rose to greater prominence following considerable institutional

struggle. Wider political processes created conditions for the development of feminist approaches in geography and for feminist critiques of radical geography as it stood in the 1970s. These chapters can therefore be viewed both as a series of snapshots of the multi-directional and meandering paths of critical thought in the geographic discipline and as representations of major historical changes in critical geography through internal and reflexive critiques.

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9

A Voyage to New Orleans

Elisée Reclus

1855. Translated by John Clark and Camille Martin. 1993.
Mesechabe 11 (Winter), 14-17; 1994. *Mesechabe* 12 (Spring), 17-22. ¹

The Mississippi Delta

All night, the ship swayed on a bed of foul-smelling silt. But far from complaining, I rejoiced instead to feel myself rocking on this mud, as I had just traveled two thousand leagues to see it. From a geological point of view, nothing was more interesting than these vast alluvia still in a semi-liquid state. These sands and clays, slowly worn away by flooding and by centuries of erosion from the mountain ranges of North America, form a thick stratum of two or three hundred meters. Sooner or later, through settling and the influence of geothermal heating, they will be transformed into vast foundations of rock and will serve as the basis for fertile and populated regions. These fine particles filter through the sea continuously in a creative process that adds islands, peninsulas, and coastline to the continent, or else, carried by the Florida current, they are deposited a thousand leagues away on the banks of Newfoundland.

Toward daybreak, the captain pondered how to escape our bed of mud, and sent one of his launches to the mouth of the river to find a pilot. The craft soon disappeared in the morning mist and the sound of its oars, growing more and more faint, finally died away toward the north. We tried in vain to follow it by sight and sound without being able to penetrate the thick layer of fog that separated us from it. Suddenly, lifting

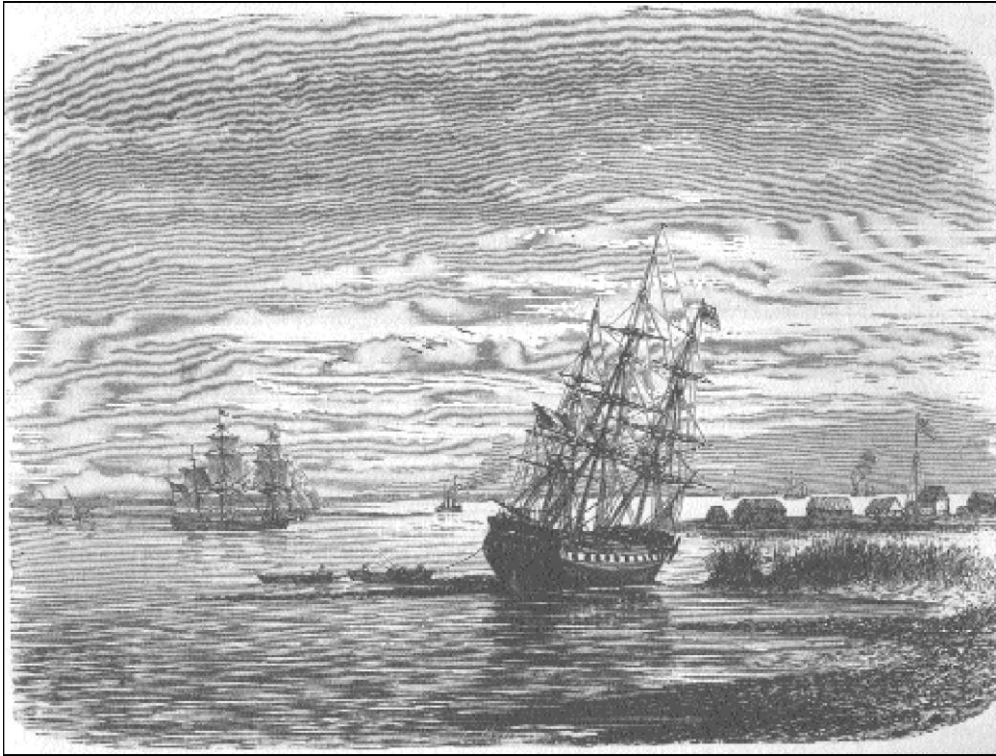
¹ Reprinted with permission from John Clark and Camille Martin. An expanded version is available in Clark, J. and C. Martin. 2003. *A Voyage to New Orleans: Anarchist Impressions of the Old South* (revised and expanded edition). Thetford, VT: Glad Day Books.

our eyes, we caught sight of it again, seemingly suspended from a curtain of clouds. The launch, after having crossed the first trail of mist that crept on the sea and blocked our view for a few cable lengths, reached a space perfectly free of humidity and, appearing to us beyond the fog, seemed to drift through limpid air. These parallel zones of mist and transparent atmosphere are not rare at the mouth of the Mississippi, where currents of fresh water and salt water meet and mingle in different temperatures.

During two hours of waiting, we could leisurely observe the whales that are plentiful in these waters. These animals always frolic with their families, and gather in groups of two or three that always stay together. All their movements are rhythmic and interdependent. Sometimes, several whales leap out of the water one after the other and plunge back after tracing an enormous parabola. They give the impression of several cogged wheels slowly rolling, all engaged in the same system of gears. A group of whales seems to form a single mechanism.

Finally, we saw a black point leave the mouth of the Mississippi and head toward us – it was the tugboat coming to extract us from the mire. It gradually increased in size, and soon I was able to observe all its details. I had not yet seen an American steam vessel, and I have to say that this one delighted me, first of all because of its bold shape, its speed, and its resolute air. I found in it a youthfulness, and also a heroic bearing that I had to admire – it seemed as though it had led a life superior to that of humans. Leaning slightly to one side, moving the powerful levers of its machinery on its deck like gigantic arms, unfurling its thick plumes of smoke up to the horizon, and heaving a prolonged and loud rumbling at regular intervals, it seemed like a supreme realization of power. With each turn of the wheel that brought it closer to us I found it still more amazing. Soon it was at our side. It pirouetted gracefully, took hold of a cable that we threw out to it, and without a tremor attached itself side by side to our ship.

The two bows were hardly touching when a young man leaped from the paddle box of the wheel and jumped onto our deck. He kept his cap on his head and at best mumbled between his teeth the word “captain,” which could, perhaps, be taken for a greeting. In an instant he was on the poop deck, grasping the helm and giving orders to the flabbergasted sailors. He was not on board thirty seconds when the keel of our ship, under the pull of steam power, began to plow through the silt. A true American, the pilot did not waste a single second on politeness. Taking a liking to this man of a different race, I went up to him. He didn’t see me at all, but hearing my approaching steps, he drew out of his pocket a bundle of newspapers which he held out without looking at me, without expecting the least gratitude from me. Indeed, I didn’t have the glaring naïveté to thank him, and I got as far away from him as possible, to engross myself in reading the *New Orleans Daily Delta*.



The mouth of the Mississippi. Drawing by de Bérard, after Reclus.

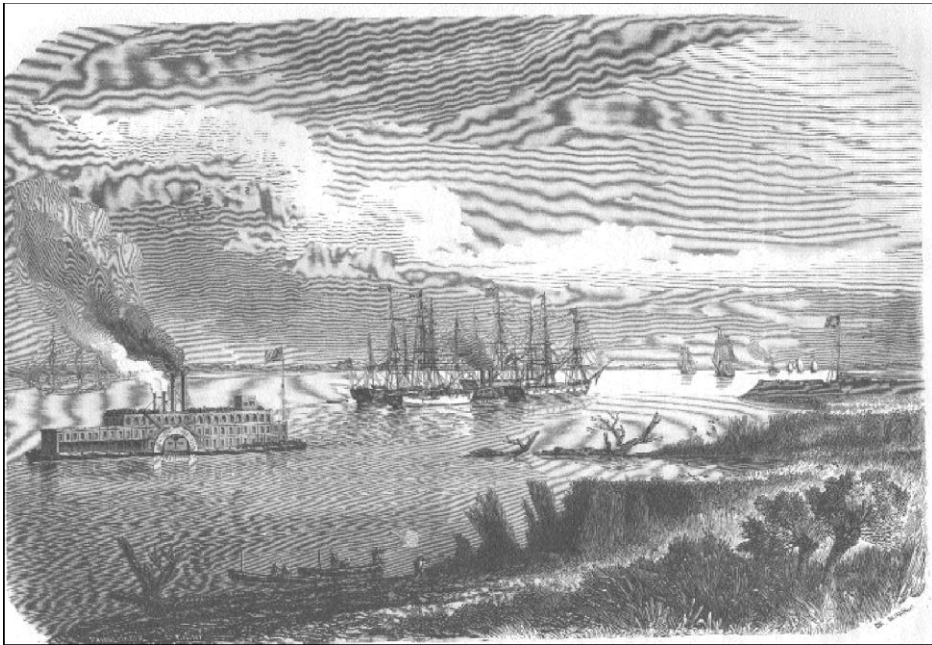
[...]

After having launched us into deep water, the pilot took his money and left us without saying a word, and without even the semblance of courtesy. Then, leaving our ship in the middle of the river, his steamboat set off again to sea in order to fetch another three-master. But we didn't remain there alone very long, for soon swarms of boats loaded with oranges, liquor, sugar, and shellfish were untied from their pilings at the edge of the river and came to offer us their goods.

The village of Pilotsville,² where shacks made of boards rise up along the left bank, is commonly known by the name of Balize. Actually, this name belongs to another village established by the French settlers at the Southeast Pass, but since the Southwest Pass has become the principal mouth of the Mississippi, the pilots have transplanted both their industry and the name of their miserable town. Surely there are very few places in the world that look as sad and desolate as Balize. The narrow strip

² Now called Pilot Town. This and all subsequent notes are by the translators.

of land where the houses are clustered is the shore of both river and sea. Waves of salt water and fresh water lap over it in turn and meet there in a maze of ditches full of a viscous, putrid mixture. Wherever a spongy bulge allows plants to take root, wild cane and reeds grow in impenetrable thickets.³ The huts are constructed of boards as light as possible so that they don't sink into the waterlogged soil, and they are perched atop high pilings like roosts so that the moisture will penetrate them less. Also, when a storm blows and the waves of the sea crash one after another over the coastal strip into the river, the houses of Balize could very easily be swept away, were they not anchored like ships. Sometimes the village even reaches the point of dragging its anchors. Fever and death ceaselessly emanate from the blanket of miasma covering Balize. Nevertheless, four hundred Americans have the courage to roost in these huts and sleep off their fever in hopes of being able to fleece the ships passing through.



Steamboat and tugboat on the Mississippi. Drawing by Bérard, after Reclus.

³ Steven Platt, Christopher Brantley and Thomas Rainwater in their recent article “Canebrakes: Bamboo Forests of the Southeast” [2002. *Wild Earth* 12(1), 38-45] describe the extraordinary cane forests that were once widespread along the Mississippi. They observe that “cane (*Arundinaria gigantea*), a member of the grass family, is the only bamboo native to the United States and occurs throughout most of the Southeast” The “culms (above-ground stalks) support thick evergreen foliage” that “may reach 9 to 10 meters in height, and crowd together in dense stands called ‘canebrakes’ by the early settlers” The largest of these canebrakes “occurred on natural levees in the Mississippi River floodplain, on a chain of bluffs ... extending from western Kentucky to Southeastern Louisiana” (p.38). The authors note that while the canebrakes of the Southeast were once extensive ecosystems that included individual forests of tens of thousands of hectares, most of these were destroyed in the nineteenth century and the canebrake ecosystem is today “critically endangered” (p. 44).

A light wind blew from the south, and our captain wanted to take full advantage of it by sailing upstream. Unfortunately, there were numerous bends in the river, and the sailors constantly had to tack, bracing and clewing up the sails only to brace them again. They were at the point of exhaustion when the ship did them the favor of getting stuck several feet in the soft mud of the shore. The sailors hardly complained about this mishap, and as for me, I happily hastened to the anchor chain hanging at the bow, slid down, and jumped onto the bank.

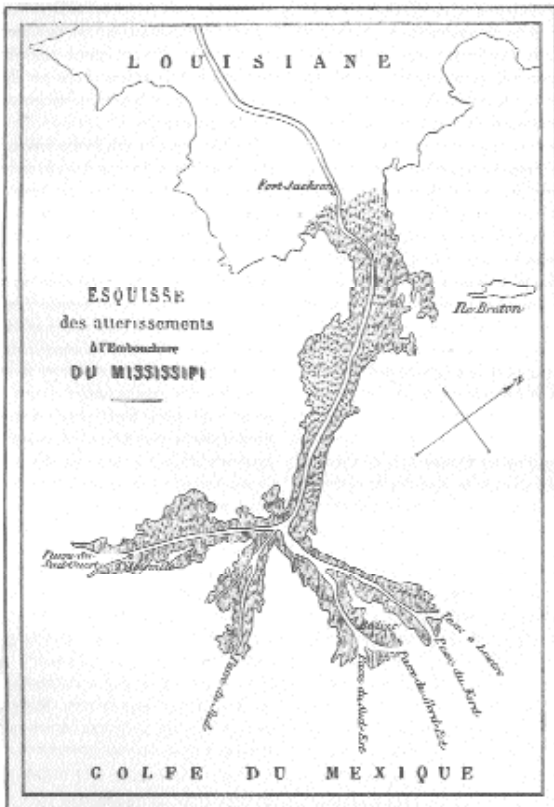
It's a strange sensation to touch solid ground after treading on the moving, quaking surface of the ship for weeks on end. One feels as dizzy as a convalescent trying to walk after a long illness. One's feet become accustomed to a moving surface and finally get used to it so well that the earth seems unstable by contrast, and appears to vibrate as if shaken by a volcanic tremor. This strange sensation did not diminish the pleasure that I felt in walking on solid ground once again, and with the joy of a liberated prisoner, I disappeared into a thicket of wild cane. I had scarcely succeeded in creeping along a few meters in this thick mass of vegetation when I was already unable to distinguish the ship through the immense number of stalks waving back and forth. My every step made the dry reeds strewn about the ground crackle and crunch, and I was almost afraid that all the noise I was making might awaken some snake coiled around a root. The cane rose twenty feet above my head, and only allowed a narrow view of the sky and ... an electric telegraph wire.

Science seems out of place in the wilderness of Louisiana, and this wire that mysteriously transmits thoughts seemed all the more strange in that it passes above these reeds, far from all cultivated fields, between stagnant marshes and a muddy river. Such is the march of civilization in the United States: here, on soggy ground that is not even part of the continent yet, but only the residue of waves, the telegraph is the first work of humans. Before having disturbed this earth with pickax or plow, the American already has his thoughts circulating here – or at least his calculations. As soon as a ship arrives at Balize, this wire announces to the Orleanian merchants how many barrels of salt, immigrants, or bolts of cotton fabric are contained in the cargo. Rarely does an employee come to examine the condition of the wire's insulation. It sways amid the high stalks of cane, and so long as a speculator does not have it cut, it transmits the news quite well. Sometimes, wild cattle wandering through the thicket knock down the poles with their horns, but as long as electricity flows obediently through the wire, no one even thinks of putting them back up. These wandering cows belong to the *Islingues*, semi-barbaric people who are descended from the *Islenots* or *Canariotes* so numerous in Cuba and in the other Antilles.⁴

Toward evening, a tugboat came to pull our ship from its ridiculous position and start it off on its last stretch, accompanied by three other sailing ships. It's a

⁴ This community, descended from immigrants from the Canary Islands, is still well known in southeast Louisiana as the "Isleños."

thrilling sight to see four ships crowded together, with their twelve masts, their yards, their inflated sails, their countless riggings stretched in all directions, their streamers, and their waving flags forming something like one gigantic structure. A thick smoke erupted from the middle of these ships. This, along with the bellowing of the steam escaping at regular intervals, were the only things that revealed the powerful tugboat hidden behind the high bulwarks of the three-masters. The little steamer grasped the four ships as if in a vise and dragged them along against the current of this vast Mississippi that flows like a sea into the sea. The strength of that little steamer has something terrifying and inexorable about it. It is with good reason that the tugboats take such proud names as Titan, Briareus, Hercules, Jupiter, and Enceladus.⁵



Engraved by Erhard, after a map of Franklin-Bache.

Thanks to the powerful engine, in less than one hour we reached the point at which the river branches out into several mouths. For the last 150 kilometers of its course, the Mississippi resembles a gigantic arm projecting into the sea and spreading its fingers on the surface of the waters. Barataria Bay extends to the west, the Gulf and Lake Borgne to the east, while to the south, the sea thrusts a little gulf between each of the mouths, so that everywhere the land consists only of thin strips of coastal mud constantly demolished by the waves and endlessly renewed by alluvial deposits. In some places, the levee of soil that separates the salt water from the current of fresh water is so narrow that the waves break right into the Mississippi. If the creeping roots of the reeds did not hold the soil with their clinging network, a few waves would suffice to carry away the embankment and cut out a new mouth in the river.

[...]

⁵ All of these figures are from classical mythology. Briareus was one of three giants, sons of Uranus and Gaea, who had fifty heads and one hundred arms each. Enceladus, also a giant, was struck down with a great stone thrown at him by Athena during a war with the gods. Jupiter and Hercules are, of course, more familiar symbols of power.

Great savannas sometimes extend between the cypress forest bordering the edge of the Mississippi and the already distant seashore. These areas are home to multitudes of birds. The hunters have found that the easiest way to make them leave their nests and shoot them in flight is to set the grass of the savanna on fire. This barbarous method is forbidden, because the fire can spread little by little across the grass to the plantations.

But this does not in the least stop the hunters from resorting to such an expeditious means of flushing out the birds. During the day, all these burning prairies cast a distinctly reddish glow on the atmosphere, and one can see nothing but black smoke extending heavily over the horizon. But the night reveals an awesome sight to the traveler. When the flames of several days of fire finally die out, the ground is covered with a thick layer of ash over an area of several square kilometers, and the marsh grass that composes the soil of the undulating prairies has been burned several feet deep. The hunters have achieved their goal. They had a magnificent fowl hunt.

The first plantations appear above Fort Jackson, a type of small earthen fort that the patriots of Louisiana like to think of as impregnable.⁶ These plantations incorporate everything. On the bank are trunks of fallen trees and an earthen levee to prevent flooding. Behind, there is a road parallel to the river, and then high fences made of boards split by the ax. Next come fields of cane like vast blocks of greenery, isolated magnolias, and alleys of pecan trees and azedarachs.⁷ There are also wooden houses painted with a red or white wash and perched on two or three-foot pilings of masonry above the always-moist soil, and Negroes' quarters resembling beehives, half-buried in the tall grass of a garden. Finally, in the distance, there is a thick wall of cypress tracing the outline of the river.

This landscape has an eternal, unchanging quality, and it inspires through its tranquility, its majesty, and the grandeur of its lines, rather than because of its details. In order to love and understand Louisiana, one must spend every evening contemplating the severe horizon of its forests, the solemn beauty of its countryside, the silent current of its river.

⁶ The patriots were wrong, as Reclus suspected. On April 18, 1862 the Union fleet attacked the fort and other Confederate defenses along the river. After constant bombardment for nine days, the fort's supply lines were cut off, it was surrounded, and the defending troops mutinied. The fort surrendered on April 28 (see Winter, John D. 1963. *The Civil War in Louisiana*. Baton Rouge, LA: Louisiana State University Press, 85- 102).

⁷ Reclus probably refers to *Melia azedarach*, a naturalized tree commonly known in Louisiana as the chinaberry or chinaball tree.

In the middle of one of these plantations, situated on the east bank of the Mississippi, rises a commemorative column in honor of the Battle of New Orleans.⁸ It was there that the British under General Pakenham were routed by the celebrated Andrew Jackson. The Americans were admirably positioned and took advantage of the terrain to enclose themselves, as if in a fortress. By digging a ditch, they cut the narrow isthmus that separated the Mississippi from the impenetrable cypress forests of Lake Borgne. They then used piles of cotton bales to create a rampart that was impervious to bullets and cannon fire. The British, marching in step over sodden ground, slow and unconcerned as if on parade, were shot down like wild game by the skilled riflemen from Louisiana and Kentucky. The true story of this battle is yet to be told. According to popular accounts, the British army supposedly lost seven thousand men, more soldiers than it counted in its ranks, while the Americans lost only seven soldiers. Such is the ratio: one to a thousand.⁹

We had already recognized the proximity of the great city by the thick black atmosphere that hung over the distant horizon and by the high towers softly outlined in the haze. All of a sudden, as we rounded a bend, the buildings of the southern metropolis came into sight. With each turn of the wheel, a new detail was revealed, belfry after belfry, house after house, ship after ship. Finally, when the tugboat left us, the whole city spread its vast crescent, two kilometers long, before us. Intersecting in all directions on the river were great commercial steamers, little tugboats that were harnessed to large ships and made them lightly pirouette, ferries trafficking ceaselessly between the city and its suburb of Algiers, and skiffs swimming like insects in the midst of all these powerful monsters. The bank of the river was an endless avenue of ships tied to the shore. Appearing in turn were luggers,¹⁰ schooners, high steamboats resembling gigantic stabled mastodons, and then three-masters arranged along the bank in an interminable avenue. Behind this vast semi-circle of masts and yards were wooden jetties crowded with all sorts of merchandise, carriages and wagons bouncing along the pavement, and finally, houses of brick, wood, and stone, gigantic billboards, factory fumes, and bustling streets. Bright sunlight illuminated this vast horizon of movement and noise.

⁸ The final battle of the War of 1812 between the United States and the British Empire. The major engagement took place between December 23, 1814 and January 8, 1815. The war officially ended on December 14, 1814, with the Treaty of Ghent.

⁹ In reality, the ratio was closer to one to three hundred. According to historian Charles B. Brooks (1961. *The Siege of New Orleans*. Seattle, WA: University of Washington Press, 252) "The Americans had 71 casualties, the British 2,057. More of the wounded would die before morning."

¹⁰ A lugger is a small boat for fishing or pleasure sailing that is rigged with a lugsail, a four-sided sail.

New Orleans

The plan of New Orleans is, like that of all American cities, one of extreme simplicity. However, the great curve of the Mississippi (which has earned the metropolis of the south the poetic name “the Crescent City”) has prevented laying out the roads perfectly straight from one end of the city to the other. It necessitated arranging the districts in trapezoids, separated from each other by wide boulevards, with their small bases facing the river. On the other hand, the western suburbs of Lafayette, Jefferson, and Carrollton are constructed on a semi-circular peninsula of the Mississippi. Consequently, their larger bases face the river, and the boulevards that border them on each side join in a point at the edge of the forest in which the city was built. Thanks to the recent annexing of these districts, New Orleans has taken on a new appearance, and the two graceful curves that the Mississippi traces along its embankment for about seven miles should give it the name “the Double Crescent City.”

The wetness of the ground in Louisiana’s principal city is proverbial, and it is easy to imagine that the whole city, with its buildings, warehouses, and boulevards, rests on an enormous raft carried by the waters of the river. Core drillings up to 250 meters deep are sufficient proof to the contrary. They also demonstrate that the soil on which the city is built is composed solely of layers of mud alternating with clay and of tree trunks that are slowly turning into peat and then coal, due to the forces continually operating in the great workshop of nature. One has to dig only a few centimeters, or during dry spells, one or two meters, to reach muddy water. Also, the slightest rain is enough to flood the streets, and when a heavy rain beats down over the city, all of the avenues and plazas become rivers and lagoons. The steam engines work almost constantly to rid New Orleans of its stagnant waters and to discharge them through a canal into Lake Pontchartrain, four miles north of the river.

Obviously, the banks of the Mississippi, like those of all waterways that flood alluvial plains, are higher than the riparian terrain. Nowhere is this fact more evident than in New Orleans, for there is a difference of four meters between the parts of the city distant from the river and those near the embankment. For this reason, structures are protected against the flooding of the Mississippi by a boarded levee one hundred meters wide. In addition, the flooding of the river always brings an enormous amount of sand and clay that reinforces the levee and forms a new batture,¹¹ on which several streets have already been constructed since the beginning of the century. The districts far from the Mississippi are only a few centimeters above sea level, and people’s homes are separated from alligator nests only by drainage pools of stagnant and always iridescent water. However, a certain bulge, called a “hill” in these parts, stretches between the city and Lake Pontchartrain. This swelling, imperceptible to the naked

¹¹ The term “batture” is still used in New Orleans. It generally refers to land created by deposits in the bend of a river. In New Orleans it refers more broadly to all the land between the levee and the river.

eye, might be one meter high. The plain is so level that the water, at its lowest point, falls only about ten centimeters over a total distance of 180 kilometers, from the city to the Gulf of Mexico.

The oldest district of New Orleans, the one usually called the French Quarter, is still the most elegant of the city. In fact, the French are only a small minority here, and most of their houses have been purchased by American capitalists. There is the main post office, the large banks, the shops selling Parisian goods, the cathedral, and the opera house. Even the name of this last building is proof of the gradual disappearance of foreign or Creole elements. Formerly, this theater showed only French plays, comedies, or vaudeville, but to continue to be profitable, it was forced to change its playbills and its name. Today it is patronized by the American public. It is clear that the French language will increasingly disappear. The population of New Orleans, which fluctuates between 120,000 and 200,000 inhabitants depending on the season, includes barely 6,000 to 10,000 French, or one twentieth. In addition, there are the same number of Creoles who are not yet completely Americanized. Soon the Anglo-Saxon idiom will dominate unchallenged, and all that will remain of the aboriginal Indians and the French and Spanish settlers who had established themselves on the land well before the immigrants of British origin will be the names of streets: Tchoupitoulas, Perdido, Bienville, etc. At the French Market, which foreigners once visited without fail in order to hear the medley of languages, one now hears only English conversations. The Germans, always ashamed of their heritage, try to prove that they have become Yankees through their clearly articulated curses and barroom jokes. The Negroes, with their inexhaustible chatter, deign to speak French only out of sympathy for the listener. And the occasional Indian hunters, proud and sad as prisoners, respond to questions in monosyllabic English.

The American section, located west of the French Quarter on the other side of the wide and beautiful Canal Street, is inhabited mostly by merchants and brokers. It is also the center of political life. Here one finds hotels almost as beautiful as those of New York, cotton warehouses, most of the churches and theaters, and City Hall. This is also where the big slave market is held. A huge mob always crowds inside Bank's Arcade, the interior of which is dominated by a large counter, abundantly stocked with bottles and glasses. On a platform stands the auctioneer, a large, red-faced, bloated man with a booming voice: "Come on, Jim! Get up on the table. How much for this good nigger Jim? Look how strong he is! He's got good teeth! Look at the muscles on his arms! Come on, now, dance for us, Jim!" And he makes the slave turn around. "Here's a nigger who knows how to do everything – he's a carpenter, a cartwright, and a shoemaker. He won't talk back – you never need to hit him." But most of the time there are long whitish rays etched by the whip on their black skin. Then it is a Negro woman's turn: "Look at this wench! She's already had two niggers, and she's still young. Look at her strong back and sturdy chest! She's a good wet nurse, and a good negress for work!" And the bidding starts again amid laughter and shouts. Thus all the Negroes of Louisiana pass in turn on this fateful table: children who have just ended their seventh year and whom the law in its solicitude deems old enough to be separated

from their mothers; young girls subjected to the stares of two thousand spectators and sold by the pound; mothers who come to see their children stolen from them, and who are obliged to remain cheerful while threatened by the whip; and the elderly, who have already been auctioned off many times, and who have to appear one last time before these pale-faced men who despise them and jeer at their white hair. In the end, they are deprived of the most vile and pitiful honor – that of bringing a good price. Sold off for a few dollars, they might as well be buried like animals in the cypress forest. According to the advocates of slavery, all this is willed by the cause of progress itself, the doctrines of our holy religion, and the most sacred laws of family and property.

For a long time, all the houses of New Orleans were simple huts made of wood. In spite of its extent, the whole city had the appearance of a huge fairground. Today, the houses of the two main districts are for the most part built with brick and stone. Granite was even used to construct the new customs house. In spite of the strong pilings thirty meters long on which it rests, its walls have already sunk one foot into the ground.

But the principal agent of change in the city is not the aesthetic taste of the property owners, but rather fire. I soon had the opportunity to learn this first-hand, for I arrived in New Orleans at the peak of the annual fire season. According to the poets, the month of May is the season of regeneration; in the chief city of Louisiana, it is the season of conflagration. “Of course,” they say, “because then the hot weather begins, and the woodwork of the houses dries out under the sun. It’s also a time of merriment when people are less concerned for their own self-interest.” “That’s true,” add the cynics, “but don’t forget that the month of May comes right after the April quarter, and the burnings can help balance the books.” The fact is that during the last two or three weeks of May, not one night passes in which the alarm does not call the citizens with its slow, deep sound. Often, the purple reflections of four or five fires color the sky at the same time, and the fire brigade, woken up suddenly, doesn’t have a clue as to where it is most needed. It has been calculated that in the city of New York alone, flames annually destroy as many buildings as in all of France. In New Orleans, a city with only one-fifth or one-sixth the population of New York, the impact of fire is relatively even greater, since the total destruction caused by fires is equivalent to half the loss due to similar catastrophes throughout France.

One night, early in my stay in the metropolis of the South, one of those horrible disasters so common in the United States occurred. Seven large steamships burned simultaneously. It was an awesome sight. The seven ships, moored side by side, looked



The port of New Orleans (Louisiana).
Drawing by de Bérard, after an American photograph

like individual fireplaces joined at the base by a sea of flames. Whirlwinds of fire shot up from the bottom of the holds and then swept back down below the galleries, revealing in all its ephemeral beauty the elegant architecture of these palaces glittering with gilding and mirrors. But soon the tongues of fire penetrated in successive jets through the floor of the galleries, and from top to bottom, the three decks of cabins were enveloped in a blazing hurricane. Above the ships, black smokestacks surrounded by swirling billows of flame remained motionless for a long time, like solemn ghosts. The flags, hoisted to the top of the masts, appeared from time to time through the smoke, fluttering festively as if for a holiday. One after another, the galleries caved in with a horrible groan, and the engines and furnaces, losing their center of gravity, suddenly leaned over, making the whole enormous conflagration flutter like a pennant. The decks and smokestacks collapsed successively, and the burning debris became a river of fire carried along by the Mississippi. The uniform facades of the city, the docks covered with merchandise, the chaotic crowd, the great ships moored along the bank, and on the opposite shore, the houses and forests of Algiers – all seemed illuminated with a bloody glow. By contrast, the sky alone seemed black, and the stars had vanished. The screams that were heard for a long time coming from the burning ships intensified the horror of this frightful scene. Forty-two persons were burned alive before a rescue attempt was organized. It is a fact that from the construction of the first steamboat up to the present time, more than forty thousand persons have been burned

or drowned in the Mississippi because of accidents of all sorts, including explosions, collisions, or fires – an average of one thousand victims per year.

The night watchmen are far too few in number to be very effective in preventing disasters. The city, almost seven miles long and an average of one mile wide, has only 240 watchmen, of whom 120 work at night. Yet they take great care to warn criminals of their approach. They are equipped with big sticks of ironwood or oak, and when they arrive at a street corner, they strike a resounding blow to the edge of the sidewalk. Arsonists, thieves, and murderers thus hear the enemy coming and are able to accomplish their deeds without fear of surprise. The most notorious criminals are hardly ever arrested, except when, emboldened by long success, they have the audacity to kill in broad daylight. Each year several hundred murders are committed and duly reported by the press, but they are rarely pursued by the judges. However, criminal activity is so excessive that, in spite of the casual nature of justice, 25,000 to 30,000 arrests are made each year. It is true that of this considerable number, amounting to one tenth of the population, 4,000 or 5,000 are Negroes guilty of walking about freely without a letter of permission, or even sent by their masters to the executioner to receive twenty-five lashes of the whip.

The city's more than twenty-five hundred taverns are always filled with drinkers, and fuel the most violent passions with brandy and rum. Every big hotel opens its entire first floor in order to take advantage of the national vice of drunkenness. At the center, there is a large rotunda, a type of stock exchange where merchants come to read their newspapers and discuss their finances. It opens onto a gambling hall, where rogues rendezvous with dupes. There is also a bar, with a table richly and abundantly laid out for the public. The meal is completely free, on a first come, first served basis. One just has to pay for the brandy or rum. The picayune (twenty-five cents) that one spends for each little glass is more than enough to cover all the expenses of this public banquet. Besides, the vast majority of persons who enter the hall don't even touch the food, and are content to drink. Thus, hundreds of drinkers rub shoulders, ignorant of the fact that they are footing the bill for a feast for famished paupers.

The taverns are always full, especially during election time. The candidate has to justify himself to all who are voting for him. If he doesn't know how to drink a cocktail with style, he will lose popularity and be branded a traitor. When political adversaries meet in a bar, drunk or sober, insults followed by fistfights or gunshots are not unusual. More than once, the conqueror has been seen drinking over the corpse of the conquered.

True, it is against the law to carry concealed weapons. But during elections, the boldest among the citizens elude the letter of the law and furnish their belts with a veritable arsenal in plain sight. Most, however, are content to conceal a dagger or pocket pistol in their clothing.

“Is it true that it is expressly forbidden by law to carry weapons on one’s person?” someone asked a famous Louisiana judge.

“Certainly. We can’t thank our legislators enough for having forbidden the carrying of concealed weapons.”

“Then what would you do if I insulted you or slapped you?”

“What would I do?” And seizing a loaded pistol from his belt, he aimed it at the head of his questioner.

A misanthrope might compare the vices of our European society to a hidden evil that gnaws at the individual from within, whereas the vices of American society appear outwardly in all of their hideous brutality. The most violent hatred separates factions and races: the slavery advocate abhors the abolitionist, the white loathes the Negro, the native detests the foreigner, the wealthy planter disdains the small landowner, and rivalry of interests creates an insurmountable barrier of mistrust even between related families. In a society of this type, the arts cannot be seriously cultivated. Moreover, periodic bouts of yellow fever eliminate all concerns other than commerce, and the merchant places no value on beautifying a city that he plans to flee once he has amassed a sufficient fortune. Under the pretext of art, rich individuals limit themselves to whitewashing the trees in their gardens. This luxury has the double advantage of being pleasing to their sight and of costing very little. They cannot do the same to public promenades because these do not exist. The only tree inside the city is a solitary date palm planted sixty years ago by an old monk. On the other hand, the city holds the honor of erecting a bronze statue to its savior Andrew Jackson. However, this statue has no merit other than that of being colossal and of having cost a million.¹² The artist who modeled and cast it, Mr. Clarke Mills, has been neither to Rome nor to Florence, having studied only in the studios of Washington, D.C. That is exactly what made his reputation among the locals, and those who advanced him money and provided him with work imposed on him the express condition of never traveling outside of his native country. His indubitable claims to fame will hardly enable him to eclipse the sculptors of the ancient world. These consist of the patented invention of a very simple process for the fusion of metal, and of the art of perfectly balancing equestrian statues on the two hind legs without the help of a luxuriant tail or an obliging tree trunk. The city of New Orleans has also commissioned from Mr. Mills a statue of Washington, which will be erected in the American quarter.

¹² General Andrew Jackson, the future president, was hailed as “the hero of New Orleans,” because of his victory over the British during the Battle of New Orleans. His famous statue was erected at the center of the Place d’Armes, renamed “Jackson Square” in his honor. Reclus, as an implacable foe of racism and an early critic of American expansionism, could hardly have seen this leader of genocidal expeditions against Native Americans as a hero. It is perhaps for this reason, in addition to aesthetics, that he had little appreciation for Jackson’s monument.

As for the public buildings, they are for the most part devoid of any architectural merit. The train stations are wretched hangars blackened with smoke, the theaters are mostly dumps at the mercy of fire, and the churches, with the exception of a type of mosque built by the Jesuits, are but large pretentious hovels. Moreover, of all the public buildings, the churches are most subject to the risk of fire or demolition. The congregations that gather there come together, separate, and meet again, only to disperse once more like flecks of sea foam or whirlwinds of leaves carried along by the wind. If a young man is gifted with a strong voice, if he has been successful in the drawing rooms, or if he attracts attention by a religious zeal, actual or feigned, he can issue shares to raise money for the construction of a church, of which he will become absolute master. The church will be his thing, his capital, his business. If renting out the pews does not generate enough income, and his oratory is not fruitful, he gets rid of his church by bankrupting, selling, demolishing, or burning it, and then changes his denomination. This kind of speculation can very easily be combined with others. Nothing prevents the minister of the Gospel from also being a banker, a planter or a slave merchant. The American never has a fixed vocation. He is constantly on the lookout for opportunities, waiting for fortune to pass by so he can hop on and be carried away toward the land of Eldorado.

In the United States, everyone and everything changes and moves with a rapidity inconceivable to those of us who are accustomed always to follow one long routine. In Europe, each stone has its own history. The church rises where the dolmen once stood, and for thirty centuries, the inhabitants of the country – Gauls, Franks, or French – have worshipped at the same consecrated place. We obey traditions rather than humans, and let ourselves be governed by the dead more than by the living. In America, there is nothing of the kind. Not a single superstition is attached to the past or the native soil, and the population, moving like the surface of a lake seeking its level, distributes itself entirely according to the laws of economics. In the young and growing republic, there are already as many ruins as in our old empires. Present-day life is too active and tempestuous for the traditions of the past to dominate the soul. Instinctive love of country in its native simplicity no longer exists in the United States. For the masses, all feelings merge more and more with pecuniary interests.

But for those who are noble of heart – as rare in America as in every nation of the world – there is no country other than liberty.

10

Geographic Models of Imperialism

James M. Blaut

1970. *Antipode* 2 (1), 65-82.¹

i

Imperialism, as I speak of it here, is white exploitation of the non-white world, a plague that began some 500 years ago on the West African coast and spread across the globe. It has not been cured by emancipation, by decolonialization, or by economic development (which suffers from the same disease). It *has* been cured at times by revolution, for instance in China and Cuba. One such cure is now underway in Indochina. But a deadly pattern has emerged which we see in Indochina and elsewhere: no revolution may run its course without armed intervention by the white world, the West. This pattern is grounded in the logic and beliefs of imperialism. Here are two allegories:

“Those gooks *can’t* win.” If P, then not Q. This statement enjoys the status of axiomatic certainty. There is no possible logic of withdrawal that follows from such a self-verifying axiom. “The gooks can’t win,” so we escalate. Thus we come to fight the gooks and the chinks and the niggers as well.² “But those gooks didn’t win, did they? Now those chinks and gooks and niggers *together* can’t win ...” So the air-tight logic flows on, and so we enter World War III.

The second logical sequence begins benignly enough, “No sane man³ wants violence.” Is it therefore insane to sanction the incessant violence that a Black South

¹ Reprinted with permission from Richard Peet.

² Editors’ note: The author uses politically incorrect language deliberately. It is not intended as an insult but a stylistic strategy to convey the position of the imperialists.

³ Editors’ note: At the time this article was written, sexist language of this kind was common. We decided not to correct the original use of language to ensure that the text remains readable.

African endures? But this, of course, is not violence. It is merely a high mortality rate from disease, starvation, and suicide. We blame it on the Population Bomb or on Their Own Stupidity, never on our own Chase Manhattan debentures. But when their revolution begins – that is termed “violence,” and violence is insane. So we send in the marines: “peacekeepers” who never even heard of *Apartheid*. When Black troops arrive from East and West Africa, we defend the territorial integrity of South Africa against these *invaders*, these perpetrators of “violence.” Next to arrive are the gooks and the chinks ... And so we enter World War III.

ii

These allegories express a proposition that is the foundation stone of this paper. I can state the proposition in two ways, one of which will seem trite and the other perhaps mystical or foolish. First: all things can be rationalized. Second: all of Western science and historiography is so closely interwoven with Western imperialism that the former can only describe and justify the latter, not predict it or explain it or control it – not even when human survival is at stake, as may now be the case. The second form is easily confused with the “east is east and west is west” form of cultural relativism, an argument which has some predictive use in linguistics, but otherwise merely expresses the fact that cross-cultural communication is always difficult, always imperfect, but never truly impossible. I am trying to say something rather more specific. At this point I need a felicitous term.

The word *ethnoscience* has been used for the past few years to designate an interdisciplinary field on the common border of anthropology, linguistics, geography, and psychology. That field tries to analyze the cognitive systems – the beliefs about reality – which are characteristic of a given cultural-linguistic universe, and to theorize about such matters on a cross-cultural basis (Conklin, 1962). I will speak of “an ethnoscience” and mean thereby the total set of explicit and implicit terms, relations, and propositions which circulate among the members of a culture or group of cultures.

Some propositions will be axiomatically true by common consent. Some will carry different truth-functions for different individuals. Some will contradict some others. Concepts will vary in much the same way. This universe of discourse will be said to possess the following defining characteristics:

- (1) It includes propositions about unique events as well as general propositions. Thus it extends over all of history, all of science, and all of practical knowledge as understood by the members.
- (2) It is absolutely comprehensive. If a given phenomenon is known to the members of two such groups, it will be incorporated into both ethnosciences.

- (3) An ethnoscience does *not* include the judgments of value, preference, virtue, or taste which the members hold. This is of course a tricky point. In Western science and history, for instance, the notion of value-free statements is viewed as a fiction, sometimes useful and more often not. In epistemology it is difficult even to imagine a statement or thought, however mundane, that is value-free. All I require here is the possibility of crudely splitting off a value-statement from a corresponding knowledge-statement, and *only* to the extent that the latter can be stated as a distinct proposition, *relatively* clear of valuation. The statement, “I see the lovely chair” must then become “I see a chair” + “I judge the chair to be lovely.” The former is explicitly within the ethnoscience. Though still not wholly value-free, it can be used as a relatively independent variable (i.e., the fly on Napoleon’s horse’s nose).

This separation is needed to distinguish the universe called “an ethnoscience” from the larger universe embracing all thought and expressed by terms like “world view,” *Weltanschauung*, cosmology, and so on. Only in this way can we get at the interactions between ethnoscientific variables and non-ethnoscientific variables. The crucial interaction is the effect of Western imperialism, as a set of interests and norms, upon the two most relevant portions of Western ethnoscience; first, historical “truisms,” or conventional beliefs about what happened in history; and second, social science “paradigms,” or clusters of accepted social-science theory (Kuhn, 1959).

- (4) Any two ethnosciences can be mapped on one another, by way of comparing them. Each can be a different state-of-knowledge for the same culture. Each can be from a different culture. One can be from a specific culture and the other from a group of related cultures in which the first is included. The pair with which I will be concerned in this paper is, first, the whole of Western science and history, and second, a theoretical ethnoscience that I create by modifying the first in one respect: I withdraw the more glaring rationalizations for imperialism.

An ethnoscience has two additional properties which are axiomatic but testable. The first describes the relations among statements within the system. The second describes the relation between an ethnoscience and a corresponding value system.

We can think of Western science and history at a given time as containing a certain number of persistent theoretical paradigms and historical reconstructions. This population of scientific and historical beliefs can be assumed to have an overall structure, however loose it may be. I will speak of a relation of “compatibility” between pairs of beliefs, meaning simply that they can co-exist. A pair in widely

separated disciplines can no doubt contradict one another and still co-exist, and there are rare cases of this sort within single disciplines: e.g., particles vs. waves.

The general rule would seem to be that accepted paradigms are likely to reinforce one another – by using common elements, for example – or at the very least be essentially unrelated. Compatibility on these terms is no problem. The same should hold true for pairs of historical beliefs and for mixed pairs, as in psychoanalytic history, for instance. This should also hold for paramount beliefs in public policy: e.g., the putative views of the electorate.

Obviously, the concept of compatibility is probabilistic in specific cases and becomes axiomatic only when we deal with beliefs in aggregate. The axiom is best stated in the same form: in a given ethnoscience, through a given epoch, it is unlikely that any basic, important beliefs, scientific, historical, or public-policy, will be sharply and embarrassingly incompatible with any other such belief without a resolution of the conflict taking place relatively quickly. This axiom is closely analogous to the theory of cognitive dissonance, i.e., incompatible beliefs tend to get in one another's way. The axiom will let us deal with each ethnoscience as a system, and it lets us connect together various distant beliefs – distant in subject, time, and space.

The second axiom is more crucial to my argument: a fundamental belief in the ethnoscientific system associated with a given society is not likely to fall into or remain in conflict with a fundamental value or norm that is held by the members of the society or by the policy-making elite if the society is highly stratified. In other words, crucial beliefs should conform to crucial precepts: the true should also be the good. If there were no such conformality between ethnoscientific system and value system, we would have science proving that religion is false, history undercutting patriotism and the like – dissonances that a culture certainly cannot tolerate in high degree.

iii

I think I can identify a single ethnoscience that is characteristic of the European nations (or elites) which have participated directly or indirectly in the imperializing process. This ethnoscience spans the entire European culture world through five centuries of its history. This level of generality would be too broad to be useful in most other contexts, but that is not the case here, for two reasons. First, the span is quite normal for studies in the history of scholarly ideas. Second, whatever the variations among the national (or national-elite) ethnosciences, all should have a basic similarity in matters pertaining to imperialism, to relationships between Europe, with its set of wants, and the rest of the world, where the wants are to be fulfilled.

This [w]hite, or Western, or European, ethnoscience is the intellectual underpinning of imperialism. It includes within it the varying paradigms of Western science and the propositions of history. Allowing for necessary variations, this is the

common, general system of scientific and historical ideas in which we White, Western social scientists are working. Its growth has paralleled and supported the growth of imperialism, and it has become for us an almost irresistibly strong current of thought, pulling each new theory and interpretation in the same direction as the old: toward compatibility with the policies and goals of Europe and empire. There is nothing mysterious about this force, and some of us succeed in swimming against its pull (else there would be no [journal] *Antipode*!⁴). But it has produced a general drift of bias in those parts of Western ethnosience which are closely involved with imperialism. I will show in later paragraphs how this bias works its way through the chinks in scientific and historiographic method.

European ethnosience, like every other, is perfectly comprehensive in scope. Hence it contains a set of historical beliefs and social-science generalizations about the Non-White world as well as the White. I noted earlier that long-run consistency must be maintained between the ethnoscientific system and the value system. The governing system of values in European ethnosience is that of the White world alone: the imperialists, not the imperialized. To fit this ethnosience to an anti-imperialist value structure requires quite drastic changes, even if this structure is a limited set of normative propositions and not the entire value system of a specific non-European culture. Even more drastic changes are required to incorporate the findings of Third-World social scientists and historians (to the extent practicable).

The European model has to be examined very closely for biased and questionable historical statements dealing with the Third World, with imperialism, with European affairs relating to the Third World, and for social-science models and generalizations which are comparably biased or questionable. Each of these must be deleted. In some cases I will very deliberately introduce alternative statements with biases tending in a Third-World direction and build models to generate new hypotheses, however improbable these may seem. If I call the end product a sketch of Third-World ethnosience, nothing impressive is implied. This is not the ethnosience of an entire culture. Nor is it that of a synthesis of cultures. It is best described as an attempt to broaden Western ethnosience by removing its more flagrant imperialistic biases and enriching it with Third-World data. Many Third-World social scientists and historians, perhaps most of them, are engaged in essentially the same enterprise.

⁴ Editors' note: The journal *Antipode* was established as an alternative, radical geography publication, some of whose recurring concerns are racism and imperialism.

iv

The argument turns now to the sphere of method, since a crucial point is the vulnerability of scientific method and historiography to bias. If the drift of bias in Western scholarship is in the direction of congruency with imperialism, the one most pervasive and persistent interest of Western culture as a whole, then methodology will not check that drift. Even the most careful, disciplined, expert, and perceptive scholarship will be unable to do so, although without such care and expertise matters would be worse.

The problem is most acute in history, but most easily diagnosed. Visualize the historian's job of pursuing information along a chain of documentary reports, each document adding its quantum of value bias, imperfect perception, incomplete description, subjective categorization, and so on. These are normal hazards of the trade, and negotiate them as best can. Always seek to overcome these difficulties of concrete, artifactual data and, as it were, enter the subject's mind.

Consider now the problem faced by a European historian trying to gather data on, say, the history of a colonial possession of his own country. One set of sources derives from those individuals whose participation in the events under study would ordinarily persuade the historian to rely most heavily on them for primary data. But they write in Non-Western language and script, convey the beliefs and values of a Non-Western culture, and are likely to evince rather consistently negative bias against the occupying power, its agents and their actions. By contrast, there is an abundance of easily available records written in the historian's own language by a group of his own countrymen whose ordinary bias is inflated by racial, cultural, class, and patriotic prejudice. The historian must thus choose between two kinds of account, each with an opposing bias. Not surprisingly, he is likely to accept the bias of his own countrymen, whose material he can deal with in terms of known means of judging evidence. He can, as it were, enter their minds. However carefully he may avoid contaminating his work with his own attitudes, the bias has entered it even so.

The shelves of colonial and Non-Western history contain rather few works by Europeans who are familiar with the Non-Western language and culture of their area, and fewer still by colonials themselves. Instead, we have a vast literature written by colonial administrators-turned-historians, with titles like "My Ten Years among the Dyaks". There is also an abundance of strongly biased writings by trained historians from the occupying nations, works very aptly described by Van Leur (1955) as history "written from the deck of the ship". Hence we see the importance of a handful of studies written by Non-Western historians, mostly after independence has been attained, studies which present a counterfoil to the European view, a different

interpretation, and often a body of new and important data.⁵ Until this literature has grown very much larger, we must assume that the basis for reasonably objective judgment of the colonial and pre-colonial past has not as yet been laid. Thus we must garnish the bulk of existing data and review all the evidence behind the most crucial generalizations about the nature and evolution of imperialism.

Science has proven as vulnerable as history in the matter of resisting imperialistic bias – of breaking out of the paradigms which assert that, for any hypothesis P, P is true of the Third World if P is useful to imperialistic policies and false if not. My concern is with lacunae in scientific method, specifically in the methodology of pure and applied social-science research being carried out today in neo-colonial countries, independent areas which maintain one or another form of colonial economy. (Much more will be said about neo-colonialism later.) Nearly all of this research has the stated goal of contributing directly or indirectly to economic and social development, and those who conduct the research accept by and large the goal and honestly follow the canons of scientific method. Yet the results continue to fit the old paradigms.

We notice to begin with that the probable direction of bias can be predicted from the roles, values, and reward system that are typical of the investigators. Much of the research is carried out by White social scientists from North America or Europe with financial support from their own government or a corporate foundation. Most are inclined to accept the ideology of their own culture in at least skeletal form – would not receive the financial support if they did not, in most cases – and this ideology is compatible with the paradigms in question. These paradigms assert that any P is untrue, unworkable, or wrong if P leads to radical, social and political change, or merely to political instability. Investigators who are nationals of the neo-colonial country itself usually are government employees, participants in a system that provides faster promotion and like rewards for findings which do not point to governmental errors and contradictions at any level, from the small development project to the national policy of neo-colonialism. University research is only slightly less constrained, and professors in any case have little opportunity to do any. It should be added that government and university social scientists are usually recruited from the class that benefits from neo-colonialism. If many of them oppose it nonetheless, they tend not to do so in the context of sponsored research. Hence we find the potential for bias toward the paradigms of imperialism at the start of research. The potential is enhanced by the fact that nearly all investigators ingested these paradigms at the time they were trained.

⁵ The following may be mentioned as examples written in or translated into English: Aguilar (1968), Dutt [1908], Fei (1953), Freyre (1946), Gopal (1965), Sanchez (1965), James (1962), (1969), Ortiz (1947), Panikkar (1959), Thapar (1966), Williams (1961/1944).

Scientific method is relied on to ward off systematic bias, but it cannot do so in a neo-colonial situation such as we are describing. It merely disguises the bias behind a facade of spurious objectivity. The facade is most impressive when formal models are used and when masses of quantitative data are processed. However, these approaches seem to confer no greater immunity than do others (Myrdal, 1968, 16-26). Most of the models are drawn from Western theory. Given that other models are likely to provide equally good fit in a typically complex system, the systematic choice of a Western model adds to the probability that the system will be wrongly subsumed under an inappropriate paradigm. The same systematic error recurs in the choice of assumptions.

A special problem arises when simulation models are developed specifically for mass data-processing. The choice of variables is conditioned by the availability of statistics. These, in turn, reflect the information needs of the prior colonial epoch (or present large-scale commerce); hence, the simulation becomes a caricature. One must see this problem in the context of theories that explain so little of the variance – when they are tested at all – that a bad model or bizarre assumption is almost never rejected for reasons that have anything to do with scientific method or results. The favored models are congruent with views, values, and interests which would not be abandoned in any case.

Empirical research fares no better than theoretical: it is hobbled by the same biases. Implicit Western models tend to govern the selection of problem, field-work area, sample design, data categories, and the like. Interview biases are monotonous in their congruence with the hypothesis and purpose of a study. Perhaps the most serious problem in empirical research is the tendency to read into a given situation some truism dredged up from European history – about which more will be said later.

Thus it appears that Western science, like Western history, has been methodologically incapable of controlling its own tendency to interpret the Third World in terms of the paradigms of Western ethnohistory and the interests of imperialism. For this reason, one must adopt an attitude of systematic skepticism toward theories about the dynamics of the Third World. The predictions from such theories suggest strategies, e.g., for economic planning, but one finds very often that the predictions are merely restatements of the assumptions originally chosen for a model that has not really been tested. The assumptions themselves turn out to be epigrams of imperialism. So economic development can become a way of phrasing imperialist strategy, not an alternative to imperialism.

Few of us believe in the possibility of a perfectly objective science or history, so the foregoing argument should not be, in principle, unpalatable. If it gives some discomfort, this may be a symptom of the difficulty we have in swallowing the proposition that our lack of objectivity is not a random error, nor even a class or national bias, but a systematic tendency of Western thought, tied to [...] Western imperialism. The tendency is rather slight at the level of individual research: an unconscious value-loading of adjectives; a not-absolutely-random sample; a project selected because research funds are available for this sort of thing and not that. The

cumulative effect, like the Coriolis force and the solar wind, is no less powerful for being unnoticed. Hypotheses that clash with imperialism simply do not rise to the status of paradigms or truisms. Hence, over the decades and centuries, we maintain a body of belief that is truly the ethnohistory of the Western world; not, as it claims to be, the universal science and history of the world as a whole.

v

We can now compare the geographic models of imperialism which emerge from Western and Third-World systems of belief. I have said nothing thus far about the content of these ethnohistorical systems. Instead I gave an elaborate methodological fanfare, the aim of which was to raise some doubts in advance about the seeming self-evidence of the one set of beliefs and the seeming improbability of the other. I will discuss these beliefs only to the extent that each underlies or enters into its respective geographic model, but their basic form will emerge quite clearly as we proceed. I speak of the models as “geographic” because space and resources are perhaps their main dimensions. They span some 500 years of human history, but they also span the globe. This scope is routine in historical geography. Note that the Western model is non-Marxist. A Marxist model of the classical or European type – something of an intermediate case – will be examined briefly at a later point. The Western model will be given rather cursory discussion in any event, since it is a collection of all-too-familiar truisms. It will in fact be treated very shabbily, and used mainly as a foil for the Third-World model, toward which I admit a favorable bias.

It should be said at this point that my use of the term “model” in this discussion is intended to emphasize not only the fact that we are simplifying process to a bare structure for analytic purposes, but also to emphasize a property of models which is vital to this kind of discourse. Models are not reality. They can be as improbable and outlandish as one may desire, so long as the model world and real world remain separated. Some of the historical statements in the Third-World model are so thoroughly contradictory to the truisms of Western history that they may not even seem plausible. My task is to clothe them with just supporting evidence as conveys their plausibility. Historians must carry the burden from there.

“European civilization arose and flowered, until in the end it covered the face of the earth.” These words by Marc Bloch (1962, xx) sum up the Western model quite nicely. They convey the root belief in an ineffable European spirit, a *sui generis* [Latin: of its own kind] cause of European evolution and expansion. A small number of such beliefs are the basic truisms of imperialism, generating those arguments which justified imperialism during its evolution and those which (I claim) disguise it today. The following truisms seem to be crucial:

- (1) Europe is a spatio-temporal individual, clearly demarcated and internally coherent – a “civilization”. It has been such since the Middle Ages or

before, although the boundaries have extended to Anglo-America and beyond. This conception gives the model a simple domocentric form,⁶ with a distinctive geometry: an inner space, closed and undifferentiated (all portions have the property “European”); an outer space, also closed on the spherical surface; and a boundary between them which has finite width and important internal properties.

- (2) The rise of European civilization throughout this period has been generated mainly by inner processes. non-European peoples and areas have had no crucial role in epochal events: the Reformation, the Enlightenment, the Industrial Revolution, and so on. Whenever events outside of (topological) Europe assume significance, as during the ages of exploration and mercantilism, Europeans themselves play the active role. Here we have the first property of the boundary: selective permeability. Major forces in cultural evolution cannot filter through it in a centripetal direction, although raw materials can do so; likewise Aztec gold.
- (3) All non-European cultures are more or less primitive, at the time of colonization, by comparison with Europeans in the abstract and by comparison with the particular Europeans who colonize a given area and pass judgment on its inhabitants. All such cultures are unprogressive. All are either standing still or declining at the time of colonization. (China is usually conceded to have barely reached the “European” civilization level of pre-Enlightenment times, but is the very model of decadence.) All such cultures are barbarous and heathen. In sum, the non-European world is less strong, less intelligent, and less virtuous than Europe. Hence there is a kind of osmotic differential in power, knowledge, and righteousness.
- (4) The outward expansion of Europe, like the rise of Europe itself, is *sui generis*, a product of internal forces and motives. It is a “striving outward”, an “urge to expand”. There is self-generated evolution within the boundaries of Europe and there is osmotic pressure across the boundary. The result is unidirectional flow: a diffusion process, not an equilibrating system. (By no coincidence, classic diffusionism in European social science was imperialistic, ethnocentric, and often racist in tone [...]) As a corollary, any given part of the non-European world gains its important attributes from the European impact. Therefore the non-European world as a whole – excepting the areas depopulated and settled by Europeans, thus becoming pseudopoda [projections] of Europe itself – displays the pattern created by a decay function: the farther one gets from Europe (in the sense of connectivity, not true distance), the less intense the attribute. This can be described in part as a series of age-area

⁶ The term “domocentric” is adapted from Shemyakin’s usage.

or wave-diffusion bands, and in part as a continuous cline. Thus, whenever non-European areas display qualities indicative of importance, progress, and the like, they do so as a result of Europeanization and in proportion as they have received the European impact. Thus also, the process of imperialism becomes a matter of giving civilization while taking resources.

These historical truisms provide some of the major elements in a structure of ideas that underlay European imperialism throughout its course and underlies it still. A double standard of morality was accepted by which piracy, brigandage, privateering, slave-raiding, slave-trading, and slavery itself were permitted so long as the venue were extra-European – indeed, the Enlightenment in Europe rather coincided with the age of slavery beyond the boundary. Colonialism acquired the status of a natural and inevitable process, almost foreordained by the internal evolution of Europe and developing smoothly and continuously from the first voyages of Henry the Navigator to the final partition of Africa. The establishment of large-scale capitalist enterprise in colonies and former colonies was equally inevitable, a matter of finding better and higher uses for land and labor than the natives themselves were capable of achieving. In the twentieth century, discomfiting events like Japanese militarism and the growth of Chinese communism were cognized as effects of European ideas. Were it my intention to elaborate fully the Western model, I would attempt to show how these and like processes are, and have been in the past, cognized in terms of the few basic persistent truisms (not all of which have been mentioned, of course), which serve as assumptions in the model. At all stages in modern history, Europeans have drawn these truisms from Western ethnohistory whenever the need arose to justify events past, current, or planned.

The same holds true today. The conception of non-European peoples as inferior in strength, intelligence, and virtue – that is, a national power, technological innovativeness, and justifiable aspirations – is still basic to the international policies of the West, although rarely stated in explicit terms and perhaps not even drawn out into the conscious decision-making process. Before pursuing this matter further, we had best present the alternative model, that of the Third World.

vi

Somewhat earlier, I characterized Third-World ethnohistory in a highly simplistic way, calling it Western ethnohistory with one constraint removed: its support of imperialism. But if that one constraint is removed, the shape of historiography and social science must change. Fanon makes this blunt assertion: “What the West has in truth not understood is that today ... a new theory of man is

coming into being” (Fanon, 1967, 125). Whether he is literally right or not, this is clearly the program for a Third World ethnoscience.

The model, as I build it here, goes well beyond existing scholarship (as any model should). Where my own speculations are woven into the fabric, the design remains in harmony with the whole. This design has one basic motif: basic skepticism with regard to any truism or paradigm of Western ethnoscience which seems to reinforce imperialism: by derogating a part or property of the Third World; by asserting a dependency on the West; by claiming that some form of Western enterprise in the Third World is *a priori* [i.e. derived from reasoning] logical, proper, or necessary; by rationalizing the use or potential use of Western force in a Third-World region; or simply by asserting that European history is *sui generis* – that cultural evolution is a European monopoly. Skepticism leads to criticism, and thus the fabric is unraveled and rewoven.

This model asserts a body of propositions, most of which are simple denials of one or another part of one or another Western truism. I will draw these propositions together into a schema of the historical geography of imperialism, somewhat arbitrarily divided into three space-time stages. Very little will be said about the geometry of this model since its most fundamental quality is (or can be expressed as) the absence of ethnocentrism, domocentrism, and therefore nodality.

Stage I can be called the Slave-Based Industrial Revolution, with bounds extending from Atlantic Europe to the West African coast; thence to the Atlantic coast of South America; thence northward along that coast to the West Indies; thence back to Europe. This period lasts very roughly from 1450 to 1750. To deal with it adequately, one would have to discuss events occurring in Asia at the same time, but I will content myself with one proposition: the impact of Europe on Asia throughout this period was very light; the model itself suggests why this was so (Panikkar, [1959]; van Leur, [1955]).

The period begins with privateering – chartered piracy – on the Guinea Coast by Portuguese merchant and naval vessels. Small-scale slave-raiding occurs. Equally small-scale sugar planting begins on several Atlantic islands (e.g. Sao Thome), using captured slaves and producing for the European market. Iberian seamen continue to probe southward, less concerned with rounding Africa than with preying on her coast. As profits and experience increase, ships grow sturdier; eventually the orbit enlarges to the point where a landing is made in the New World, and Iberian interest shifts in part to New World privateering (“conquest”). Meanwhile, the Portuguese open a lucrative trade in the Indian Ocean, beating Arab competition mainly through high-seas piracy on the smaller Arab vessels. This trade interests us mainly because it leads to settlement on the Brazilian coast, whose warfare and European diseases, combined with slavery, quickly destroy Amerindian competitors for land. Planters move across the Atlantic, vastly increasing plantation acreage and stimulating the slave trade. Now Europe hits the jackpot and commences the true explosion of imperialism: massive expansion of commercial, slave-based agriculture in the New World.

The acquisition of disease-emptied land in limitless quantities was the *one* major advantage which Europeans managed to wrest over the civilizations of Africa and Asia. In this model Europe had no “urge to expand” not shared by these other civilizations; nor did Europe have any technological advantage, save ships that were slightly more sophisticated as a result of the prior epoch of African piracy; nor did Europe display any other distinguishing sign of cultural advancement or achievement-motivation in the fifteenth and early sixteenth century. She merely got to the New World first, and obtained its lands in exchange for genocide.

The Third-World model can therefore postulate that Europeans had *no* innate superiority, nor even the power to conquer old-world civilizations. This power was only gained in the eighteenth century, 250 years after Columbus, as a result of the industrial revolution, which began not in Europe but in the West Indies, thereafter diffusing (outward? inward?) to Europe (James, 1970, 119-164, 122-123; Williams, [1961/1944]; Orbitz, [1947]). To make this last assertion plausible, we need a subsidiary model, a microgeographic system-model of the slave-based plantation, showing its homology to subsequent factory industry. Such a model would show that, in level of machine technology (mill and field), level of capital, scale of labor input and production, organizational complexity, multiplier-generating effects, and other attributes, the sugar plantation was equal to the level of the early English textile mill, which it long preceded. The overwhelming difference was slavery.

The Third-World model here invokes alternative propositions. The first is an anthropological truism: every culture has rules, or laws, which limit the degree to which any one participant in that culture can exploit any other, but no such rules need apply to outsiders. Beyond the bounds of Europe, a heathen alien could be murdered or enslaved at will. With fresh land and a brisk market, moral scruples were brushed aside. The second proposition is cultural-geographic: new technology is extremely costly in its earliest phase. Third is the basic Marxist proposition that power must be employed to extract surplus from labor – surely most feasible under the guns of a slave colony. Thus we have rounded out the argument for a slave-based, extra-European origin of the factory system – indeed, of capitalism itself if one accepts Marx’s distinction between merchants and capitalists (Marx, 1967, 325). In our model, the factory system had to evolve under slavery to the point where labor’s return was, literally, enough to keep the laborer alive; only then could the system be transferred from the colonies to Europe, and from the southern U.S. to the north; then reconstituted as a new kind of mill, with semi-free labor and child labor forming a transition.

This model of the origins of industry and industrial capitalism is reasonably strange in the context of Western ethnohistory. In the Third-World system, the model may be poor but it is far from strange. C. L. R. James [1970, 122], one of the greatest of Third-World historians, says simply: “There is no question today that the resources which initiated and established (the factory system) ... resulted from the Atlantic slave-

trade and the enslavement of Africans in the Americas.”⁷ The slave-trade itself, in this model, was mostly brigandage on the West African coast: involvement of African kingdoms came relatively late, responding to one of the fruits of the European industrial revolution: cheap guns.⁸ One must add the input of profits from Spanish enterprise in the New World – plunder, mining, and a bit of agriculture – as well as the profits from mercantilism in Asia. The Asian element, however, is much overrated. Europeans controlled no significant territory prior to the mid-eighteenth century, and had nothing much to sell the Asians until slave-based industry had triggered off European industrial revolution.

Stage II in the evolution of imperialism, as portrayed in this model, is classical Colonialism, or large-scale territorial conquest, mainly in areas with sophisticated state organization. This period commences slowly in the early eighteenth century. By the end of the nineteenth, colonial control has spread at least nominally over nearly all of Africa and Asia, Japan has joined the colonizers, and China has become a giant colonial condominium. The stage is brought to an end almost everywhere, by a formal grant of independence and a change of color on world maps, in the two decades following World War II. In the model, it ends by a gradual re-occupation of territory and gradual crumbling of colonial political control over a period of perhaps 80 years.

The initiating conditions for Stage II are in essence also the terminating conditions for Stage I. These conditions can best be understood in terms of the geometry of the model. Initially, the Old World is a single uniform region dotted with mercantile cities, not a nodal region centered on Europe. We assume no initiating condition within Europe itself which might destroy the relative spatial equilibrium among Old-world cities, and we assume (with Polányi) that merchants throughout the archaic world are subservient to or portions of the state apparatus – that dual, competing power poles are unstable and hence inadmissible (Polányi, 1957). We explain the acquisition of power by European merchants as a boundary process between the Old World and the New. Two vital ingredients of a capitalist society were thus drawn into Europe: first, the system of industrial capitalism which (in this model) evolved under slavery; and second, the profits – from plunder, slavery, Asiatic trade, and new markets in North America and other pseudopoda of Europe – which were needed by the merchant (now capitalist) class to acquire political power and thus legitimize itself. By the end of Stage I, capitalism and the State were again a single focus of power, but West European states were adapting themselves to capitalism, not vice versa. In this way political and legal authority was obtained to create a semi-slave

⁷ James [...] contrast[s] the views presented in, e.g. Ashton (1948), Deane (1969), Hartwell (1967). E. Wrigley, a geographer, discusses “The Supply of Raw Materials in the Industrial Revolution” in Hartwell (1967, 97-120), without mentioning a single non-European area, and the southern United States only once – a feat of myopia.

⁸ Cf. Polányi (1966) for a discussion of this economic relation.

proletariat in Europe itself by widening the limits of allowable exploitation within the society, and to redefine the territorial conquest of non-European areas as an affair of state, not of private Chartered Company (although the transition from one to the other was slow).⁹

Thus we derive the three initiating conditions of Stage II, or Colonialism. First, the European country has already become a capitalist – not simply mercantilist – society, and colonies are therefore sought as extensions of the European marketing and raw-material sphere. Second, industrialization and mercantilism together have advanced to the point where both the technology and capital needed for large-scale conquest are at hand. And third, since the first condition is best encountered in a potential colony which possesses a strong pre-existing state organization and large population, formal and informal procedures will be followed to forge an alliance between the imperialists and the colonial power structure – an alliance with genuine advantages for the colonial participant since it offers him a share of the economic and political spoils. This, you will note, is a redefinition of the “divide and conquer” precept. In our model, the precept reads: imperialism should be fitted into the pre-existing forms of exploitation so that the same classes are exploited, only more vigorously. I shall have occasion to return to this proposition in a modern context.

At the close of World War II, the colonial system was dismantled with the speed of a traveling circus, and in most places independence was achieved without violent revolution and at the stated initiative of the imperial power, rather than on presentation of an ultimatum. The Western Model uses these facts as evidence that imperialism is on its deathbed. The Third World model interprets these facts quite differently: twentieth century without overt political control. This is neocolonialism, Stage III of our model. To understand the homology between these two stages, and to understand the nature of neocolonialism – a crucial matter for the Third-World analysis of economic and social development programs – we must focus for a moment on certain structural properties of an ideal-typical colony as delineated by our model.

The colony as a whole can be described as a feudal state, a three-tiered society consisting of a gentry or landlord class above whom are the state aristocracy and below whom are the peasants, with an imperialist superstructure added as another tier above – and indeed trickling through all the economic interstices at the state and gentry level as well. The Colonial bureaucracy is usually self-sustaining with tax revenues which are generally paid directly or indirectly by the peasants. The bureaucracy supports a large corps of not always vitally needed Europeans. It has the additional tacit function of providing a source of decently paid employment for the sons of lesser gentry. It is

⁹ On the Chartered Companies and colonialism, see Coornaert, (1967). On colonialism, see Memmi (1965); Puthuchearry (1960); and various works by G. Padmore.

indeed a significant element in the spoils system; hence, the bureaucracy may be an exploitative structure if its technical services do not redress the balance, as may or may not occur.

The main exploitation, however, comes from private business, the functions of which are kept scrupulously separate from those of government. A large, diversified colony, however densely populated, will have at least some European-owned plantations (if only tea gardens above the food cultivation zone), some European-owned mines, a host of European-owned import-export agencies which usually feed into locally managed distribution networks, and other such enterprises. Almost all manufactured goods are brought in from the colonizing country. Local manufacturing may be suppressed overtly, as happened to India's cotton textile production and export during the Company era and later to sugar refining in the West Indies, or local industry may be unable to face competition from factory-produced imports (Jathar and Beri, 1945; Dutt, [1908]; Gadgil, [1938]; Myrdal, 1957, 60). In any case, a massive loss of income occurs as a result of this process, wiping out incipient manufacturing industries, depriving urban artisans of a livelihood (but benefiting merchants), and reducing peasant family income (Fei, [1953]; Jathar and Beri, [1945]).

To sum up these structural features: the colonial bureaucracy provides welfare and infrastructural services and maintains an exceedingly large police or military establishment, roughly at cost. The private European sector profits by exporting plantation and mine products and importing manufactured goods. The landowning gentry continue as always to collect rent or share from the peasants, while their kinsmen maintain an elite status in new roles, bureaucratic or business. The peasants find their burden growing slowly but steadily, generation by generation, and the class of landless laborers increases in proportion. Population growth may be a contributing cause to their problem – I will argue to the contrary below – but the primary cause is exploitation: heavier charges placed on farmers who always have limited land supplies and rarely have access to yield-raising inputs.

The colony thus created is dualistic, but not in the sense of an economy in which European enterprise is distinct from and cannot integrate with peasant economy, if such is even possible (Boeke, 1953).¹⁰ The dualism here is between government and economy [market]. This is a fundamental feature of capitalist societies; it permits unrestricted economic activity within a broad area of legally permissible actions. The same dualism is constructed, for the same reason, in our colony. After a firm network of ties has been established between metropolitan and colonial enterprise, and the latter has acquired a corps of managers and shopkeepers from the local elite, then, in theory, independence need not interfere with business as usual. In pre-colonial society, this kind of dualism is rarely seen. Land ownership, for instance, may have as many political-territorial attributes as it does economic [attributes]. But colonialism bribes

¹⁰ A more realistic analysis of indigenous-alien dualism is given by Myint (1954).

the old elite into assuming a new role, part economic bourgeoisie, part bureaucratic functionary. If peasants and laborers have not been pushed to the point of full-scale revolution, then the new elite will almost always be found in the vanguard of the less extreme independence movement. But if the colonizers refuse to leave, many from this group will turn revolutionary overnight, as happened in Indonesia, Algeria, and elsewhere. One need not entirely dismiss the significance of imperialistic beliefs when noting that almost all the imperialist countries chose to ignore such beliefs and free their colonies without fuss. So the terminating conditions for Stage II and initiating conditions for Stage III are bound up in the colonial process which creates an economic fief and secures it against all political dangers short of socialism.

“Neo-Colonialism” is the most widely used term for what our model identifies as the third stage of imperialism. Nkrumah characterizes an independent nation as neo-colonial if “its economic system and thus its political policy is directed from outside” (Nkrumah, 1965, ix; Fanon, 1967). In the present model, a neo-colonial state is given five defining properties. First, its economy is connected to European capitalism in the colonial manner. Second, its internal political structure is effectively controlled by an elite group of the sort I described for Stage II colonies, a group of businessmen, civil servants, or both, committed by self-interest or ideology to maintaining the colonial economy. Third, it may have economic connections with more than one European power. Fourth, the state lies under a permanent threat of invasion or some other hostile act if European economic interests within its territory are not properly protected; hence, its sovereignty is contingent. And fifth, since exploitation in the neo-colonial mode is much like that of classical colonialism, neo-colonialism has much the same need to be backed up by military power if the citizens grow restless. Accordingly, the neo-colony is customarily given substantial military assistance to insure internal security, while its European partner stands ready to airlift troops into the country if they are needed.

Note that the first two of these properties, a colonial economy and a bureaucratic-mercantile elite, are the two most fundamental features of Stage II colonies, aside from European rule itself. Note also that the third of these properties suggests a plausible reason why imperialist powers might find their interests best served by granting independence to their colonies and converting them into neo-colonies. To begin with, if all the major powers de-colonize at about the same time – exactly as happened – then the Common Market principle takes effect: each gives up its trade protections in a small colonial market, gains access instead to a vastly larger one, and still retains the fat pickings of neo-colonialism in the original. The second imperialist excuse for de-colonization is a military one. Given the state of war technology in the 1950s as compared, say, with the 1900s, military airlifts and roving navies may have come to provide greater reserve power than colonial garrisons maintained (at great expense) throughout the empire. From a Third-World point of view there is every reason to believe that imperialism is still very much alive.

The proposition that imperialism still holds sway in the new guise of neo-colonialism leads to a pervasive skepticism about Western policy in the Third World today. It also raises doubts about the pronouncements of Western ethno-science on matters of peace, equality, and economic development in the Third World. Take the following propositions as examples. First, given the propensity to define non-European movements in European terms, will it ever be possible to stage a revolution against any form of exploitation in the Third World without having that revolution defined and responded to as Marxist – as a subset of Western thought? Second, will the West be able to accept the possibility that Third World nations can defeat it militarily – that conflict resolution in places like Southeast Asia must follow the same principles as elsewhere? Third, can the Third World accept the thesis that any major economic development program is not merely a part of the process of imperialism? For instance, is there any real difference between economic aid programs and former colonial technical services? Do both serve as pattern-maintenance or welfare services to permit smooth functioning of private exploitation? Fourth, are population-control efforts really designed to assist the Third World or are they simply another dimension of imperialism? After all, it is as reasonable to argue that high peasant birth rates are a function of exploitation as it is to argue the current Western view, which assumes incredible ignorance on the part of peasant families and, to many non-Whites, carries overtones of racism. If time permitted, I would continue with many other skeptical propositions of the same sort. Perhaps the Third World is truly coming to the conviction that peace, justice, and development must emerge from a new ethno-science: “a new theory of man.”

Systems of belief are by no means immune to change, but they are less likely to foretell external events than to explain them after the fact. This is notably true when a culture is losing control over such events. Reality, for that culture, is changing; the belief-system is signaling “no change”; the members of the culture believe and act on the signal; and sooner or later the gap between belief and verification becomes too great to be ignored. Unfortunately, that discovery may occur during the millisecond before a nuclear holocaust. Let me be more specific: Western ethno-science defines the geography of the present-day world in a way that is so grossly unrealistic that we can only hope for a change in belief that occurs in time to save us, or a slow enough intrusion of reality so that beliefs may somehow respond in time. The Western model has persuaded the West that imperialism is under control, that economic development is just around the corner, and that peace is only a matter of right thinking. The Third-World model, on the other hand, describes a world in which imperialism is far from dead – instead, it has changed from colonialism into neo-colonialism, a cooperative enterprise of the European world as a whole – and that resistance to imperialism is mounting throughout the world. If the real world bears any resemblance to this model, then we are on the brink of disaster.

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Revolutionary and Counter Revolutionary Theory in Geography and the Problem of Ghetto Formation

David Harvey

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How and why would we bring about a revolution in geographic thought? To gain some insight in to this question it is worth examining how revolutions and counter-revolutions occur in all branches of scientific thought. Thomas Kuhn [1962] provides an interesting analysis of this phenomenon as it occurs in the natural sciences. He suggests that most scientific activity is what he calls normal science which amounts to the investigation of all facets of a particular paradigm (a paradigm being thought of as a set of concepts, categories, relationships, and methods, which are generally accepted throughout the scientific community at a given point in time). During the process of normal science certain anomalies arise, observations or paradoxes which cannot be resolved within an existing paradigm. These anomalies increasingly become the focus of attention until science is plunged into a period of crisis in which speculative attempts are made to solve the problems posed by the anomalies. Eventually there arises out of these attempts a new set of concepts, categories, relationships, and methods, which successfully resolve the existing dilemmas as well as successfully incorporating the worthwhile aspects of the old paradigm. Thus a new paradigm is born to be followed once more by the onset of normal scientific activity [...]. Kuhn's schema is open to criticism on a number of grounds. I shall discuss two problems very briefly. Firstly, there is no explanation as to how anomalies arise and how, once they have arisen, they generate crises. This criticism can be met by distinguishing between significant and insignificant anomalies. Thus it was known for many years that the orbit of Mercury did not fit into Newton's calculations yet this

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anomaly was insignificant because it had no relevance when it came to the use of the Newtonian system in an everyday context. If, on the other hand, certain anomalies had arisen in, say, bridge construction, then they obviously would have been highly significant. Thus the Newtonian paradigm remained satisfactory and unchallenged until something of practical importance and relevance could not be accomplished using the Newtonian system. Secondly, there is the question, never satisfactorily answered by Kuhn, concerning the way in which a new paradigm comes to be accepted. Kuhn admits that acceptance is not a matter of logic and he therefore suggests that it involves a leap of faith. A leap of faith based of what? Underlying Kuhn's analysis is a guiding force which is never explicitly examined. This guiding force amounts to a fundamental belief in the virtues of control and manipulation of the natural environment and the leap of faith, then, is based on the belief that the new system will allow an extension of manipulability and control over some aspect of nature. Which aspect of nature? Presumably once again it will be an aspect of nature which is important in terms of everyday activity and everyday life as it exists at a particular point in history.

The central criticism of Kuhn, which these two cases point to, is his abstraction of scientific knowledge from its materialistic basis. Kuhn provides an idealist interpretation of scientific advancement when it is clear that scientific thought is fundamentally geared to material activities. This materialistic basis for the advancement of scientific knowledge has been explored by J.D. Bernal (1971). Material activity involves the manipulation of nature in the interests of [humanity] and scientific understanding cannot be interpreted independent of that general thrust. But at this juncture we are forced to add a further perspective because "the interest of [humanity]" is subject to a variety of interpretations depending upon which group of [people] we are thinking of. Bernal thus points out that the sciences in the West have, until very recently, been the preserve of a middle-class group and even recently, with the rise of what is often called the "meritocracy", the scientist is invariably drawn into middle-class ways of life and thought during the course of his career. We must thus expect the natural sciences tacitly to reflect a drive for manipulation and control over those aspects of nature which are relevant to capitalist entrepreneurs. Far more important, however, is the harnessing of scientific activity, by a process of patronage and funded research, to the special interests of those who are in control of the means of production. The coalition of industry and government heavily directs scientific activity. Thus manipulation and control mean manipulation and control in the interests of a particular group in society rather than in the interests of society as a whole (Bernal, 1971; Rose and Rose, 1969). With these perspectives we are far better able to understand the general thrust of scientific advancement hidden within the recurrent scientific revolutions which Kuhn so perceptively described.

It has frequently been questioned whether or not Kuhn's analysis could be extended to the social sciences. Kuhn appears to take the view that the social sciences are "pre-scientific" in the sense that no one social science has really established that corpus of generally accepted concepts, categories, relationships, and methods which form a paradigm. This view of the social sciences as being pre-scientific is in fact quite

general among philosophers of science (Kuhn, op. cit. 1962, 37; Nagel, 1961). But a quick survey of the history of thought in the social sciences shows that revolutions do indeed occur and that such occurrences are marked by many of the same features which Kuhn identified in the natural sciences. There is no doubt that Adam Smith provided a paradigmatic formulation for economic thought, which was subsequently built upon by Ricardo. In modern times Keynes succeeded in doing something essentially similar. Johnson, in a recent article, explores such revolutions in thought in economics and his analysis in many respects parallels that of Kuhn's with, however, a couple of extra twists to it. At the heart of the Keynesian revolution, Johnson asserts, was a crisis generated by the failure of pre-Keynesian economics to deal with the most pressing and significant problem of the 1930's – namely, unemployment. Unemployment provided a significant anomaly. Thus Johnson suggests that:

by far the most helpful circumstance for the rapid propagation of a new and revolutionary theory is the existence of an established orthodoxy which is clearly inconsistent with the most salient facts of reality, and yet is sufficiently confident of its intellectual power to attempt to explain those facts, and in its efforts to do so exposes its incompetence in a ludicrous fashion (Johnson, 1971).

Thus objective social realities of the time overtook the conventional wisdom and served to expose its failings:

In this situation of general confusion and obvious irrelevance of orthodox economics to real problems, the way was open for a new theory that offered a convincing explanation of the nature of the problem and a set of policy prescriptions based on that explanation.

So far, the similarity to Kuhn is quite remarkable. But Johnson then adds certain new considerations some of which really stem from the sociology of science itself. He thus suggests that to be accepted a theory needs to possess five main characteristics:

First, it had to attack the central proposition of conservative orthodoxy ... with a new but academically acceptable analysis that reversed the proposition ... Second, the theory had to appear to be new, yet absorb as much as possible of the valid or at least not readily disputable components of existing orthodox theory. In this process, it helps greatly to give old concepts new and confusing names, and to emphasize as crucial analytical steps that have previously been taken as platitudinous ... Third, the new theory had to have the appropriate degree of difficulty to understand ... So that senior academic colleagues would find it neither easy nor worthwhile to study, so that they would waste their efforts on peripheral theoretical issues, and so offer themselves as easy marks for criticism and dismissal by their younger and hungrier colleagues. At the same time the new theory had to appear both difficult enough to

challenge the intellectual interest of younger colleagues and students, but actually easy enough for them to master adequately with sufficient investment of intellectual endeavor ... Fourth, the new theory had to offer to the more gifted and less opportunistic scholars a new methodology more appealing than those currently available ... Finally, (it had to offer) an important empirical relationship ... to measure (Johnson, 1971).

The history of geographic thought in the last ten years is exactly mirrored in this analysis. The central proposition of the old geography was the qualitative and the unique and this clearly could not resist the drive in the social sciences as a whole towards tools of social manipulation and control which required an understanding of the quantitative and the general. There can be no doubt either that during the transition process old concepts were given new and confusing names and that fairly platitudinous assumptions were subject to rigorous analytical investigation. Nor can it be denied that the so-called quantitative revolution allowed the opportunity to pillory the elder statesmen in the discipline particularly whenever they ventured into issues related to the newly emerging orthodoxy. Certainly, the quantitative movement provided a challenge of appropriate difficulty and opened up the prospect for new methodologies many of which were to be quite rewarding in terms of the analytic insights they generated. Lastly, new things to measure were in abundance and in the distance decay function, the threshold and the range of a good, and the measurement of spatial pattern, we found three apparently crucial new empirical topics which we could spend an inordinate amount of time investigating. The quantitative movement can thus be interpreted partly in terms of a challenging new set of ideas to be answered, partly as a rather shabby struggle for power and status within a disciplinary framework, and partly as a response to outside pressures to come up with means for manipulation and control in what may broadly be defined as “the planning field.” In case anyone misinterprets my remarks as pointing a finger at one particular group, let me say that all of us were involved in this process and that there was and is no way in which we could and can escape such involvement.

Johnson also introduces the term “counter-revolution” into his analysis. In this regard his thought is not very enlightening since he clearly has an axe to grind against the monetarists whom he designates as counter-revolutionaries even though a significant anomaly (the combination of inflation and unemployment) exists as a pressing challenge to the Keynesian orthodoxy. But there is something very important to this notion which requires analysis, for it seems intuitively plausible to think of the movement of ideas in the social sciences as a movement based on revolution and counter-revolution in contrast to the natural sciences to which such a notion does not appear to be so immediately applicable. We can analyze the phenomena of counter-revolution by using our insight into paradigm formation in the natural sciences. That paradigm formation is based on the extension of the ability to manipulate and control naturally occurring phenomena. Similarly, we can anticipate that the driving force behind paradigm formation in the social sciences is the manipulation and control of

human activity and social phenomena in the interest of [humanity]. Immediately the question arises as to who is going to control whom, in whose interest is the controlling going to be, and if control is exercised in the interest of all, who is going to take it upon themselves to define that public interest? We are thus forced to confront directly in the social sciences what arises only indirectly in the natural sciences, namely, the social bases and implications of control and manipulation. We would be extraordinarily foolish to presuppose that these bases are equitably distributed throughout society. Our history up until the present time shows that they are usually highly concentrated within a few key groupings in society. These groups may be benevolent or exploitative with respect to other groups. This, however, is not the issue. The point is that social science formulates concepts, categories, relationships, and methods, which are not independent of the existing social relationships which exist in society. Thus the concepts used are themselves the product of the very phenomena they are designed to describe. A revolutionary theory upon which a new paradigm is based will only gain general acceptance if the nature of the social relationships embodied in the theory are actualized in the real world. A counter-revolutionary theory is one which is deliberately proposed to deal with a proposed revolutionary theory in such a manner that the threatened social changes which general acceptance of the revolutionary theory would generate are, either by cooptation or subversion, prevented from being realized.

This process of revolution and counter-revolution in social science can most explicitly be examined by studying the relationship between the political economy of Adam Smith and Ricardo on the one hand, and Karl Marx on the other. In this regard Engels, in the Preface to Volume II of *Capital*, provides some quite extraordinary insights. At issue, was the charge that Marx had plagiarized the theory of surplus value. Marx, however, had clearly acknowledged that both Adam Smith and Ricardo had discussed and partially understood the nature of surplus value. Thus Engels sets out to explain what was new in Marx's utterances on surplus value and how it was that Marx's theory of surplus value "struck home like a thunderbolt out of a clear sky" (Marx, 1967).² To explain this Engels resorted to an analogy with an incident in the history of chemistry which, quite coincidentally, turns out to be one of the inspirations for Kuhn's thesis regarding the structure of revolutions in natural science (Kuhn, op. cit. 1962, 52-6). The incident concerns the relationship between Lavoisier and Priestley in the discovery of oxygen. Both ran similar experiments and produced similar results. The essential difference between them was, however, that Priestley insisted for the rest of his life in seeking to interpret his results in terms of the old phlogiston theory and he therefore called his discovery "dephlogisticated air". Lavoisier, however, recognized that his discovery could not be reconciled with the old phlogiston theory as it was and, as a consequence, was able to reconstruct the theoretical framework of chemistry on a completely new basis. Thus both Engels and

² This whole incident is discussed in depth in Althusser and Balibar (1970).

Kuhn suggest that Lavoisier was the “real discoverer of oxygen vis-a-vis the others who had only produced it without knowing what they had produced.”

Engels continues:

Marx stands in the same relation to his predecessors in the theory of surplus value as Lavoisier stood to Priestley ... The existence of that part of the value of products which we now call surplus-value had been ascertained long before Marx. It had also been stated with more or less precision what it consisted of ... But one did not get any further ... (all economists) remained prisoners of the economic categories as they had come down to them. Now Marx appeared on the scene. And he took a view directly opposite to that of all his predecessors. What they had regarded as a *solution*, he considered but a *problem*. He saw that he had to deal neither with dephlogisticated air nor with fireair, but with oxygen – that here it was not simply a matter of stating an economic factor of pointing out the conflict between this fact and eternal justice and morality, but of explaining a fact which was destined to revolutionize all economics, and which offered to him who knew how to use it the key to an understanding of all capitalist production. With this fact as his starting point he examined all the economic categories which he found at hand, just as Lavoisier proceeding from oxygen had examined the categories of phlogistic chemistry (Marx, op. cit. 11-18).

The Marxist theory was clearly dangerous in that it appeared to provide the key to understanding capitalist production from the point of view of those not in control of the means of production and consequently the categories, concepts, relationships, and methods which had the potential to form a paradigm were an enormous threat to the power structure of the capitalist world. The subsequent emergence of the marginal theory of value did away with much of the basics of Smith’s and Ricardo’s analysis (in particular the labor theory of value) and also incidentally served to turn back the Marxist challenge in economics. The counter-revolutionary cooptation of Marxist theory in Russia after Lenin’s death, and the similar counter-revolutionary cooptation of much of the Marxist language into Western sociology (so much so that some sociologists suggest that “we are all Marxists now”) without conveying the essence of Marxist thinking, has effectively prevented the true flowering of Marxist thought and concomitantly the emergence of that humanistic society which Marx envisaged. Both the concepts and the projected social relationships embodied in the concepts were frustrated.

Revolution and counter-revolution in thought are therefore characteristic of the social sciences in a manner which is not apparently characteristic of natural science. Revolutions in thought cannot ultimately be divorced from revolutions in practice. This may point to the conclusion that social sciences are indeed in a pre-scientific state. This conclusion is ill-founded, however, since the natural sciences have never been wrested for any length of time out of the control of a restricted interest group and

it is this fact rather than anything inherent in the nature of natural science knowledge itself which accounts for the lack of counter-revolutions in the natural sciences. In other words the revolutions of thought that are accomplished pose no threat to the existing order since they are constructed with the requirements of that existing order broadly in mind. This is not to say that there are not some uncomfortable social problems to resolve en route, for scientific discovery is not predictable and it can therefore be the source of social tension. What this suggests however, is that the natural sciences are in a pre-social state. Thus questions of social action and social control, which the techniques of natural science frequently help to resolve, are not incorporated into natural science itself. In fact there is a certain fetishism about keeping them out since incorporating them will supposedly “bias” research conducted at the behest of the existing social order. The consequent moral dilemmas for those scientists who take their social responsibilities seriously are real indeed. Contrary to popular opinion, therefore, it seems appropriate to conclude that the philosophy of social science is in general much superior to that of natural science and that the eventual fusion of the two fields of study will not come about through attempts to “scientize” social science, but will instead require the socialization of natural science (Marx, 1964 edition, 164).³ This may mean the replacement of manipulation and control by the realization of human potential as the basic criterion for paradigm acceptance. In such an event all aspects of science will experience both revolutionary and counter-revolutionary phases of thought which will undoubtedly be associated with revolutions and counter-revolutions in social practice.

Let us return now to the initial question. How and why would we bring about a revolution in geographic thought? The quantitative revolution has run its course and diminishing marginal returns are apparently setting in as yet another piece of factorial ecology, yet another attempt to measure the distance decay effect, yet another attempt to identify the range of a good, serve to tell us less and less about anything of great relevance. In addition there are younger people now, ambitious as the quantifiers were in the early sixties, a little hungry, somewhat starved of interesting things to do. So there are murmurs of discontent with in the social structure of the discipline as the quantifiers establish a firm grip on the “production” of graduate students and on the curricula of various departments. This sociological condition within the discipline is not sufficient to justify a revolution in thought (nor should it be) but the condition is there. More important, there is a clear disparity between the sophisticated theoretical and methodological framework which we are using and our ability to say anything really meaningful about events as they unfold around us. There are too many anomalies between what we purport to explain and manipulate and what actually happens. There is an ecological problem, an urban problem, an international trade problem, and yet we seem incapable of saying anything of any depth or profundity about any of them. When we do say something it appears trite and rather ludicrous. In

³ Marx clearly envisaged this kind of resolution of the conflict between the natural and social sciences.

short, our paradigm is not coping well. It is ripe for overthrow. The objective social conditions demand that we say something sensible and coherent or else forever (through lack of credibility or, even worse, through the further deterioration of the objective social conditions) remain silent. It is the emerging objective social conditions and our patent inability to cope with them which essentially explains the necessity for a revolution in geographic thought.

How should we accomplish such a revolution? There are a number of paths we could take. We could, as some appear to suggest, abandon the positivist basis of the quantitative movement for an abstract idealism and hope that objective social conditions will improve of their own accord or that concepts forged through idealist modes of thought will eventually achieve enough content to facilitate the creative change of objective social conditions. It is however, a characteristic of idealism that it is forever doomed to search fruitlessly for real content. We could also reject the positivist basis of the 1960's for a phenomenological basis. This appears more attractive since it at least serves to keep us in contact with [... humanity] as a [concept] in constant sensuous interaction with the social and natural realities which surround [it]. Yet phenomenological approaches can lead us into idealism or back into naïve positivist empiricism just as easily as they can into a socially aware form of materialism. The so-called behavioral revolution in geography is pointed in all of these directions. The most fruitful strategy at this juncture is therefore to explore that area of understanding in which certain aspects of positivism, materialism, and phenomenology, overlap to provide adequate interpretations of the social reality in which we find ourselves. This overlap is most clearly explored in Marxist thought. Marx, in the *Economic and Philosophic Manuscripts of 1844* and in the *German Ideology* gave his system of thought a powerful and appealing phenomenological basis (Marx, 1971 edition; 1964 edition).⁴ There are also certain things which Marxism and positivism have in common. They both have a materialist base and both resort to an analytic method. The essential difference of course is that positivism simply seeks to understand the world whereas Marxism seeks to change it. Put another way, positivism draws its categories and concepts from an existing reality with all of its defects while Marxist categories and concepts are formulated through the application of dialectical method to history as it is written here and now through events and actions. The positivist method involves for example, the application of tradition a bi-valued Aristotelian logic to test hypotheses (the null hypothesis of statistical inference is purely an Aristotelian device). Thus hypotheses are either true or false and once categorized ever remain so. The dialectic on the other hand proposes a process of understanding which allows the interpenetration of opposites, incorporates contradictions and paradoxes, and points to the processes of resolution. Insofar as it is a tall relevant to talk of truth and falsity, truth lies in the dialectical process rather than in the statements derived from the process, which can be designated "true" only at a given point in time and which in any case are contradicted by other "true" statements.

⁴ Marx derived his phenomenological position from Hegel (1967 edition).

This method allows us to invert analyses if necessary, to regard solutions as problems, to regard questions as solutions.⁵ I shall briefly summarize an extended argument on urban land use theory to provide an example of how the strategy described above works.

Geographers drew much of their initial inspiration from the Chicago school of sociologists (particularly Park and Burgess) who noted that cities exhibited certain regularities in spatial structure. This spatial structure was held together by some culturally derived form of social solidarity which Park called “the moral order” (Park, 1926). Engels, writing some 80 years before Park and Burgess, noted the phenomenon of concentric zoning, interpreted it in economic class terms, and identified the market mechanism operating under capitalist institutions as the generating force behind the urban structure. His description of Manchester is insightful and worth quoting:

Manchester contains, at its heart, a rather extended commercial district, perhaps half a mile long and about as broad, and consisting almost wholly of offices and warehouses. Nearly the whole district is abandoned by dwellers, and is lonely and deserted at night ... The district is cut through by certain main thoroughfares upon which the vast traffic concentrates, and in which the ground level is lined with brilliant shops. In these streets the upper floors are occupied, here and there, and there is a good deal of life upon them until late at night. With the exception of this commercial district, all Manchester proper, all Salford and Hulme ... are all unmixed working people's quarters, stretching like a girdle, averaging a mile and a half in breadth, around the commercial district. Outside, beyond this girdle, lives the upper and middle bourgeoisie, the middle bourgeoisie in regularly laid out streets in the vicinity of working quarters ... the upper bourgeoisie in remoter villas with gardens ... in free, wholesome country air, in fine, comfortable homes, passed every half or quarter hour by omnibuses going into the city. And the finest part of the arrangement is this, that the members of the money aristocracy can take the shortest road through the middle of all the labouring districts without ever seeing that they are in the midst of the grimy misery that lurks to the right and left. For the thoroughfares leading from the Exchange in all directions out of the city are lined, on both sides, with an almost unbroken series of shops, and are so kept in the hands of the middle and lower bourgeoisie ... (that) they suffice to conceal from the eyes of the wealthy men and women of strong stomachs and weak nerves the misery and grime which form the complement of their wealth ... I know very well that this hypocritical plan is more or less common to all great cities; I know, too, that the retail dealers are forced by the nature of their business to take possession of the great highways; I know

⁵ Marx also derived his dialectical method from Hegel (see Marx, op. cit. 1964 edition).

that there are more good buildings than bad ones upon such streets everywhere, and that the value of land is greater near them than in remote districts; but at the same time, I have never seen so systematic a shutting out of the working class from the thoroughfares, so tender a concealment of everything which might affront the eye and the nerves of the bourgeoisie, as in Manchester. And yet, in other respects, Manchester is less built according to plan after official regulations, is more outgrowth of accident, than any other city; and when I consider in this connection the eager assurances of the middle class, that the working class is doing famously, I cannot help feeling that the liberal manufacturers, the Big Wigs of Manchester, are not so innocent after all, in the matter of this sensitive method of construction (Engels, 1962 edition, 46-47).

The description provided by Engels can, without too much adaptation, be applied to the contemporary American city which suggests that capitalist cities tend towards a similarity of structure because the basic forces modifying them are the same. Certain passages written by Engels, for example, compare with those typically contained in contemporary governmental reports on urban problems (such as the Kerner Commission Report, 1968). It therefore seems a pity that we continue to look to Park and Burgess for inspiration (as do the Chicago geographers) instead of following up the approach adopted by Engels. In fact the tradition that most closely relates to that of Engels arises from von Thünen's analysis which has been applied by Alonso and Muth to the urban land market. In these models urban land use is determined through a process of competitive bidding for the land. Different groups in the population have different resources with which to bid and a variety of city structures can emerge depending upon the preferences of the rich groups who can always use their resources to dominate the preferences of poor groups. This is the natural outcome of models built on neo-classical marginalist principles – models which are generally regarded as Pareto optimal.

Deviations from the normative model can be taken as an indication of disequilibrium. It is generally conceded that there is considerable disequilibrium in the American city at the present time as employment has become suburbanized but poor populations have been excluded from suburban locations by a variety of devices (such as zoning). It is interesting to note that many of the policies proposed by liberal groups (planners, civil rights groups, etc) amount to advocating a return to equilibrium of the sort identified in the Alonso-Muth formulation. This is supported by large corporations who are in some cases suffering labor shortages in suburban locations. All of these proposals indicate returning to an equilibrium in which the poor still live where they can least afford to live – in other words a return to the *status quo* of the sort described by Engels is being advocated. How can we identify more revolutionary solutions?

Muth sought to show that the normative model he devised had empirical relevance. He tested it and found it broadly correct as a model of residential land use in

Chicago. Let us assume the theory is true, in the sense used by logical positivists. This truth can be used to help us identify what the problem is. What for Muth would be regarded as a successful test of a theory we regard as an indicator of what the problem is. The theory predicts that the poor groups will live where they can least afford to live. Therefore, the only valid policy is to eliminate the conditions which give rise to the truth of the theory. In other words we want the von Thünen model of the urban land market to become *not* true. The simplest approach to this is to eliminate the mechanism which gives rise to the truth of the theory. The mechanism in this case is competitive bidding for the use of the land. If we eliminate this mechanism we will presumably eliminate the result. Competitive bidding should therefore be replaced by a socially controlled urban land market and a socialized control of the housing sector. We would thus render the von Thünen theory irrelevant to our understanding of spatial structure of cities. This process has begun in Cuba and in Havana competitive bidding has been completely eliminated as have rental payments on many dwellings (Valdes, 1971, 311-335).

We ought not to accept this argument too readily, for it is often the case that the mechanism which is assumed for the purpose of the theory is not necessarily the same as the real mechanisms which generate results in accord with the theory. We should merely be alerted to the possibility that the market mechanism is at fault and look for further proof of the contention. This proof can be gained from an argument stemming from the general characteristics of capitalism and market behavior. A market system becomes possible under conditions of resource scarcity for only under these conditions can price-fixing commodity exchange markets arise. The extension of market exchange has allowed an immense increase in the production of wealth. We therefore find a paradox, namely that wealth is produced under a system which relies upon scarcity for its functioning. It follows that if scarcity is eliminated then the market economy which is the source of productive wealth under capitalism is liable to collapse. Yet capitalism is always increasing its productive capacity. To resolve this dilemma many institutions and mechanisms are formed to ensure that scarcity does not disappear. In fact many institutions are geared to the maintenance of scarcity (universities being a prime example, although this is always done in the name of "quality"). A general analysis of capitalism and market exchange economies would indicate that a major barrier to the elimination of scarcity in advanced productive societies like the USA lies in the complicated set of interlocking institutions (financial, judicial, political, educational, and so on) which support the market process.

If we look very carefully we can identify manifestations of this general condition in the urban housing market. Commercial operators in the housing market (landlords, banks and other financial institutions, developers, and so on) are not interested in housing *per se* but are interested in maximizing their returns (rents, interest, profit – or as Marx called it, surplus value). Even if each operator behaves ethically, according to the usual norms of capitalist entrepreneurial behavior, the net output of the interactions among them all is to write off use-values in housing in one part of the city in order to reap exchange-values in another part of the city. In other

words, scarcity is being created in one part of the city so that the market can function (at a certain level of profit) at the other end. This process can be detailed. If this process is general, and the evidence suggests that it is, then we must anticipate that the market process will naturally counteract any policies designed to eliminate scarcity in the housing market. Again, there are some disturbing similarities between the accounts provided by Engels and contemporary urban policy problems. Here is how Engels described the attempts at urban renewal in the nineteenth century:

In reality the bourgeoisie has only one method of solving the housing question after *its* fashion – that is to say, of solving it in such a way that the solution continually reproduces itself anew. This method is called “Haussmann” ... By “Haussman” I mean the practice which has now become general of making breaches in the working class quarters of our big towns, and particularly in areas which are centrally situated, quite apart from whether this is done from considerations of public health and for beautifying the town, or owing to the demand for big centrally situated business premises, or owing to traffic requirements, such as the laying down of railways, streets (which sometimes appear to have the strategic aim of making barricade fighting more difficult) ... No matter how different the reasons may be, the result is everywhere the same; the scandalous alleys disappear to the accompaniment of lavish self-praise from the bourgeoisie on account of the tremendous success, but they appear again immediately somewhere else and often in the immediate neighborhood! ... The breeding places of disease, the infamous holes and cellars in which the capitalist mode of production confines our workers night after night, are not abolished; they are merely *shifted elsewhere*! The same economic necessity which produced them in the first place, produces them in the next place also. As long as the capitalist mode of production continues to exist, it is folly to hope for an isolated solution to the housing question or of any other social question affecting the fate of the workers. The solution lies in the abolition of the capitalist mode of production and the appropriation of all the means of life and labour by the working class itself (Engels, 1935 edition, 23).

It is difficult to avoid concluding from the accumulated evidence that Engels was probably right. There is good reason to believe that the market mechanism is the culprit in a sordid drama. And yet it is curious that although all serious analysts concede the seriousness of certain of our contemporary urban problems, few call into question the forces which rule at the very heart of our economic system. We thus discuss everything except the basic characteristics of the capitalist market economy. We devise all manner of solutions except those which might challenge the continuance of that economy. Such discussions and solutions which so avoid the central issue serve only to make us look foolish, for they eventually lead us to discover, rather belatedly, what Engels was only too well aware in 1872 – that capitalist solutions provide no foundation for dealing with deteriorated social conditions which are structurally

necessary for the perpetuation of capitalism. Such solutions are mere “dephlogisticated air.” We can, if we will, discover oxygen and all that goes with it by subjecting the very basis of our capitalist society (with all its institutionalized scarcities) to a rigorous and critical examination. It is this task which a revolutionary theory must address itself to. What does this task entail?

First, let me say what it does not entail. It does not entail yet another empirical investigation of the social conditions in the ghettos. We have enough information already and it is a waste of energy and resources to spend our time on such work. In fact, mapping even more evidence of [...] inhumanity [...] is counter-revolutionary in the sense that it allows the bleeding-heart liberal to pretend he is contributing to a solution when he in fact is not. There is already enough information in congressional reports, daily newspapers, books, articles, and so on, to provide us with all the evidence we need. Our task does not lie here. Nor does it lie in what can only be termed moral masturbation of the sort which accompanies the masochistic assemblage of some huge dossier on the daily injustices to the populace of the ghetto, over which we beat our breasts, commiserate with each other, before retiring to our fireside comforts. This, too, is counter-revolutionary for it merely serves to expiate guilt without our ever being forced to face the fundamental issues let alone do anything about them. Nor is it a solution to indulge in that emotional tourism which attracts us to live and work with the poor “for a while” in the hope that we can really help them improve their lot. This, too, is counter-revolutionary, for so what if we help a community win a play-ground in one summer of work to find the school deteriorates the fall? These are the paths we should not take. They merely serve to divert s from the essential task at hand.

This immediate task is nothing more nor less than the self-conscious and aware construction of a new paradigm for social geographic thought through a deep and profound critique of our existing analytical constructs. This is what we are best equipped to do. We are academics, after all, working with the tools of the academic trade. Our task is therefore to mobilize our powers of thought to formulate concepts and categories, theories and arguments, which we can apply in the process of bringing about a humanizing social change. These concepts and categories cannot be formulated in abstraction. They must be forged realistically with respect to the events and actions as they unfold around us. Certainly, empirical evidence, the already assembled dossiers, and the experiences gained in the community can be made use of here. But all of those experiences and all of that information mean nothing unless we synthesize it into powerful patterns of thought. But our thought cannot rest merely on existing reality. It has to embrace alternatives creatively. We cannot afford to plan for the future on the basis of positivist theory for to do so would merely be to reinforce the *status quo*. Yet, as in the formation of any new paradigm, we must be prepared to incorporate and reassemble all that is useful and valuable with in that corpus of theory. We can restructure the formulation of existing theory in the light of possible lines of future action. We can critique existing theories as “mere apologetics” for the dominant force in our society – the capitalist market system and all its concomitant institutions.

In this manner we will be able to establish the circumstances under which location theory can be used to create better futures and the circumstances in which it reinforces modes of thought conducive to the maintenance of the *status quo*. The problem in many cases is not the marginalist method *per se* or optimizing techniques *per se*, but that these methods are being applied in the wrong context. Pareto optimality as it enters location theory is a counter-revolutionary concept and so is any formulation which calls for the maximization of any one of the partial manifestations of surplus value (such as rent or return on capital investment). Yet programming solutions are clearly extremely relevant devices for understanding how resources can best be mobilized for the production of surplus value (Ellman, 1971).⁶ Formulations based on the achievement of equality in distribution are also counter-revolutionary unless they are derived from an understanding of how production is organized to create surplus value (Marx, op. cit. Volume 3, 876-86).⁷ By examining questions such as these we can at least begin to evaluate existing theory and in the process (who knows?) perhaps begin to derive the lineaments of new theory.

A revolution in scientific thought is accomplished by marshalling concepts and ideas, categories and relationships, into such a superior system of thought when judged against the realities which require explanation, that we succeed in making all opposition to that system of thought look ludicrous. Since we are, for the most part, our own worst opponents in this matter, many of us will find that a first initial step on this path will be to discomfort ourselves, to make ourselves look ludicrous to ourselves. This is not easy, particularly if we are possessed of intellectual pride. Further, the emergence of a true revolution in geographic thought is bound to be tempered by commitment to revolutionary practice. Certainly the general acceptance of revolutionary theory will depend upon the strengths and accomplishments of revolutionary practice. Here there will be many hard personal decisions to make. Decisions that require “real” as opposed to “mere liberal” commitment for it is indeed very comfortable to be a mere liberal. But if conditions are as serious as many of us believe, then increasingly we will come to recognize that nothing much can be lost by that kind of commitment and that almost everything stands to be gained should we make it and succeed.

⁶ This experience of Russian central planning in this regard provides some interesting lessons as Kantorovich developed in programming solutions to many of the allocation distribution problems which arose in the economy (see Ellman, 1971). This suggests that some of the programming solutions to urban location problems may be more useful than not as the basis for a revolutionary urban land use theory.

⁷ It is on this ground that I now reject my [previous] attempt to examine questions of distribution in a manner distinct from the problem of production (see Harvey, 1972).

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Geopolitics and National Movements: An Essay on the Dialects of Imperialism

Anouar Abdel-Malek

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War is a matter of vital importance to the State; the province of life and death; the road to survival or ruin. It is mandatory that it be thoroughly studied ... The first of these essential factors is moral influence; the second, weather; the third, terrain; the fourth, command; and the fifth, doctrine ... To win one hundred victories in one hundred battles is not the acme of skill. To subdue the enemy without fighting is the acme of skill. Thus, what is of supreme importance in war is to attack the enemy's strategy. Thus, those skilled in war subdue the enemy's army without battle. They capture his cities without assaulting them and overthrow his State without protracted operations.

– Sun Tzu, c. 400 B.C.E., *The Art of War*

Two Approaches to the Study of Imperialism

A generation ago, the study of imperialism seemed to be safely geared to the economic-political approach, illustrated by N. Bukharin and especially V.I. Lenin and his followers in the socialist and anti-imperialist movements the world over, as well as his disciples and foes in the academic world. I have tried, in another paper [Abdel-Malek, 1971c], to give substance to my contention that this (Leninist) approach is fundamentally sociological. That is, the way it tackles the problem is rooted in the

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study of the functioning of early twentieth-century capitalist systems in the framework of the international balance of forces [...].

The core of Lenin's approach – as pursued in highly differentiated fashion by J.V. Stalin, P. Togliatti, Mao Tse-tung, Ho Chi-minh, Fidel Castro – is precisely to link in a *structural dialectical* mold the two basic component elements of the world struggle against imperialism: the united world front of working-class and national movements, facing the constellation of conflicting colonial and imperialist forces.

Such has been the general strategic line [...], with an important difference: the Soviet Union's vision, as exemplified by the resolutions of the International Conferences of the Communist and Workers Parties (Moscow, 1966 and 1969), has stressed the central role of the system of socialist States in alliance with the working class and socialist movements in the world, and has demoted the national liberation movements to third place [...]. On the other hand, China has coupled her thesis on the union of the revolutionary forces of the five (not three) continents with an equal stress on the thesis that "East wind prevails over West wind"; i.e. that the Orient – the hitherto "under-developed," dependent countries – is now taking the lead in the historical revolutionary initiative, exactly as the West did from the time of the great maritime discoveries and the Renaissance.

We are thus a very long way from the prevailing tendency in present-day work on the theory of imperialism in some western countries. The decline of the West, as exemplified by the decline of old empires, and the displacement of the new center of world imperialism from Europe to America, has been accompanied by a profound crisis of values, culture and civilization. And this crisis, in its turn, led to a quest for new, and possibly more secure, faiths. The concrete dialectics of concrete societies of this concrete world could have promoted a more genuinely precise scientific work of analysis, comparative studies and theoretical elaboration – in organic conjunction with mass political work of a protracted and efficient nature. And it has been so, indeed, but not much in the field of the social sciences, which still are massively dominated by the political-cultural needs, moods, fashions and imperatives of the West in crisis.

Thus it happened that the main trend in studies of the theory of imperialism has been of the second type of approach, i.e., *structuralist-functionalist hegemonic ideology*, however with a "revolutionary," "Marxist" flavor. Its younger epigones are now pursuing the same course, i.e. reducing the dialectics of the contemporary societies to a[n] amalgam of well-defined units, with a more sophisticated epistemological vocabulary, a more refined methodology (not method) a zest for universalism which truly belongs to the messianic vision of the grand epoch of the "white man's burden." The key inspirators, here, are quite obvious: L. Trotsky and his posterity; R. Luxemburg, perhaps more acceptable to informed opinion, inasmuch as she did take courageous political action. The key notions/concepts belong to the "universalist"-reductionist tradition: "hegemonic center," "periphery," "accumulation,"

“modes of production,” and the pervasive mood is one of *predetermined historic necessity (fatality?)*. Revolution stems from sophisticated epistemology: the dons, now draped in red, can still set the pace of world history. Such are, fundamentally, the pretensions and aims of the prevailing younger epigones of this approach today.² But their concerted arrogance cannot veil their deep enmity towards the rising revolutionary initiative of the East, essentially China, following a communist course, Egypt in the Middle East, and Africa, following a national-radical course, inasmuch as they conceive of imperialism as a world system of economic-financial accumulation, which can only be crushed by a world unity of the peoples led, no doubt, by their intelligencia(s).

[...]

It is my contention that the first (economic-political) approach is a genuinely scientific, sociological one, and that it alone can provide an understanding of the dialectics of imperialism in our times [...].

The Dialects of Imperialism

To speak of imperialism is, perforce, to speak of two distinct elements – distinct as regards their origin and historical status, yet closely linked, in recent times, by the dialectics of hegemony and subjugation. On the one hand are the peoples, social formations, nations, countries, and states occupied or wholly or partially dependent on the European and American metropolis during the colonial and imperialist eras. On the other hand, are the centers of hegemonic power, colonial and imperialist, of the West.

This matter [...] indicates that one of the two elements – the dependent national societies – is the primary element, i.e. that they existed generations, centuries, and sometimes millennia before the advent of modern colonialism and imperialism. It also indicates that the second element, Western hegemony, obtained only since the era of the maritime discoveries, the rise of modern European nation-states dominated by the bourgeoisie, the Renaissance, the great bourgeois-democratic and industrial revolutions, i.e. from the 15th century onwards.

Because of their distinct and separate historical life-courses, each of these two elements, that is, each social-national unit within each one of these two groups, developed its own specific approach to dependence or hegemony, within the very general framework of a world ruled by the central contradiction of imperialism and national and social revolutions. In other words: the “system” functions not as a

² I would refer the reader to that admirable statement by Salvador Allende of Chile in an interview with Regis Debray [1971].

functional-structural system, of blind hegemonic/dependent interchangeable units, but as a dialectical system of (historically determined) specific societal ensembles, i.e. national societies crystallized around their power apparatus, the state, in vastly different conditions, with vastly different styles and modes, through vastly different paths, towards vastly different achievements, attainments, fulfillments. Each of the hegemonic imperialist powers and each of the subjugated dependent nations is apt to manifest its own (historically determined) specific vision of its destiny, its own vision of the image of [humanity] it purports to maintain, to fight for, to be willing to bring forth.

[...]

The pattern of interrelations between these two distinct elements is not revealed by the now ritual dichotomy between (evil) “imperialism” and (good) “national movements,” but rather it is a genuine dialectical pattern in which the inter-relations between hegemonic imperialism and anti-hegemonic national liberation movements unfolds in a wide spectrum of modes, as determined by the interaction of the two dimensions of specificity (the specificity of *both* sides, i.e. the different imperialist systems and the different national societies), and the world system of power (as applied by different imperialist systems to different national societies).

For analytic purposes, it is possible to describe the dimension of specificity as the endogenous dimension; and the dimension of the world system of power, or geopolitics, as the exogenous dimension. Both are at play within each of the two elements, and are thus interwoven in a highly complex dialectics.

I do not purport to analyze in this paper the endogenous dimension, i.e. the concept of specificity [Balandier, 1970; Abdel-Malek, 1971a, 1971b]. For practical purposes, I would propose [that] the specific character of a given society, can only be comprehended by a critical study of the concrete historical development of a given socio-economic national formation which defines the pattern of societal maintenance specific to this society. This specific pattern of societal maintenance is nothing but the pattern of articulation and interaction of the key constituent factors of any societal maintenance throughout the historical course of its existence: the production of material life, within the geographical and ecological setting (the mode of production); the reproduction of physical life (sexuality); social order (power and the state); the field of time (the limitedness of human life, religions and philosophies). [...] Thus conceived, the concept of specificity grounded in a critical analysis of the historical process can help us reach a deep understanding of different national societies, much beyond first attempts at classification through socio-economic criteria alone.

The exogenous dimension, that is the world system of power, is much more apparent. And yet its impact, as well as its rapidly changing pattern, are hardly understood. Strong feelings are at hand to help cloud our perception of this dimension.

Intellectuals and social scientists of the hegemonic countries are prone to veil their western-centered approach by an insistence on universalism, the values of humanism, the traditional liberal or liberal-radical normative political power and power struggle. Or they may apply the same universalist approach, in a functionalist manner, to the study of imperialism, conceived of as a unified world hegemonic system clustered around one single center and doomed to breakdown as a system, and national liberation movements and revolutions, conceived of as pre-ordained, pre-synchronized international global actions, transcending frontiers, hated nations and their abhorred states (in the fashion of the Trotskyist-Luxemburgist approach, contemptuous of the Orient and the prevailing East wind).

How can the concrete-historically determined dialectics of the two dimensions, the endogenous and the exogenous, be formulated? First, an attempt should be made at determining the relative importance of each dimension in each one of the two elements, imperialism and national movements.

Quite obviously, the national movements' struggle for independence, national liberation and social revolutions posits itself as a struggle for the recovery, the reconquest, of national identity, sovereignty and power of decision against imperialist hegemony. It thus follows that national movements are bound to exhibit a far more powerful density of explicit specificity-content than hegemonic imperialism, precisely in as much as this specificity lies at the very heart of their liberation struggles and revolutions. And, in fact, any serious study of the political and social science literature since 1840-1900 demonstrates that such has been the case in the movement of ideas and thought of the dependent Three Continents of Asia, Africa and Latin America. More than ever before, however, the concept of specificity is now the central concept of the social and political philosophies of the national movements in the Three Continents. This is because the second scientific and technological revolution has given the hegemonic imperialist powers a far more damaging penetration of the human soul and mind through the control of mass culture and mass media.

On the other hand, the hegemonic imperialist powers tend to veil their profoundly held assumption about the specificity of the West – that it is born to lead and rule, to civilize the hidden dimensions and remote areas (Asia, Africa, Latin America) of the world: the “white man’s burden” – beneath “universalist” assumptions. After all, the status quo – i.e. the non-challenge of Western hegemony by the rising East – can only maintain the extant balance of power, with the imperialist system at the very center of the peaceful coexistence born at Yalta (1945). In other words, while the hegemonic imperialist powers minimize their specificity, they do act in a way which is founded on their own vision of their own the stress is elsewhere on universality.

A parallel situation, though [...] more disconcerting, exists when we consider the relative importance of the exogenous dimension, i.e. world balance of power. One would tend to expect the hegemonic imperialist powers to manifest an explicit awareness of their privileged position. Yet, except for the USA, there is a real tendency

to underplay this advantage, in an attempt to mask the reality of the political struggles in our times. Hegemonic imperialism would like to be accepted as the legitimate heir of the historical superiority of Europe and the West, not as the power operator fighting to maintain domination through the ruthless use of the highest combination of violence in the history of mankind.

The other side – the dependent national societies – appears, quite naturally, to be more conscious of the power set-up. After all, the two major thermonuclear strike forces of US imperialism are poised in front of the two major areas of the operational strategic alliance between the socialist states and the national movements: the VIIth Fleet, facing China and the Asia Pacific area; the VIth Fleet, facing Egypt, the Arab world, the Mediterranean and the southern flank of the European system of socialist states. Few doubts can be harboured in the minds of the broad masses of the populations concerned. But it is also equally clear that the leadership of the national liberation movement within the “political class” in most of the dependent countries often experiences genuine difficulties in reaching a precise understanding of the real parameters of the dialectics of imperialism as it now exists and as it now rapidly changes.

There are two reasons for these difficulties. On the one hand, the concrete dynamics of the national liberation movements, of national and social revolutions in the dependent countries, tends to fall within one of two patterns: either the multiplication of a general line inspired by a powerful revolutionary center – namely, the Soviet Union or China or the autonomous national elaboration of a general line. In the first instance, the concrete balance of world power is viewed through the lenses of the main revolutionary center and its state and party; it will quite naturally tend to echo, at the national level, the over-emphasis or under-playing of the existing world balance of power, in as much as this field lies at the very heart of the vision, will and policy of the state, any state, in any social and ideological system. In other words: what might seem unreasonable, or not feasible, because of the existing balance of world power, can be attempted and achieved to a certain degree – for example, Vietnam, in spite of severe odds (fundamentally because of the decision of the national Vietnamese revolutionary leadership, but also in a very important way because of the combined massive support of both the USSR and China); and what might appear to be attempted and feasible can, in fact, be channelled to vastly different realizations – for example, the prevalence of the general frontist line furthered by Castro and Allende, as compared to the guerillierist call of Guevara. Examples abound.

The important point is as follows: only if the revolutionary struggle of national liberation movements is firmly in the hands of an independent national leadership can the parameters of the world balance of power be realistically assessed and computed in the actual unfolding of the dialectics of/with imperialism.

The second difficulty arises as a result of the artificially inflated impact of the ideological, scientific and theoretical work in this field done in radical and revolutionary centers of the West upon the thought and blueprints of small sections of the intelligentsia and the political class of the dependent countries. Here again, we have either the under-estimation of the liberation potential of dependent countries or, more frequently, the romanticist idealization of subjectivism which leads, as it did in the past, to grave mistakes.

To sum up: the hegemonic imperialist powers of the West tend to underplay or veil, their own use of the endogenous (specificity) and exogenous (world balance of power) dimensions; while the national movements of the rising East put specificity at the very core of their struggles, and have amore acute awareness of the world balance of power situation, even if this awareness is often diluted by ideological clichés.

Having thus determined the relative importance of each dimension in each of the two component elements of the dialectics of imperialism, we can proceed to assess the actual dynamics of this dialectical process.

Let us consider, first, the endogenous dimension, i.e. national movements. They can be approached through a comparison with other types of movement within their own societies: group and class movements; political movements; cultural, ideological movements. Each type, and subtype, of such movements is more or less limited in its scope, intensity and continuity – that is, societal extension and efficiency, depth of impact. On rare occasions, one witnesses an unusual concentration or organization, even through it remains sectorial – the Paris Commune, for example; and yet, because of the very limitedness of both scope and intensity within the broad national-societal spectrum, such movements remain weak. Nevertheless, they are the utmost that such a type of movement can attain.

The central problem in social dialectics is the problem of the combination of scope, intensity and continuity, that is, the problem of finding the largest possible front of allied forces aiming at the most intensive possible action rallied around the issues most capable of achieving maximal intensity of action. And such is, specifically, the privileged role of national movements, throughout the various phases of their unfolding. Here, and here alone, do we witness the greatest possible concentration of different social groups, classes, forces, trends, united broadly to achieve the fundamental tasks of liberation and socio-economic transformation: such have been the examples of Kemalism in Turkey, Maoism in China, Nasserism in Egypt, Castroism in Latin America, and all the resistance movements in Europe during the Nazi occupation. Here is truly the fundamental matrix of social dialectics in the period of imperialism and revolutions.

Facing this factor, described as the maximal combination of scope, intensity and continuity which can be attained by any social movement in modern societies – the maximal national liberation thrust – stands the exogenous dimension, imperialism, whose maximized aspect can be defined as geopolitics.

Here again, one should distinguish between several component parts of the world system of imperialist power: national and multinational monopolies; national hegemonic states; the international control of scientific and technological progress, of the major cultural and ideological trends, of mass-media through which the dependent countries are maintained in a state of permanent “communication” with the hegemonic imperialist powers. Here again, one can distinguish between these component elements, as regards their scope, intensity and continuity/durability. This has been reflected in a subtle evolution from the infrastructural, economic-financial, interpretation of imperialism to the more refined contemporary vision of imperialism as an attempt to impose an all-embracing world system of hegemony through the efficient use of the military-industrial complex. And this military-industrial complex, in our century, and more so during this second scientific, technological and industrial revolution in advanced countries, manifests itself through the direct control of space, as a framework and a preliminary to depth-penetration and subjugation.

In other words, the military-industrial complex which wields power of decision in the more advanced states brings to bear all the resources and potentialities of hegemonic imperialism in their maximal combination of scope, intensity and durability through the political uses of space, i.e. geopolitics.

It thus follows that, by coupling these two terms – national movements and revolutions on the one hand and the imperialist uses of geopolitics on the other hand – we conclude that one field of contemporary political praxis exists where the dialectics of the struggles for world power reach their maximal level. Here lies the central contradiction of present world history in the making. And here, also, is the scientific field which holds the richest promises for a renewal of political and social theory, in as much as general theory derives its principal content from the macro-societal ensembles – here, from the two major macro-societal phenomena of our time.

The Relevance of Geopolitics

A critical study of the role of geopolitics should address itself to the following three questions: how did geopolitics develop and how has it been made use of in the dialectics of world power? What are the limitations to the relevance of geopolitics? And, hence, what could be the uses of geopolitics in the study of the paramount social dialectic of our times, i.e. the dialectics between imperialism and national movements?

Long before the term “geopolitics” had been framed, a long established tradition in geography – political and physical alike – had clearly established that “the study of political phenomena in their areal context” (W.A.D. Jackson) led directly to a parallelism between the concept of system in political theory, and the concept of area in geography (H. Sprout). An important body of scientific work has accumulated since

Friedrich Ratzel's [1897] *Politische Geographie* [*Political Geography*] [...]: political areas; political potential; the concept of power; the respective roles of both centrifugal and centripetal factors, of politics, economics and culture in the area of power problems; the dynamic aspects of these problems; etc. [...] [O]ne should be aware of the fact that geopolitics had a dominant importance in the field of political geography before the 1930's.

The first intra-imperialist (world) war of 1914-1918 put an end, for some time, to German expansionist policies to the benefit of the British and French imperialist systems, while the October Revolution demonstrated [the same] in the mainland of Europe itself. And this was to be the starting point of geopolitics in the contemporary meaning [of geopolitics]: it started with *Staten som Lifsform* ("The State as an Organizer") by the Uppsala political scientist Rudolf Kjellen, in 1916; its German translation, in 1917, directly inspired then [...] thought of Karl Haushofer, who lectured on geopolitics in München [Munich] starting in 1919, launched the influential *Zeitschrift für Geopolitik* in 1924, and became a full professor of geopolitics at München and Director of its "Institut für Geopolitik" after 1933 with the help of the Nazi regime.

Meanwhile, the fortune of geopolitics throughout the world did show a consistent pattern: geographers from old-established Western hegemonic powers tended to take a critical, and sometimes negative, position (such as in France, where P. Vidal de la Blache, J. Brunhes and C. Valloux, while acknowledging Ratzel's contributions, refused to view geopolitics as environmental determinism, thus joining ranks with A. Demangeon, J. Ancel and others; in England, there was a notable discretion on the whole matter, until World War II). On the other hand, geographers and social scientists from the rising, hitherto dependent, nations of the East, as well as from the USA, showed an increasing interest in geopolitics. Japan, that ideal land for geopolitics, led the way (V.I. Lenin mentioned specifically Hashida's *The Role of Japan in the Pacific* 1905; and Haushofer wrote six books on Japan alone, between 1913 and 1938). Egypt coupled a strong cultural emphasis (from Taha Hussein's [1936] *The Future of Culture in Egypt*, to Gamal Hamdan's [1967-1970] *Egypt's Personality, A Study in the Genius of Space-Location*, Cairo, via Gamal Abdel-Nasser's [1954] *Philosophy of the Revolution*; Hussein Fawzi's [1961] *Sindbad the Egyptian*, and A. Abdel-Malek's [1962] contributions, *Égypte Société Militaire* [Egypt as Military Society] [and] *Idéologie et Renaissance Nationale: l'Égypte Moderne* [Ideology and National Renaissance: Modern Egypt] [1969]; etc.); Brazil, perhaps more explicitly than any other country (Josué de Castro's [1952] *Géopolitique de la Faim* [Geopolitics of Hunger], general Golberi de Couto o Silva's [1967] *Geopolítica do Brasil*; etc.). Italy did not manifest a particular interest, even during Mussolini's heyday.

World War II clearly marked a turning point. The ascent of the USA to the rank of the major world power was accompanied by a boom in geopolitical studies, prudently labelled "political geography" – as if to dispel the ghost of Nazism: this was

the great tradition inaugurated by that seminal work of Admiral A.T. Mahan [1890] *The Influence of Sea Power Upon History 1660-1782*, and pursued notably in Great Britain by Halford Mackinder, and in the USA by M.J. Spykman, D. Whittlesey, I. Bowman, A.P. de Seversky, G. Kolko; in France, by Jean Gottman. We should also note that the traditional anti-geopolitics attitude of the Komintern [or “Comintern,” i.e. the Communist International] has now been subtly replaced by a much more sophisticated approach from the major communist parties concerned, notably those of the USSR, China, Vietnam and Italy: it is understood that geopolitics is studied in the cadres schools; Mao Tse-tungs’ [1963] *Military Writings* and General Vo Nguyen Giap’s [1970] *The Military Art of People’s War* [...] are established textbooks; the Italian C[ommunist] P[arty]’s major concern with the Mediterranean as the “sea of decision”; etc.

How can we assess the importance and limitations of geopolitics? The neglect, contempt, etc., as we have seen, belonged to the elitist intellectualist circles, mainly those of the cosmopolitan anti-national leftist type. Political cadres and organic intellectuals never shared this ideological prejudice. And yet, once the role of geopolitics has been asserted in the social dialectics of our times, we should appraise it as fundamental – yet, not decisive.

It is fundamental, in as much as it constitutes the (external) framework which bears heavily upon the unfolding of social dialectics in each separate case/region/etc. The role of the second industrial revolution cannot be over-rated in that it immeasurably enhanced the effectiveness of the power framework, both by the ruthless use of the space factor, and by the depth-penetration of the human will power, mind and soul. Yet, for all its might, geopolitics fails to convincingly appear as the decisive factor in contemporary world struggles – as a close study of Joseph McNamara’s [1968] *The Essence of Security* reveals.

Never before had the power machine, based on ICBMs [InterContinental Ballistic Missiles] and the nuclear arsenal, so frankly exposed its limitations. For, when all was said and done, a hidden factor – identified as the national movement, the national existence, the national will of the people of Vietnam had emerged as the really decisive factor. But even there, [it was decisive] only when coupled with the combined and sustained massive military, economic and logistical support from both China and USSR to a country lying at the southern borders of China’s People Republic.

By this, I mean that the decisive factor – the national will of the masses of the people – can operate as a decisive factor in the world power struggles between imperialism and national movements only when it plays its role as an integrated component part of a global strategy, making full use of the positive and negative aspects, the supporting and limitative aspects, of geopolitics. This can be made apparent by several meaningful cases: Vietnam-China as compared with the Palestinian resistance-Egypt; Mexico-Cuba as compared with Peru-Chile; etc. The

fundamental proposition remains fundamentally correct, i.e. that geopolitics are a fundamental, yet not ultimately decisive factor [of] national liberation. What we should aim to achieve is [...] to assess the specific parameters – minimal and maximal – of the relevance of the geopolitical factor in the world power struggles of our time.

This now leads us to ponder directly on the possible uses of geopolitics in the shaping of the world to come. Not the “theoretical model” for such possible uses – but the concrete potentialities of the changing balance of power in the world.

The starting point will be thus: the world balance of power, established at the end of World War II at the Yalta Conference, is now entering its final stage. By this we should understand not that the USA and USSR are no more the two leading super-powers – they are, and shall remain so at least till the end of this century – but that they no longer constitute the only two centers of world power; and that the Yalta arrangement, which deals with the Western world, now appears extinct in face of the rise of the East. This is essentially so in Asia, but also, in varying degrees, in Africa and the Middle East, as well as in distant and hitherto neglected Latin America.

The shape of the new world balance of power around the year 2000 can be outlined as follows:

- a) A western-European power bloc, led by the USSR, with a dualistic system of intra-European alliances: Germany (whose social-democratic leadership’s Ostpolitik is geared to engage the most advanced industrial and technological know-how of the capitalist European system of states), and the immense potentialities of the USSR, now committed to promoting an accelerated tempo of economic modernisation to face both US imperialism and Chinese political influence (a policy which could entail a form of German reunification under the guise of a confederation of the two German states); and the classical USSR-Western Europe type of alliance, with France as the major partner, albeit at a cultural-political level, and Italy, now advancing steadily towards a form of “apertura a sinistra” [opening for the left] with the direct participation of the Italian Communist Party, the most powerful and influential of the non-ruling C[ommunist] P[artie]s in the West, the Mediterranean and the Three Continents.
- b) An Asian-Oriental power bloc, led by China, in alliance with the Arab world, around Egypt, the Mediterranean and East African regions, and in close cooperation with Japan, to face the problems of economic modernisation, after the Great Cultural Revolution.
- c) A Western-American power bloc, essentially made of, and dominated by, the USA, in alliance with minor partners.

The central factors in this new alignment of power are “a” and “b”: the political initiatives of the two major socialist states, in alliance with the national movements at the political level, and with the two major, non-hegemonic, capitalistic powers (Germany, Japan), under the protection of the thermonuclear umbrella of both USSR and China, at the economic and technological levels.

The role of “c” – American imperialism – thus appears as determined by the convergent dual advance of the major socialist-cum-national liberation forces – a [defensive strategy] as it were, epitomized by Vietnam.

Further to this realignment of the world balance of power, the following areas can be clearly visualized:

- a) The area of the Western-European bloc, led by the USSR will extend to all European, Western and Central Asia, the Mediterranean, the Middle East, Northern Africa, parts of the Atlantic (North and Central); Pacific (North and South, via the Indian Ocean) and Indian Oceans. It will thus provide a highly variable, [...] adequate, umbrella to national movements in these areas, provided they clearly demonstrate their force and clearly understand the parameters of possible Soviet involvement. (The Mediterranean and the Middle East clearly are directly within the immediate geopolitical range of Soviet action; but not so Chile or India.)
- b) The area of the Asia-Oriental power bloc, led by China, will cover all mainland Asia, as well as East Africa, parts of the Middle East and the Pacific Ocean. This can prove decisive for the bulk of the national liberation movements and revolutions in that part of the world, where more than half of mankind lives.
- c) The Western-American area, led by the USA, will cover North America, most of the Atlantic and Pacific Oceans area, South America, Africa south of the Sahara, Oceania. Within this area, it is reasonable to expect a maximal use of violence to keep these remaining sectors, their peoples, wealth and potentialities, well in the hands of US imperialism. This means that national movements are both liable to prove the strongest in these areas, because of intensified US pressure, and be the most dangerously persecuted.

At the world level, the major contradiction will be that between the two blocs led by the two major Socialist states on the one hand, and the bloc led by the USA. Within each of these two blocs, other subordinate contradictions will abound, between states of different socio-economic types and between all such states and their socialist leading partners. This protracted and intensified social dialectics in the world of the

coming generations will develop through a pattern of intensified and complex struggles. And nobody can now assess the chances of a Third World War – especially as the vital decision-making forces of imperialism feel that they are losing their historical initiative.

Therefore, [it is vitally important to] integrat[e] geopolitics as a fundamental, yet not decisive, factor in our appraisal of the future of imperialism and national movements in our time and beyond.

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13

The New Geography and the New Imperialism: 1870-1918

Brian Hudson

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The 1870's saw the beginning of geography in its modern form. In Europe and the United States, the modern or "new" geography as it was called, emerged as a distinct academic discipline. Significantly, the subject began to develop in the newly emergent Japan at that time too.

This was the period when, according to Marxist theory, capitalism in those same countries evolved into its highest form, imperialism. Lenin clearly distinguished between the new, or modern, imperialism and territorial acquisitions by powerful nations in earlier periods. In its modern economic sense:

Imperialism is capitalism in that stage of development in which the dominance of monopolies and finance capital has established itself; in which the export of capital has acquired pronounced importance; in which the division of the world among the international trusts has begun; in which the division of all territories of the globe among the great capitalist powers has been completed (Lenin, 1916, 89).

Hobson, to whose work Lenin referred in his analysis, identified the year 1870 "as indicative of the beginning of a conscious policy of Imperialism," adding that, "the movement did not attain its full impetus until the middle of the eighties" (Hobson, 1902, 19).

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Writers on the historical development of geography have referred to the stimulus which colonialism and imperialism gave to geographical study in the late nineteenth century, and it has been shown that geographers and geographical organizations did much to encourage the development of overseas empires (McKay, 1943 passim [throughout]; Freeman, 1961, 19; 26-8 passim). The nineteenth century argument for geography on practical grounds has also been briefly noted (Gilbert, 1971, 200-2; Stoddart 1975, 217-8), but little attention has been given by geographers, at least those in the “West”, to the promotion of geography as a tool of imperialism since 1870. The purpose of this paper is to demonstrate that the study and teaching of the new geography at an advanced level was vigorously promoted at that time largely, if not mainly, to serve the interests of imperialism in its various aspects including territorial acquisition, economic exploitation, militarism and the practice of class and race domination.

Western writers have emphasized the role of geography’s “grand old men” in the development of the discipline and in the foundation of national schools of geography during the last three decades of the nineteenth century. Vidal de la Blache in France, Mackinder in Britain, Dalla Vedova in Italy, and Davis in the U[nited] S[tates] are regarded as the fathers of modern geography in their respective countries. Even in Germany, which had almost monopolized European geography since the mid-eighteenth century, the establishment of modern geography is largely attributed to von Richthofen and Ratzel (Crone, 1970, 32-6).

While there is no reason to belittle the achievements of these pioneers, the importance of individual geographers in the development of the subject should not be exaggerated. The decline of German geography in the decade after the deaths of Humboldt and Ritter in 1859 clearly shows that even the outstanding contributions of two of its most revered scholars were insufficient to stimulate a sustained advance in the subject. Arnold Guyot and George Perkins Marsh in the U.S. did not result in the foundation of a school of geography there in the mid-nineteenth century (Freeman, 1961, 41-2).

It was only when the evolution of capitalist society had created a greatly increased demand for scientific geography that specialist geographers were sought. This did not happen until the eighteen seventies at which time there were few scholars with any advanced geographical training. Nevertheless, in view of the increasingly recognized need for geographers to serve the new order, university teachers of geography were appointed. They were recruited from the ranks of geology, history and other fields. Richthofen and Davis were geologists by training; Vidal de la Blache and Mackinder were drawn from history; Ratzel, who had studied zoology and geology, was a journalist. It was not the “grand old men” who made the new geography. Rather, it was the new geography as demanded by the new imperialism which made their careers as geographers.

Geography and Militarism

Why was there seen to be an urgent need for advanced geographical research and training in the late nineteenth century? It is often remarked that war stimulates interest in geography, and there can be no doubt that the Franco-Prussian War of 1870-71 had this effect. Chief Justice Charles P. Daly, President of the American Geographical Society 1864-99, observed that this was “a war fought as much by maps as by weapons” and attributed the German victory to “skillful military movements performed by an army thoroughly acquainted with all the geographical features of the country over which it was moved” (Keltie, 1885a, 473-74). From this Daly drew the lesson that the fate of a country could depend on the result of a battle and thus, ultimately, on geographical knowledge. It is worth noting here that the Prussian officers of 1870 included former students of Carl Ritter who had taught at the Military School as well as the University [of] Berlin and who became director of studies for the Corps of Cadets (Mackinder, 1895, 37; James, 1973, 166, 217).

The Prussian victory over France in 1871 no doubt further stimulated geographical study in Germany which had long held the lead in this field. Military considerations probably influenced the Prussian government in its decision of 1874 to establish chairs of geography at each of that state's universities (James, 1972, 217). When in 1884 John Keltie made a survey of geographical teaching in higher institutions of learning on the continent he found that in Germany great importance was attached to geography in the training of military officers. The subject was taught not only as it directly related to the science of war. As the instructions on the scope and methods of study at the Kriegs-Akademie, Berlin indicated, geography was also emphasized for its wider educational value in explaining [human]-land relationships and the development of states, and in imbuing the student officers with a sense of mission as bearers of European civilization (Keltie, 1885a, 549).

The vanquished as well as the victors were quick to appreciate the strategic importance of geographical knowledge, and in his report of 1885 Keltie observed, “In no country has the progress of geographical education been greater than in France during the last fourteen years” (Keltie, 1885a, 449). This was particularly apparent at the two great military schools, St. Cyr and the staff College in Paris where “geography in its widest sense was the chief subject of education” (Keltie, 1885b, 501).

Britain, perhaps because of [its] insularity and perhaps because [it] had the advantage of a comfortable lead at the start of the renewed race for empire, lagged behind the continent in the teaching of geography. Colonel Sir Thomas H. Holdich, when vice-president of the Royal Geographical Society, asserted that increased awareness of the need for scientific geographical education in Britain stemmed largely from “the practical consideration that we were being left very far behind in the field” (Holdich, 1916, 181). This could put the country at a serious military disadvantage as operations in the Afghan and Boer Wars had amply demonstrated (Goldie, 1907, 8; Holdich, 1916, 180; Mason, 1930, 210). Holdich, who regarded war as “the first and greatest civilising agent”, fully understood the army's vital role in imperialism

(Holdich, 1916, 15), and no one more than he appreciated the importance of scientific geography for military purposes (Holdich, 1899, 465-6, 477; 1916, 180-1).

In Britain officers of the armed forces, acting through the Royal Geographical Society, were amongst the most energetic champions of advanced geographical education. The strength of military and naval influence in the society in the late nineteenth and early twentieth centuries is indicated by the fact that during that period normally between a third and a half of the thirty four council members were officers of the army and navy. Through the society these men helped to establish the teaching of geography in British universities. The Royal Geographical Society delegation to Oxford, which made arrangements for the first British school of geography there, included representatives of both the army and navy (Holdich, 1899, 466). Holdich, himself, was amongst those who gave advice and assisted in the preliminary negotiations for the Oxford School of Geography which was established in 1899 (Markham, 1899, 480).

Oxford had had a Reader in geography, Mackinder, since 1887 and Cambridge, a lectureship in geography since 1888, but even this modest advance was much later than the establishment of chairs of geography on the continent. By this date there were no fewer than twelve chairs of geography in Germany, alone, and universities in France, Switzerland, the Netherlands and Italy had university teachers of geography with full professorial rank (Keltie, 1885a, 476, 486, 519-20). France then had seven state-endowed chairs of geography, of which those at Caen, Bordeaux and Lyons had been founded within six years after the end of the Franco-Prussian War (Keltie, 1885a, 501, 520).

Geography and the Growth of Empires

The rapid development of advanced geographical education in Europe, notably France, must be largely attributed to the renewed interest among the European powers in overseas colonial empire. Germany actually encouraged both France and Italy in their colonial ambitions, partly to create discord between these two rival powers. Bismark's interest in the acquisition of a German colonial empire did not develop until later, and this was mainly for diplomatic reasons (Mansergh, 1949, 89).

The balance of power in Europe left France with the alternatives of a policy of resignation or enlarging [its] empire. It was the latter course which [it] adopted with the active encouragement of the French geographical societies.

It could be said that just as French geographers, through these societies, promoted colonial expansion, so did the growth of the French Empire stimulate the development of geography in France (de Martonne, 1924, 3). Courses in colonial geography became prominent in French universities, and a chair of colonial geography was established in Paris in 1892 (Church, 1957, 70-1).

Although geography did not find a place in Belgian universities until the last decade of the nineteenth century, the value of geographers in deliberations on the extension of European interests overseas had been recognized by the King of the Belgians in 1876. In that year Leopold II summoned to Brussels geographers and explorers from Britain, France, Germany, Austria, Hungary, Italy, and Russia to discuss the “opening up” of central Africa. The eventual outcome was not international co-operation in that vast region, but the carving out of the Congo Free State as King Leopold’s personal domain. The subsequent partition of most of Africa at the Berlin Conference of 1884-5 was done without the benefit of adequate geographical knowledge with absurd results. In consequence various expensive arbitrations and commissions became necessary to settle the boundary disputes (Herbertson, 1910, 469; Holdich, 1916, 54).

Britain’s Holdich, an experienced military surveyor who became superintendent of Frontier Surveys in 1892, was acutely aware of the usefulness of geographical knowledge in the demarcation of satisfactory boundaries for the expanding European empires. He knew, too, that countries with superior geographic knowledge and skills were at a great advantage in negotiations over national spheres of influence and territorial partition:

It is, perhaps, in those international negotiations and agreements which concern the political status of great countries, and determine their boundaries and the respective limits of their responsibilities, that the danger of inaccurate geographical knowledge is greatest, and the results of it are the most disastrous. Truly, this period in our history has been well defined as the boundary-making era. Whether we turn to Europe, Asia, Africa, or America, such an endless vista of political geography arises before us, such a vast area of land and sea to be explored and developed; such a vision of great burdens for the white man to take up in far-off regions, dim and indefinite as yet; that it can surely be only by the grace of Providence that we shall finally emerge from the struggle to rearrange the world’s partitioning, without some deadly contest with others whose interests in these new arrangements are hardly less than our own. And I may, perhaps, be permitted to say, that just as the Providence of battles usually favors the biggest battalions, so it is likely that the widest geographical knowledge will prove the best safeguard against misunderstandings, and will at once dispose of such false estimates of the value of portions of the world’s surface here and there as have occasionally brought England perilously close to the dividing line between peace and war. By geographical knowledge I do not mean simply that knowledge of the Earth’s surface which we gain by surveying it. I mean also a knowledge of those ordinary laws of nature which decide the configuration of mountains and the flow of rivers, where certain influences must inevitably lead to certain conditions (Holdich, 1899, 466-7).

It was practical reasons such as this which led to the establishment of geographical education at British universities between 1887 when geography gained a foothold at Oxford, and 1917 when the country's first honours school was founded at Liverpool.

Economic Exploitation of Overseas Territories

The resources of a world now undergoing complete partition were regarded in Europe as "the gifts the gods provide as the white man's opportunity for acquiring wealth and power" (Holdich, 1916, 243). Naturally, the colonial powers were anxious to discover the economic potential of the territories which they had acquired or whose annexation they were considering. Here again geographical knowledge was recognized as an invaluable tool of imperialism. Clements Markham observed in 1893, "The time for desultory exploring expeditions is past" (Markham, 1893, 487). A sound scientific approach involving appropriately trained workers in the field has now required. Geographers could not only provide useful information about a country's resources but were also able to advise how these might best be exploited.

Richthofen, for example, was sent by his government on trade and resource mapping missions in Asia and America. He became an influential adviser to the Prussian Government and a member of the Kolonialrat [Colonial Advisory]. As a result of his work in China he appreciated the importance of the Shantung Peninsula with its coalfield and favourable trading position, and he was largely responsible for Germany's acquisition of Kiaochow (Crone, 1970, 33).

The "Geographical Factor in Imperial Problems" was stressed by Herbertson in his presidential address to Section E of the 1910 British Association meeting in Sheffield (Herbertson, 1910, 447-8). Here he advocated the use of university trained geographers in mapping the economic value of different parts of the world and went further to suggest that geographical laws should be applied to forecast future economic development. Herbertson foresaw the establishment of Geographical Statistical Departments in various countries to undertake research of this kind. This he claimed was greatly needed in Britain and its Empire for which an Imperial Intelligence Department could be developed. The universities were expected to provide the trained men for this research, and the necessity for geographical education at university level was thus further emphasized (Herbertson, 1910, 478).

The type of geography which was being taught in at least some British universities reflected the nature of the demand. Geography was seen largely as a practical rather than a purely academic subject. In 1899 Mackinder said, "It is just because of that practical side of university work in this country that I value most the geographical teaching which it is now proposed to extend from the comparatively humble basis of the past few years" (Mackinder, 1899, 479).

By this time geography was being taught at the universities of Oxford, Cambridge, and London and in some of the universities and colleges which had been founded not long before in the great commercial and industrial cities of England. Classes in geography were being held at University College, Liverpool and Owen's College, Manchester, largely as an adjunct to commercial studies. Manchester was also the first British city outside London to have its own geographical society. In the same year, 1884, the Scottish Geographical Society was founded in Edinburgh, and this was followed by societies in Newcastle-on-Tyne (1887) and Liverpool (1892).

In an address to the Manchester Geographical Society in 1884 the imperialist attitude to geography and world trade was vividly expressed by H. M. Stanley who described geography as "a science which may best be called the admonitor to commerce" (Stanley, 1885, 24). The celebrated explorer, speaking in Winchester's Free Trade Hall, said that to those who possess geographical knowledge, "the configurations on the world chart appear as clearly defined as though they were the outlines of a man's real estate – the world is only a huge breeding farm, and the various parts round about the shores are like so many stalls at a market-place – and the people therein are only so many vendors and buyers" (Stanley, 1885, 8).

Stanley noted the intimate link between geography and the growth of the British Empire, and exhorted his listeners to promote geographical education among young people to encourage them to embark on overseas enterprises:

And whereas you owe so much to geographical knowledge you must cherish that knowledge, and go on acquiring it, you must teach it to your youths, that when they arrive at manhood each may know that beyond these islands there lie vast regions where they also may carve out fortunes as their forefathers did in olden time. You must extend it among the mature men, that by the exhibition of it they may be led to reflect, if in some little known part of this world there may not lie as rich markets as any now so earnestly competed for (Stanley, 1884, 13-4).

To the businessmen in his audience Stanley offered the prospect of profitable markets in Africa which could be opened up by railway projects "which any half-a-dozen rich capitalists of Manchester could cause to be made" (Stanley, 1885, 16).

It was the merchants of the city who were mainly responsible for the establishment of the Manchester Geographical Society. Significantly, when its formation was first proposed the name suggested for it was The Society of Commercial Geography, (Manchester Geographical Society, 1885a, 64-6). The President of the Manchester Chamber of Commerce, J. F. Button, in his inaugural address as President of the Manchester Geographical Society, made it clear why at last British merchants were beginning to promote geographical education when he said, "The encouragement of such study is erecting one of the mainstays of commerce" (Hutton, 1885, 2).

The Manchester Geographical Society was established to promote the study of all branches of geography “especially in relation to commerce and civilization,” (Manchester Geographical Society, 1885b, 3) and it was convenient to regard conquest and the economic exploitation of overseas territories as the bringer of peace, Christianity and advancement to warring pagan savages who were unable to conduct their own affairs satisfactorily. Typical of the views expressed at the time is that of H. H. Johnston who in conclusion to a talk to the Manchester Geographical Society on ‘The Commercial Prospects of Tropical Africa’, urged upon his audience “the conviction that the progress of religion, the establishment of peace, and the civilization of mankind are intimately bound up with the commercial prospects of Tropical Africa” (Johnston, 1885, 196).

Geography, Race and Class

Racism was common in European geographical circles and this was never more strongly expressed than when overseas white domination and settlement were being discussed. Colonel Sir Thomas H. Holdich, then Vice- President of the Royal Geographical Society asserted: “The right of the white man to fill the earth and subdue it has always been unquestioned, because it is based on the principle that his dominance and lordship tend to the betterment of the world and straightens out the highways for peace and the blessings of civilization to follow” (Holdich, 1916, 61). It is ironic that these words were written while European nations were locked in the most devastating and bloody war that had been known to [humanity].

One of the important concerns of European and American geographers at that time was the influence of the physical environment on culture and civilization. Indeed, H. R. Mill suggested that, “The ultimate problem of geography may perhaps be taken as the determination of the influence of the surface forms of the Earth on the mental processes of its inhabitants” (Mill, 1905, 15). This period saw the publication of three of the classics of deterministic geography, Friedrich Ratzel’s *Anthropogeographie* (1882-91), Ellen Churchill Semple’s *Influences of Geographic Environment* (1911) and Ellsworth Huntington’s *Civilization and Climate* (1915). The latter was an attempt to give scientific support to the widely-held belief that high levels of civilization could only be achieved in regions of stimulating climate and that monotonous tropical heat had a stunting effect on human development. Holdich, like many of his contemporaries held the view that, “Environment shaped national character” (Holdich, 1916, 13) and believed that a “fierce struggle has commenced for the survival of the fittest, which we must regard as the heritage of the world’s overgrowth of population” (Holdich, 1916, 245).

Climate was regarded as perhaps the main single determinant which gave Europeans their supposed superiority in the struggle for survival. The effects of climate were considered to be more powerful than racial inheritance. Referring to proposals for European settlement in Tropical Africa, John Scott Keltie expressed the fear “that the

ultimate result would be a race deprived of all those characteristics which have made Europe what it is” (Keltie, 1897, 315). Keltie noted that, “Even in such favourable situations as Blantyre, a lofty region on the south of Lake Nyasa, children cannot be reared beyond a certain age; they must be sent home to England, otherwise they will degenerate physically and morally” (Keltie, 1897, 315).

The apparent effects on the indigenous population of continued exposure to these debilitating influences for countless generations was clearly recognized by the European imperialists. Explorers in the Lake Nyasa region reported that, “The average black in these parts is incapable of concentrating his attention upon any one thing for more than a few consecutive minutes; his train of continued thought is remarkable for its brevity; his memory concerning those things a white man could have him remember is that of a little child; his faculties are hard tried before they can fully grasp the subtle difference between ‘right turn’ and ‘left turn’” (Money and Smith, 1897, 147).

The stereotype of the stupid, lazy, filthy, degenerate and cruel native was reported from all over the tropical world by white explorers, missionaries, traders, settlers and others. In southern Nigeria, for example, a military explorer observed that, “The typical characteristics of the various tribes in these parts are, in the main, those which are common to all savage peoples” (E. A. Steel, 1908, 14). Enlarging on this the British officer reported that, “The work of cultivating the ground just sufficient for their needs is done by the women and children, while the men do nothing but eat and drink and sleep and enjoy themselves. They have no physique, no intelligence; their habits are of the dirtiest description, and nothing gives them so much pleasure as the sacrifice of human blood” (E. A. Steel, 1908, 16). The officer recorded that some of the native tribes were superior to the majority whom were considered the most despicable savages in the world” (E. A. Steel, 1908, 16). He wrote, “There are some exceptions and the reason for these can be attributed to the influence of geographical conditions or their different modes of life. The Oka people, bordering on the Onicha district, and the Elugus to the east, represent also fine specimens of natives, and this may in way be due to the comparatively hilly nature of their country – Bende particularly so” (E. A. Steel, 1908, 14-5).

Similarly deterministic views were expressed by Holdich with particular reference to India: “The indolent sun-loving people of Southern latitudes have everywhere proved more easy to dominate than those who have been nurtured in a colder atmosphere. We can rule the millions of Hindu and Mohamadan agriculturalists of the India plains with far less violent effort than the thousands in the hills and uplands of the frontier” (Holdich, 1916, 13-4).

Clearly in Europe and North America it was a widely held view that the character and achievements of the peoples of the world were largely determined by physical or “geographical” factors, especially climate. The supposed superiority of European peoples and their descendants in suitable environments overseas had been determined by Nature which had also condemned less fortunate peoples to inferior

status. The white man, therefore, saw himself as the natural inheritor of the world's wealth and master of its peoples.

Thus environmental or geographic determinism was used as an ideological buttress for imperialism and racism. This is well illustrated by remarks made by Sir George Taubman Goldie at a meeting of the Royal Geographical Society held in commemoration of Queen Victoria's reign: "Now, looking only at British America, Australasia and Africa, because British India is outside my province tonight, these fall roughly into two sections, one of which is peopled mainly by white races capable of self-government, while the other is peopled by coloured races, which (when unprotected) fall prey to cruel tyranny and inhuman fetish practices, or are devastated by unceasing inter-tribal war, or are swept away by the incursions of slave-raiding hordes" (Goldie, 1901, 240). Goldie's distinguished audience no doubt armed to his patriotic sentiments when he said, "It is impossible for an Englishman to behold our distant colonies without a high pride and satisfaction. To hoist the British flag seems to draw with it, as a certain consequence, wealth, prosperity, and civilization" (Goldie, 1901, 235).

Britain and other white imperialist nations were anxious to provide the "protection" which the "coloured races" obviously required. It was indeed a happy situation that made the aggressive pursuit of wealth and power a moral obligation.

Among the most urgent geographic problems of the period was the search for those parts of the world which were seen as suitable "dumping grounds" for Europe's excess population (Holdich, 1916, 227). There were many who, like Holdich, regarded as "paramount" the "problem of the expansion of the white races through those regions of the world suitable for its continuance, a problem which grows in weight and importance from year to year, and which must, in a not very remote future, find a partial solution in the extermination of many of the dark-skinned races which now reveal to investigators a practical epitome of the development of humanity from its earliest beginnings" (Holdich, 1916, 245). Holdich foresaw the problem of possible future military resistance by the "coloured races" to white expansion and he accepted that "the solution of it will inevitably lie with the sword" (Holdich, 1916, 61).

Some may feel that one ought not to attach great weight to extreme statements of men like Holdich who might be regarded as exceptional and unrepresentative of the geographical community. It should be recognized, however, that Holdich was for twenty-five years a member of the Royal Geographical Society Council for which he was a prominent spokesman. In 1917, the year after the publication of his *Political Frontiers and Boundary Making*, from which some of his most extreme statements are quoted in this paper, he was elected President of the Royal Geographical Society. Holdich clearly met with the full approval of many of his geographical colleagues.

Although not professed by all geographers, determinism was seized upon as a weapon of imperialism by men such as Holdich (Holdich, 16, 13-4), and not surprisingly, a strong sense of class superiority flourished alongside these racial

attitudes, at least in British geographical circles. It was mainly the excess numbers of British “labouring class” people for whom “dumping grounds” were being sought in Africa and elsewhere (Holdich, 1916, 254). Unemployment and other social problems were rife in Europe, and even in England there was fear of revolution. Massive emigration was seen as one possible solution. Cecil Rhodes is reported to have made the following remarks in 1895:

I was in the East End of London yesterday and attended a meeting of the unemployed. I listened to the wild speeches, which were just a cry for ‘bread’, ‘bread’, ‘bread’, and on my way home I pondered over the scene and I became more than ever convinced of the importance of imperialism. My cherished idea is a solution for the social problem, *i.e.*, in order to save the United Kingdom from a bloody civil war, we colonial statesmen must acquire new lands to settle the surplus population, to provide new markets for the goods produced by them in the factories and mines. The Empire, as I have always said, is a bread and butter question. If you want to avoid civil war, you must become imperialists (Lenin, 1916, 76).

Apart from the working class emigrants there were the administrators, planters and others of higher socio-economic status who would go overseas, but who would in most cases return to their home country at the end of their tours of duty or when their fortunes had been made. While for the working class the science of geography was investigating the question of potential dumping grounds, for “the most valuable classes of English gentlemen” geography was being promoted as an important part of university education which would help to equip them for their roles in running the business of the Empire (Rawlinson, 1871, 517-8).

Conclusion

It would not be entirely true to say that the promotion of geographical education was for practical imperialist purposes alone. Many of its advocates had genuine scholarly interest in the subject. Among these were scholars in other disciplines who saw the need for geography as it related to their own fields. For example, the zoologist, Professor A. Newton of Cambridge, saw the need for geography because his students, being ignorant of the subject, were unable to understand his lectures on the geographical distribution of animals (Keltie, 1885a, 545). Historians and classical scholars, too, were among those who advocated the teaching of geography at the universities, J. L. Myers, Professor of Greek at Liverpool, later Professor of Ancient History at Oxford, being one of the most influential (Mason, 1954, 541-2; R. W. Steel, 1967).

Nevertheless, in Britain, as on the continent and in the U.S., it was not so much the demands of scholarship “that forced the conservative hand of our educational

administration, and led to the formation of geographical schools throughout the length of the country,” but the realization that, for imperialist countries, “geography was a science that had to be reckoned with, and which it paid pre-eminently to study” (Holdich, 1916, 181).

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The Geography of Human Liberation

Richard Peet

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The experience of communism, as it has turned out in practice, forces radicals to reconsider what we have in mind when we speak of “social revolution”. We can no longer evade the question “what do you mean by communism?” with the glib response that the nature of the future mode of social existence will be molded by revolutionary praxis. For revolutionary praxis is conducted by conscious people, and inevitably a part of this consciousness is a conception of the post-revolutionary society. If by “revolution” we indeed mean a complete restructuring of social existence, even a transformation in the nature of humans, we have to have a clear idea of our eventual social purpose and we have to make clear the possibilities and direction of human change. We also have to appeal to people on the basis of the justice of our purpose if we want their comradeship in the collective struggle against the existing mode of life. Yet this vision of the future communism is exactly the weakest component of the evolving Marxist science and politics. Silence allows people to assume that the existing forms of communism are what we intend, when for most of us they bear little resemblance to the alternative society we have in mind.

How can the eventual communism be effectively discussed? The construction of models of “ideal” societies has a prominent place in the anarchist and utopian socialist tradition (Berneri, 1950). This literature is not devoid of ideas² although most utopias warrant Engels’ severe criticisms (Engels, 1892). Projections of the eventual nature of communism have to avoid making *exact* specifications of how things should be – this is idle and arrogant speculation. Also, such projections have to be made out of the dynamic of the decay of existing societies: that is, communism will emerge from a

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² For example Morris (1891).

capitalism collapsing from the development of a set of contradictions particular to a certain “stage” of history. But more importantly, what kind of analysis can be used to justify a particular form of alternative society? Inevitably the mode of justification must consist of relating the proposed societal form to a conception of human “nature”. Human “nature” is not meant to refer to a set of attributes which can be specified in exact detail and remain fixed over time. The term instead refers to a group of general tendencies in human characteristics which necessarily arise out of environmental and social relationships which support the continued existence of life. These tendencies are expressed differently at different times and in various places, but they do exist as definable, general characteristics. The construction of a conception of communism must therefore proceed by isolating these tendencies, then projecting them into a societal form in the context of a particular dynamic of events in the decline of an existing social formation.

Attempts to do something like this have been made in the two main revolutionary traditions: Anarchism and Marxism, specifically by their main theorists Kropotkin and Marx. Although using vastly different philosophical modes, the two reached conclusions which are similar in certain aspects. At least, the similarities are sufficient to hold forth the prospect of the eventual development of a synthetic form of radicalism: an anarcho-marxism dedicated to achieving the communist basis of human liberation.

Kropotkin

Kropotkin’s conception of human nature is derived from his empirical investigations into the evolution of the natural world. These “empirical” investigations were, however, conducted under a certain philosophical purpose. For Kropotkin, the vital need of modern society is for “a new, realistic moral science” founded on an ethical system which not only offers an explanation of the origins of the “moral instinct” but also provides a criterion for judging it, for advising where that instinct leads. Where can this system be found?

If the study of Nature has yielded the elements of a philosophy which embraces the life of the Cosmos, the evolution of living beings, the laws of physical activity, and the development of society, it must also be able to give us the rational origin and the sources of the moral feelings. And it must be able to show us where lie the forces that are able to elevate the moral feeling to an always greater height and purity (Kropotkin, 1947, 5).³

³ For a discussion see Galois (1976).

But nature does not immediately appear to be characterized by the “good” and the “moral” and at once Kropotkin was faced by the common interpretation of Darwin – that nature was a battlefield on which there was an incessant struggle for life, an extermination of the weak by the strong: “evil was the only lesson which man could get from Nature” (Kropotkin, 1947, 12).

Kropotkin’s Conception of Human Nature

In response, Kropotkin argued that Darwin had indicated another set of facts parallel to those of mutual struggle: the facts of mutual support within the species, more important than struggle because of their significance for the welfare and maintenance of the species. Kropotkin himself then developed, through empirical research, the principle of mutual aid as the primary factor in the progressive evolution of both the animal species and the human race.

In the animal world, he argued, the vast majority of species live in societies and find, in association, the best means in the struggle against unfavorable natural conditions. Those animal species in which individual struggle has been reduced to its narrowest limits, and the practice of mutual aid attained the greatest development, are invariably the most numerous, the most prosperous, and the most open to further progress. “The mutual protection which is obtained in this case, the possibility of attaining old age and of accumulating experience, the higher intellectual development and the further growth of sociable habits, secure the maintenance of the species, its extension, and its further progressive evolution” (Kropotkin, 1910, 293). Mutual aid has thus become a permanent instinct (as deeply seated as the instinct of maternal love) which is always at work in all social animals, and especially man⁴. Kropotkin conceived of the history of mankind as the evolution of the tendency to organize life on the basis of mutual aid, first within the tribe, then in the village community, later in the medieval city. Even under capitalism, the mutual aid tendency cannot be broken – it reappears in an infinity of associations embracing all aspects of life. In mutual aid, Kropotkin thus found the origin of “those feelings of benevolence and of that partial identification of the individual with the group which are the starting-point of all the higher ethical feelings. It is upon this foundation that the higher sense of justice, or equity, is developed, as well as that which it is customary to call self-sacrifice” (Kropotkin, 1947, 16).

In the Kropotkin conception, humans inherited from their animal predecessors the *instinct* of cooperative altruism: they are *naturally* social animals. In fact he argues further that human life is impossible without the intensity and variety of sensations

⁴ Editors’ note: At the time this article was written, sexist language of this kind was common. We decided not to correct the original use of language to ensure that the text remains readable.

provided by social life. Physical, intellectual, and moral progress depends on the level to which sociality is developed:

... the practice of mutual aid and its successive developments have created the very conditions of society life in which man was enabled to develop his arts, knowledge, and intelligence; ... the periods when institutions based on the mutual-aid tendency took their greatest development were also the periods of the greatest progress in arts, industry, and science (Kropotkin, 1910, 296).

Yet humans are also competitive individuals, attempting to gain personal or caste superiority. They have also inherited feelings which induce them to subdue others, to utilize them for their own, individual ends. The two sets of feelings struggle between themselves, resulting in societies characterized by both cooperativism and competitiveness, in societies dominantly cooperative with some competitive aspects or societies dominantly competitive yet dependent on cooperation. "The struggle between those forces make, in fact, the substance of history" (Kropotkin, 1910, 295). And the principle problem of ethics is to help mankind find the solution for this fundamental contradiction. It is only through establishing a certain harmony between the individual and all others that an approach to a complete life will be possible.

Anarchist Communism

Kropotkin places great emphasis on the role of ideas in the generation of revolution:

There are periods in the life of human society when revolution becomes an imperative necessity, when it proclaims itself as inevitable. New ideas germinate everywhere, seeking to force their way into the light, to find an application in life; everywhere they are opposed by the inertia of those whose interest it is to maintain the old order; they suffocate in the stifling atmosphere of prejudice and traditions ... The conflict between new ideas and old traditions flames up in every class of society, in every possible environment, in the very bosom of the family ... Those who long for the triumph of justice, those who would put new ideas into practice, are soon forced to recognize that the realization of their generous, humanitarian and regenerating ideas cannot take place in a society thus constituted; they perceive the necessity of a revolutionary whirlwind which will sweep away all this rottenness, revive sluggish hearts with its breath, and bring to mankind that spirit of devotion, self-denial, and heroism without which society sinks through degradation and vileness into complete disintegration (Kropotkin, 1970a, 35-36).

However, revolutionary ideas find acceptance because the economic and social structure of capitalism is already disintegrating from the competitiveness which drives it:

Human society is seen to be splitting more and more into two hostile camps, and at the same time to be subdividing into thousands of small groups waging merciless war against each other. Weary of these wars, weary of the miseries they cause, society rushes to seek a new organization; it clamours daily for a complete remodeling of the system of property ownership, of production, of exchange and all economic relations which spring from it (Kropotkin, 1970a, 36).

There is an incessant call for reform, yet everything cannot be reformed at once for this would mean, in effect, revolution. Hence the various government bodies initiate a series of half measures that satisfy nobody. A revolutionary situation arises. Through their activity the reformists are transformed into revolutionaries, by their example the masses are inflamed. "By actions which compel general attention, the new idea seeps into people's minds and wins converts ... it awakens the spirit of revolt" (Kropotkin, 1970a, 40). The state and the ruling class respond with violent repression and finally "the revolution breaks out, the more terrible as the preceding struggles are bitter" (Kropotkin, 1970a, 41). In the revolution, the party which has been most effective in putting its ideas into practice, which has shown "the most spirit and daring," will be listened to, while purely theoretical parties will be pushed aside.

On what basis is anarchism proposed as the foundation of the post-revolutionary society?

As to the method followed by the anarchist thinker, it entirely differs from that followed by the utopists. The anarchist thinker does not resort to metaphysical conceptions (like 'natural rights', the 'duties of the State', and so on) to establish what are, in his opinion, the best conditions for realizing the greatest happiness of humanity. He follows, on the contrary, the course traced by the modern philosophy of evolution. He studies human society as it is now and was in the past; and without either endowing humanity as a whole, or separate individuals, with superior qualities which they do not possess, he merely considers society as an aggregation of organisms trying to find out the best ways of combining the wants of the individual with those of cooperation for the welfare of the species. He studies society and tries to discover its tendencies, past and present, its growing needs, intellectual and economic, and in his ideal he merely points out in which direction evolution goes. He distinguishes between the real wants and tendencies of human aggregations and the accidents (want of knowledge, migrations, wars, conquests) which have prevented these tendencies from being satisfied. And he concludes that the two most prominent, although often unconscious, tendencies throughout our history have

been: first, a tendency towards integrating labor for the production of all riches in common, so as finally to render it impossible to discriminate the part of the common production due to the separate individual; and second, a tendency towards the fullest freedom of the individual in the prosecution of all aims, beneficial both for himself and for society at large. The ideal of the anarchist is thus a mere summing-up of what he considers to be the next phase of evolution. It is no longer a matter of faith; it is a matter for scientific discussion (Kropotkin, 1970b, 47).

Kropotkin sees a growing popular criticism on the one hand of the increasing division of society into two classes leading to demands by the working class for their share of total production; and on the other hand “the very functions of government and the State, as also their relations to the individual, were submitted to a sharper and deeper criticism” (Kropotkin, 1970b, 49). The critique of the State includes centralized, socialist governments. It has become obvious that “a further advance in social life does not lie in the direction of a further concentration of power ... but in the direction of decentralization, both territorial and functional” (Kropotkin, 1970b, 51). Anarchism recognizes the justice of both of these tendencies, toward economic and political freedom, seeing them as different manifestations of the same need for equality which constitutes the very essence of historical struggle. It thus proposes a system based on free agreement and free cooperation, without sacrificing the autonomy of the individual to the all pervading interference of the State – what Kropotkin called “free communism.”

In *The Conquest of Bread and Fields, Factories and Workshops* Kropotkin provides a detailed picture of the anarchist society which he saw emerging from the revolutionary process operating around the turn of the century (Kropotkin, 1913; 1901). He envisaged the development of a decentralized, worker self-managed production system, founded on an intensive mechanized agriculture with “workshops, foundries and factories ... within the reach of the fields. A variety of occupations, and a variety of skill arising therefrom, both working together for a common aim – these are the true forces of progress” (Kropotkin, 1913, 262). Property would be held in common with its product distributed according to need. Each commune would be basically self sufficient; that exchange which does take place would be made on the basis of agreements between communal production units. In such a system there would be no need for a State. The object is to produce a communal system which allows maximum freedom for the development of individual intelligence and inventiveness. For:

A revolution is more than a mere change of the prevailing political system. It implies the awakening of human intelligence, the increasing of the inventive spirit tenfold, a hundred fold; it is the dawn of a new science ... It is a revolution in the minds of men, as deep and deeper still, than in their institutions (Kropotkin, 1913, 265).

Such a system, Kropotkin argues, is in accord with the findings of evolutionist philosophy: that the struggle for existence must be conceived not in its restricted sense of a struggle between individuals for the means of subsistence, but in its wider sense of adaption of all individuals of the species to the best conditions for collective survival as well as for “the greatest possible sum of life and happiness for each and all” (Kropotkin, 1970b, 53).

Marx

Marx evolved his conception of human nature, and his vision of communist society, within the philosophical context of dialectical materialism. From Hegel’s *Phenomenology of Mind*, Marx derived the view that reality is not an external, objective datum, but is shaped by man through consciousness. However, while Hegel assumed that objects which appear to exist outside consciousness are, in the end, only a phenomenal expression of it, Marx accepted the existence of an independent natural substratum on which conscious man acts. As he interacts with nature, as he alters nature in the production of his life, man makes himself and shapes his relations with other human beings. The production of life involves a twofold relation, “on the one hand as a natural, on the other as a social relation – social in the sense that it denotes the cooperation of several individuals, no matter under what conditions, in what manner and to what end ... Consciousness is, therefore, from the very beginning a social product, and remains so long as men⁵ exist at all” (Marx and Engels, 1976, 43-44). The basis of the man-nature interaction is that man satisfies his needs through his contact with nature; this act creates new needs, as well as the possibilities for their satisfaction. The never-ending dialectical pursuit of the creation and satisfaction of needs constitutes social-historical development (Avineri, 1968, 65-73).

Marx’s Concept of Human Nature

Yet while man constantly makes, and remakes himself in interaction with external nature, and while different men interact with different natures in different places, there is basic structure to the man-nature relation which is common to all at all times. There is, as Ollman (1971, 75-6) argues, a Marxian conception of human nature in general⁶. This conception is erected as follows.

⁵ Editors’ note: the sexist language that appears in Marx’ English texts is usually a matter of translation of the German term *Mensch*, which includes men and women but which is, grammatically, nevertheless male.

⁶ Marx’s “subject matter is not simply society but society conceived of „relationally.’ Capital, labor, value, commodity, etc., are all grasped as relations, containing in themselves, as integral elements

Every human possesses certain needs and powers, some of which are “natural” (shared with every living entity) and some “species” (particular to humans). Need refers to the desire one feels for something external to the individual and usually not immediately available, while powers are changing abilities used to fulfill needs. As a part of nature, man has physical needs for objects required to keep him alive and functioning. He exercises his natural powers (labors, eating and sex) to fulfill these needs. But as a species apart from other animals, man pursues his activities in a way that could only be done by human beings: that is, “free, conscious activity is the species character of human beings” (Marx, 1963, 127). Natural powers establish the framework in which life goes on; species powers express the particular kind of life man carries on inside this framework (Ollman, 1971, 75-86).

The relations between man’s powers and the world are the work of three interconnected processes: perception, the immediate contact man achieves with nature through his senses; orientation, how things are perceived and assessed; and appropriation, the use the powers make of objects to fulfill a purpose. In appropriation, humans make any object a part of themselves: if the appropriation is a significant one, it may enhance man’s relations with the external world the next time around. Furthermore, one power frequently reacts on others making possible new achievements by these. Thus all man’s powers move forward together, as a whole whose parts cumulatively interact. The degree to which this happens depends on the stage of development which the society has reached. For Marx, only communism makes possible the complete unfolding of the human “potential” (Ollman, 1971, 87-95).

In the autogenesis of man, activity (especially productive activity) plays the fundamental role:

The work-process ... is human action with a view to the production of use-values, appropriation of natural substances to human requirements; it is the necessary condition for effecting exchange of matter between man and Nature; it is the everlasting Nature-imposed condition of human existence, and therefore is independent of every social phase of that existence, or rather, common to every such phase (Marx, 1961, 183-4).

For Marx, productive activity *is* man’s life activity, the life of the species. It involves action by man’s combined powers and it extends the boundaries in nature for the fulfillment of these powers. “By thus acting on the external world and changing it, he at the same time changes his own nature. He develops his slumbering powers and

of what they are, those parts with which we tend to see them externally tied” (Ollman, 1971, 12). Humans, in the relational view, are immersed in a set of interactions, influenced in their development by the totality of these relations (society), as individuals accumulating characteristics from their particular version of the whole. And the whole is constantly in motion. Each social factor is internally related to its own part and future forms, as well as to the part and future forms of surrounding factors (Ollman, 1971, 12-42).

compels them to act in obedience to his say” (Marx, 1961, 177). Production is also the area of life where man’s social character emerges most clearly. If productive activity is to succeed in satisfying man’s basic needs, it must involve a division of labor, a cooperation with others, a dependence on the social whole. Man makes himself through the act of production in the context of a web of cooperative relations with others. He is necessarily a social animal.

Marx then projects this argument into a vision of what man can become under communism. All man’s efforts, products, thoughts and emotions relate him to others. In communism such ties between people are strengthened to the point of transformation. Need or enjoyment lose their egotistical character. Communist man thus has a working conception of self as an extension of others. Within this net of social relations, the individual undertakes free conscious productive activity (“life engendering life”). Work which is willed, purposive, physically and mentally flexible, concentrated and social expresses what man is and develops his capacities not only to work but in the other spheres of life as well. Under communism man can assert his true individuality – that is, he may reach the height of his powers and needs, in cooperation with his fellows and appropriating all of nature (Averneri, 1968, 65-95, 220-39).

Communism

For Marx, the exact nature of the eventual communist society will be determined by the specific conditions under which it is established. Communism emerges out of a capitalism collapsing from the effects of its internal contradictions; but capitalism does not disappear suddenly, or completely, to be replaced by a social formation already perfectly formed. Hence the early “crude communism” must develop “economically, morally and intellectually, still stamped with the birthmarks of the old society from whose womb it emerges” (Marx, 1947, 24)⁷. In particular early communist man will not be able to escape completely from the effects of the property relations and necessarily materialistic values of capitalism. It is true that under crude communism, socialization of the means of production places the ownership of property into the hands of the State, and that surplus value is diverted into economic development and social services. But wages are paid according to the labor contributed, hence inequality based on differential productivity (what Marx called the principle of “bourgeois right”) remains. And an incomplete emancipation of consciousness from domination by the products of labor makes it a vulgar, philistine and materialistic communism. “Immediate physical possession seems to it the unique goal of life and existence” (Marx, 1963, 153).

⁷ On the transition to communism and the coming of “authentic man” see Koren (1973).

This is, however, only a transitory phase in the passage to true communism. Marx does not discuss the dialectics of the dissolution of the crude form and the emergence of true communism. But, in the context of a discussion on ownership of the means of production and the distribution of the social product, Marx typically concentrates on a transformation of the labor process as the key to a more general social revolution (to a new, higher level of communism):

In a higher phase of communist society, after the enslaving subordination of individuals under division of labour, and therewith also the anti-thesis between mental and physical labour, has vanished; after labour has ceased to be a means of life and has become itself the primary necessity of life; after the productive forces have also increased with the all-round development of the individual, and all the springs of co-operative wealth flow more abundantly – only then can the narrow horizon of bourgeois right be fully left behind and society inscribe on its banners: from each according to his ability, to each according to his needs (Marx, 1947, 26-27).⁸

True communism thus involves eventually abolishing the division of labour in the sense of each person being forced into a particular, exclusive sphere of activity. In *The German Ideology*, Marx's discussion of labor under communism describes a society in which individuals are involved in a number of different kinds of production, developing a diverse ability and knowledge, including the re-integration of the development of mental and physical attributes (Marx and Engels, 1976, 47). This is made possible by a high level of social production, using a sophisticated technology. But the key to the reconstruction of life is control over the labor process, the process by which life produces life.⁹ With production and the products of labor (including new means of production) under social control, the alienated forms of life can be stripped away, and the process of reconstructing real social life, in harmony with nature, may be begun:

The positive supersession of private property, as the appropriation of human life, is, therefore, the positive supersession of all alienation and the return of man from religion, the family, the state, etc. to his *human*, i.e. social life ... the *social* character is the universal character of the whole movement; *as* society itself produces *man* as *man*, so it is *produced* by him. Activity and mind are social in their content as well as in their *origins*; they are *social* activity and social mind. The *human* significance of nature only exists for *social* man, because only in this

⁸ Note that this was not written by the young Marx but in 1875 towards the end of Marx's life.

⁹ Editors' note: The original text contains a footnote to "Marx, *Capital*, Volume 3, p. 800", but it does not reference this footnote in the text.

case is nature a *bond* with other *men*, the basis of his existence for others and of their existence for him. Only then is nature the *basis* of his own *human* experience and a vital element of human reality. The *natural* existence of man has here become his *human* existence and nature itself has become human for him. Thus society is the accomplished union of with nature, the veritable resurrection of nature, the realized naturalism of man and the realized humanism of nature (Marx, 1963, 156-157).

In such a context, freed from relations characterized by mere possession, “Man appropriates his manifold being in an all-inclusive way, and thus as a whole man” (Marx, 1963, 159). The supersession of private property, the release from “universal exploitation of human communal life” allows:

The complete *emancipation* of all human qualities and senses. It is such an emancipation because these qualities and senses, have become *human*, from the subjective as well as the objective point of view. The eye has become a *human* eye when its *object* has become a *human*, social object, created by man and destined for him. The senses have, therefore, become directly theoreticians in practice. They relate themselves to the thing for the sake of the thing, but the thing in itself is an *objective human* relation to itself and to man, and vice versa. Need and enjoyment have thus lost their *egotistic* character and nature has lost its mere *utility* by the fact that its utilization has become *human* utilization.

Similarly, the senses and minds of other men have become my own appropriation. Thus besides these direct organs, *social* organs are constituted, in the form of society; for example, activity in direct association with others has become an organ for the manifestation of life and a mode of appropriation of *human* life.

It is evident that the human eye appreciates things in a different way from the crude, non-human eye, the human *ear* different from the crude ear. As we have seen, it is only when the object becomes a *human* object, or objective *humanity*, that man does not become lost in it (Marx, 1963, 160).

The senses of social man are thus different from those of non-social man. They are heightened by the humanized nature of his new mode of social existence: “the fully constituted society produces man in all the plenitude of his being, the wealthy man endowed with all the senses, as an enduring reality” (Marx, 1963, 162). Communist man’s needs are intensified and widened. He becomes a man who “*needs* a complex of human manifestations of life, and whose own self-realization exists as an inner necessity, a *need*” (Marx, 1963, 165). And especially communist man needs the other person.

Communist man is enabled to free himself from the concept of god, which is a mystification of the process by which life is created:

Since, however, for socialist man the *whole of what is called world history* is nothing but the creation of man by human labour, and the emergence of nature for man, he, therefore, has the evident and irrefutable proof of his *self-creation*, of his own *origins*. Once the essence of man and of nature, man as a natural being and nature as a human reality, has become evident in practical life, in sense experience, the quest for an alien being, a being above man and nature (a quest which is the avowal of the unreality of man and nature) becomes impossible in practice (Marx, 1963, 166-167).

Communism is thus positive human self-consciousness. It is the phase of the negation, a real and necessary factor in the emancipation and rehabilitation of man in preparation for the next stage in historical development.

Kropotkin and Marx

In terms simply of their descriptions of human nature, and the eventual communism, Kropotkin and Marx are surprisingly similar. Both see cooperation as fundamental to social and individual human development. They agree on such essentials as collective ownership of the means of production; abolition of the wage system; distribution of the social product according to need; even, perhaps, a “naturalistic” communism. Yet they reach their conclusions via completely different modes of philosophical inquiry, Kropotkin using a naturalistic (evolutionist) philosophy, Marx a dialectical penetration to the material origins of human existence. Thus for Kropotkin, humans are *innately* (instinctively) cooperative and communism is the *natural* form of social organization, while for Marx human sociality is the *necessary* result of a collective effort to produce the material basis of life and communism “the necessary form and the dynamic principle of the immediate future” (Marx, 1963, 167). Does this dependence on different philosophical traditions mean that the two great radical traditions are irreconcilable? Not necessarily, if a major addition is made to Kropotkin’s theory of human nature.

Culture

Kropotkin’s immediate intention was a theory of evolution which would counteract the Social Darwinist theories of human evolution current in Europe in the late nineteenth century. For this purpose he constituted a natural-evolutionist theory which, when it came to human history, over-played the role of *natural* sociality and mutual aid in human cooperation. Thus, human culture is seen as the direct expression of the natural qualities of man. But whether in the modern form of sociobiology, or the benign Kropotkin form, “biology, while it is an absolutely necessary condition for culture, is equally and absolutely insufficient: it is completely unable to specify the

cultural properties of human behaviour or their variations from one human group to another” (Sahlins, 1977, xi). What is missing from Kropotkin’s formulation is the conscious inclusion of the concept of culture at the heart of his theory of human development.

This is not the case with Ashley Montague who, while following Kropotkin in that “Man is born for cooperation, not for competition or conflict” (Montagu, 1960, 109), places culture at the centre of the process of human evolution:

With the creation and usage of organized systems of symbols man created a new dimension of experience which at the same time yielded him an increasing control over his environment. This new dimension of experience we call *human culture*. Man-made culture is the special kind of environment man creates the better to control as much of the general environment as he desires (Montagu, 1968, 102).

Culture is a new dimension in the relations between organisms and their environments, in which man creates and directs his own adaptation. The culture concept can be synthesized with ongoing biological selection (Montagu, 1968, 105), yet its advantage is that:

Culture ... represents a biological adaptation, based on genetic changes, but transmitted non-genetically, that is, through the socially interactive process of learning. Culture is man’s social heredity. Within the limits set by the genes every *human* act of the organism is learned, acquired, through reaction of the culture upon him. Though based on genetic factors which make it possible, culture is itself an extra-genetic, a superorganic, system which functions in the serve of man, just as any tool does, to enlarge and extend the satisfaction of his needs (Montagu, 1968, 106).

Culture, then, is the missing dimension to Kropotkin’s theory of human evolution. The culture concept takes the emphasis off innateness and accumulation of experience. It is a mediating factor in the dialectic between the human organism and the natural environment.¹⁰

In this dialectic humans, as all organisms, incorporate the environment into themselves as the material source of life. Sociality is the permanent (but changing) characteristic of this dialectic, the source of sexual reproduction, and a more efficient material relation with the environment, so necessary that it must become instinctive.

¹⁰ Belasco (1975) outlines the process of evolution as a complex whole composed of biological, socio-cultural and environmental factors: “the interaction of these variables constitutes a dialectic i.e., a movement of successive contradictions between, and resolutions of, neuroanatomical and cultural (as evidence{d} by tools) development, in the context of environmental imbalance and equilibria.”

But the source of difference between humans and other organisms is that humans consciously produce their means of new life through the application of collective labor to the environment.¹¹ Their material-production-based culture is then passed on through the institutions of the society and *learnt* by new individuals entering that society. This process of the intergenerational transmission of knowledge in learned-forms enables the accumulation of a more sophisticated culture; and the learning of this accumulated culture becomes the most important process in the formation of human “nature.” Culture is the collected experience of the collective past and the bond which holds people in the present into collective wholes. It is the special human form of sociality.

Anarcho-Marxism

A synthesis between anarchism and Marxism is yet to be made. While it is beyond this paper, it is not an impossible task. It is necessary on the one hand to add the power of dialectical-materialist analysis to an anarchism which too often relies either on naturalistic arguments or emotional polemic; and on the other hand to make Marxism culminate in the politics of human liberation rather than in sterile dogmas which enable it to be seriously proposed that “the fight... against the ideas of the freedom of the individual ... has been a consistent one throughout the history of the Marxist movement” (Leach, 1978, 36).

In outline form, anarcho-marxism might consist of the following theoretical structures:

1. An overall philosophy based on the dialectical analysis of evolution seen as an interaction between organic life and the natural environment. The necessary form of this interaction is the incorporation of the material environment into the life of each organism.
2. In the animal world, the banding together of members of a species into cooperative groups yields such material and reproductive advantages in the interaction with the rest of nature that sociality becomes a dominant instinct, an instinct which is shared by humans.
3. Humans evolve a culture composed of the accumulated experience of the collective past which intercedes as a mediating factor between their neuroanatomical make-up and the environment. Culture is transmitted within

¹¹ Or as Engels (1975, 4-5) put it: “The mastery over nature, which began with the improvement of land, with labour, widened man’s horizon at every new advance. He continually discovered new, hitherto unknown, properties of natural objects. On the other hand, the progress of labour necessarily helped to bring the members of society close together by multiplying cases of mutual support and joint activity, and by giving each individual a clearer consciousness of the advantage of this joint activity.”

cooperative groups via the learning process (leading to a social – rather than a natural – scientific approach in the study of human characteristics and societies).

4. Human culture is structured by the dominant life activity – production. It is formed in the relations of production and is understandable within the analysis summarized by Marx (1970, 20-27) in his preface to *A Contribution to the Critique of Political Economy*.
5. Capitalism, as all modes of production, is based in human cooperation, yet ownership is vested in a ruling minority. This perversion of cooperation is the basis of its central contradiction which then underlies a whole structure of destructive contradictions (including contradictory relations with the natural environment).
6. Contradictions intensify and interact over time and tend towards the disintegration of capitalism. The main counteracting force is ideology which under capitalism acts to promote false consciousness. False consciousness has penetrated the human mind to such an extent that only the devastating crises of mature societal contradictions can penetrate through it (Peet, 1979).
7. The revolution made possible by the dissolution of false consciousness has, as its main aim, social ownership of social production – collective control over the collective process in which human life is formed.
8. But vesting control in the state replicates the contradictory relationship between cooperative production (at a small scale) and ownership and control of the means of production (at a large scale) and leads to a form of centralized “communism” which is forced to rely on the ideological and violent oppression of its population.
9. Therefore, a decentralized, worker-controlled communism is the socio-economic form of the post-revolutionary future.

This structure of ideas, in combination with Marx’s and Kropotkin’s theories of human nature and communism, is the basis of the analysis of contemporary capitalism, and its negation, which follows.

Contemporary Capitalism

In the last two decades, capitalism has definitely moved into its final stage – the era of mad consumption. This intra-capitalist transformation began when social production mainly to satisfy needs was left far behind and the system began to rely on created wants, then created “needs,” to maintain the accumulation of capital. The economic basis of this transformation has been described as follows:

When social output is relatively low and necessary consumption absorbs a large part of it, the immediate material requirements of social reproduction exercise a decisive influence on production – i.e. the bulk of production must be devoted to basic items of personal consumption. In this context the process of accumulation can appear as an effort to expand production for the sake of increased consumption. But as production expands under the impetus of accumulation and the proportion of it required for necessary consumption falls, the material requirements of social reproduction no longer exert the same decisive influence upon it. Capital gains much greater room for manoeuvre and as the value aspect of production comes to the fore the real nature of accumulation as the pursuit of pure quantity is revealed. But not to the representatives of capital: what class could ever recognize that its social practice is utterly absurd in human terms (Kay, 1975, 75)?

What this statement does not analyze is the effect such a change has had on culture and the social psychology.

The ability of the production system to turn out commodities far beyond the level of natural needs, and the necessity within capitalism of constantly pushing forward all the frontiers to accumulation at once, made it imperative that the level of consumption be continually revolutionized in the advanced capitalist countries. This imperative *compelled* a transformation in the level and sophistication of the manipulation of culture and of the human mind and emotions. In particular, the continuation of accumulation was possible only by “commoditizing” the person – that is getting people to express even their most subjective needs and wants primarily in commodity forms, transforming wants into “needs” to deepen people’s reliance on the commodity habit, and thus changing people to the extent that continually adding new commodity wants became the major dynamic, literally the main object, of life. Work and religious values, tied to past stages in the capitalist mode, were transformed into the new consumption “values.” Old culture forms oriented towards the discipline of production were made over into new, stressing consumption (which itself is a form of industrial discipline). And while the ruling class took advantage of the situation, its technocracy managed and propagated it, and nearly everyone joined in the rush to consume, the process occurred on the whole as the consequence of blind forces emanating out of the nature of economic expansion – that is from the very process of capital accumulation, as its necessary expression in culture.

But in every such process there is a contradiction. In the era of mad consumption, capitalism came into a heightened contradictory relationship with its earth environment. For, to keep up with the extraordinary level of commodity production, capitalism is forced to strip the earth of its resources and pollute its beautiful face with the abundant refuse excreted by an over-consuming society. Capitalism has always been characterized by destructive contradictions; indeed its development as a system is propelled by the evolving interaction of the internal

elements of its great contradictions and, more recently, the clash between one contradiction and another. But the contradiction with earth, latent always in the nature of capitalist production, but never so fully realized as in the era of mad consumption, adds a new and more fearful dimension. For, whereas before, contradiction was the basis of social *change*, the addition of an exaggerated conflict with environment now threatened our social *survival* – in the sense that we are destroying what we rely on for our life. It is a contradiction dangerous in itself. But more than that, environmental contradiction interacts with the other, more familiar social and economic contradictions of capitalism making them worse, and these in turn deepen the conflict with environment.¹² It is the *interaction* of contradictions, the growth of complexes of contradictions (now focused on resources and environment), that characterizes the late stages of capitalism. Ever-more dangerous “solutions” are proposed in a desperate effort to escape. Ever-more threatening, unproven technologies are used in an effort to maintain existing life-styles, while it is those very life-styles which cannot be supported by earth resources. The people of the capitalist systems do not grapple with the *source* of their problems: escapist ideologies and over-consumption-while-there-is-still- time, permeate a lost people.

The Relational Basis of the Formation of Personality

Let us consider, yet once more, that the essential framework of life must be our relationship with nature, and with other people, organized around the principle of the reproduction (the perpetuation) of life. The key social form which these relationships take is cooperative production (or, in its individual form, work). In work we relate to others in an effort to gain from the earth enough commodities for our survival: to meet our needs. Production provides the material basis of social reproduction and thus exerts a determining influence (understood in a dialectical rather than a mechanistic-determinist way) on culture, social forms, and personality. We cannot say that we control ourselves when we do not collectively control our mode of production. Social control over production is necessary if a people are to control the material framework in which their lives unfold.

The essential relationships of life thus evolve around the production of its material base. These relations are the basis of our survival, and it is through them also

¹² For example, while economic depression is a common occurrence in capitalism (stemming from the class nature of the capitalist system) and conflict between inflation and unemployment a common problem in capitalist economic policy, the depression of the 1970s poses particularly severe problems. For depression interacts with resource scarcities produced by prior over-consumption. As a result, Keynesian policies designed to stimulate employment face a particularly sharp inflation response, while at times the energy resources needed to support economic growth are physically unavailable. The result – calls for the use of nuclear technology capable of inflicting damage to the environment that would make life impossible.

that we develop ourselves as individuals. The people, objects, ideas, processes that we encounter during our essential relationships possess qualities, and through our interaction we incorporate some aspects of these qualities into ourselves; there they interact one with another to produce hybrid qualities, unique people. Qualities accumulate as experience and new qualities, taken in during new relationships, play on already characteristics, continually altering the form that these take. Internal relations (within the person) are thus conditioned, but not mechanistically determined, by external relations (between person and total environment). Different modes of production, even different epochs within a mode, structure external relations differently and thus condition the growth of personality differently; that is, place parameters on its probable development.

The mode of production generates an environment of ideas and objects (animate and inanimate) which exists prior to our arrival and which we at first can do little to change. This environment should contain diverse qualities which potentially interact with, and develop, the various facets of ourselves. But diversity needs to be combined with depth, or intensity, of interaction (with the implication that it is impossible to establish deep interactions with superficial versions of objects or processes).

That is, during our interactions with any piece of the external world we must derive a variety of qualities, each quality appreciated in its many nuances, and each incorporated into ourselves at an emotional as well as an intellectual level. For this type of relationship to develop, humans, as they are at the present time, need long-term and frequently repeated contacts with any piece of the external environment: we cannot develop many such relationships simply because we do not have the time to do so. Diversity and intensity of experience thus *tend* to be contradictory. What is clear however, is that we must arrange the structure of the essential relationships of our lives in ways which will promote intensity and depth of experience to enhance the qualitative effect these have on our development as subjective, feeling, creative people. At the same time, but within this context, we should also provide diversity of interaction and experience. Diversity of *intense* experience is the overall objective. And it is here that capitalism fails abjectly, for on the one hand extreme specialization of function and homogenization of life have restricted diversity of experience, while on the other the “advanced” technology of capitalism has been used to condition experience and make it shallow.

The Effects of Ideology on the Capitalist

Yet there is more. We accumulate our internal culture in part from the ideas passed on to us (the results of past experience), and in part from the particular present experiences that we have. In the advanced form of capitalism both are subjected to the lost sophisticated manipulation, and have been over considerable time periods. This manipulation has taken a particularly perverse direction in the era of advanced

commodity capitalism. The present mode of life is characterized overwhelmingly by a lack of real content, for the content of life has long ago been drained off into the Commodity. Thus, for example, between person and natural environment intrudes the Commodity and between person and person slips the iron veil of commoditized appearance. Person interacts via consumption with anonymous system which interacts (manipulates) with person. Cut off from its relational roots, real life dissolves ... and is replaced by the ideology of life, a commodity of the mind expressed in terms of physical commodities and “super-people” (artificial images of fantastic people-commodities). And the “minds” that dream up the new ideologies trappings of life are themselves the products of a previous version of that ideology. Ideology has finally spun off to become a thing virtually unto itself. It makes us as its images, and we feed it with our “selves.” What we are given, in the form of appearances, does not satisfy us (faint signs of life remain); but instead of rediscovering what is real, and rejecting imposed images, we move on adding new places, new styles, new “people” to our esoteric “personalities.” And so we must, for it is exactly the precarious logic of capitalism that we fail to find the meaning of life in consumption, rather than looking where it lies, in production. For it is this failure, and our consequent constant search through commodities, that keeps commodity circulation going and capital accumulating. So we have “progressed” from simple capitalism, through alienation and commodity fetishism, to the present relation between the image of the person and the ideology of a society. We, the people produced by this most damaging stage of a destructive system, must now ask what we are, and how we can find ourselves again?

Such questions bring into focus once more that stream of radical thought called anarchism. The aim of anarcho-communism in the present era of cultural manipulation is to allow people to re-contact the most basic of life-forming processes. It allows the reformation of our ideas about ourselves in the raw environments of direct natural and social relationships. It is an attempt to construct a geography of human liberation. At the present time it is also drastic human therapy.

Components of Anarchist Decentralization

Decentralization means reducing the scale of every-day life, reducing the number of interrelationships, deepening the intensity of each relationship, and allowing people to find a nature for themselves in the context of direct relations with the social and natural environments. Decentralization is an attempt to socio-spatially re-arrange the mode of production to promote an environment of intense, diverse social relationships, and a more natural world, in which the human personality can develop. Decentralization allows experience to develop and ideas to grow from *direct* contacts with the physical environment and the environment of others, instead of ideological versions of these contacts. It provides for the subjective, as well as the objective, satisfaction of needs. It is therefore particularly suited to the dissolution of the process of human commoditization. Decentralization, in the anarcho-communist sense,

constitutes a new mode of production (Breitbart, 1975, 44-49). The main arguments for this mode are as follows.

1. Control

Behind the many aspects of social and psychological control exercised by capitalism over us, its people, is a fear we must have for the continuation of our lives. By stripping us of our independent means of production, capitalism created, at the same time, the pre-condition for capital accumulation and the basis of our psychological control. The ultimate terror we feel is the fear we have of those who depend on our labor not being able to survive because we can no longer work, or are not allowed to work, in the existing system of production. Perhaps only the possibility of none of us being able to survive, because of imminent collapse of that entire system, can arouse us from our present paralysis. By contrast, a people which directly controls the means of producing the material basis of survival has the confidence to be free. And only such a people controls the means by which they are made human. Communist decentralization, therefore, is a technique designed to give back control over the basic processes of life to the people who inhabit those processes. The principle of such a radical decentralization is that a people-group should rely on itself – that is, it should be able to make its life out of what it produces, and structure its culture essentially around the materials of its immediate environment. At its logical conclusion, decentralization must imply the capacity to be self-sufficient – at a number of scales. Each individual should be able to produce enough food and shelter for survival, each family enough for a simple comfort, each group enough for stability and diversity of consumption. Except in time of extreme environmental stress, trade should be relied on only to add more diverse elements to the material supply, although it may be valued also for the contacts it entails with others. As we make ourselves into new kinds of people, dependence on others via trade may be increased. But the idea of valuing self-sufficiency as the basis of a non-dependent freedom, a people making itself, remains the underlying objective of a decentralized, communist mode of production.

2. Collectivity

Decisions over the direction of economic and cultural development are made, in the end, by the owners of the means of production. A people wishing to control itself must own the means of production *directly* – that is, the workers in any institution of collective production must themselves control that institution, and not do so via the intermediary of the State, either as owner or controller of the means of production. And further, institutions should not be so large that all their members cannot, when necessary, meet and argue on issues which vitally concern their existence. It is impossible for all to agree completely on every decision, but it is not

impossible to make decisions which all have affected if the scale of life is small enough. In such a system there is no need, no place, for permanent leadership. Leadership deprives a people of the opportunity to develop their own powers of decision-making. On the other hand, decentralized, collective decision-making is efficient in that the need for a non-producing bureaucracy does not exist, while in addition the people who are affected most, and have the most practical information, end up making decisions. Collective, localized decision-making is thus the logical corollary of the idea of self-sufficiency.

3. Ethics

Alienation and social irresponsibility in capitalist life result in part from interacting with an anonymous “system” rather than with real people who one knows. But a people producing and living together, relying on each other in a system of mutual aid, must develop intimate relations one with another, one with the whole. Decentralization thus provides both the purpose and the opportunity for new feelings about others to develop. Ethics may be thought of as a main force in the human revolution, the transformation of humans into new kinds of beings. But to carry out this overwhelming task, a people’s ethics must come from the deepest source, which is the necessary way we relate to each other and to earth. And what is needed for our survival? Our mutual aid and cooperation! We have to rely on each other in a direct way and to relate to environment directly to find an ethics suited to the task at hand. We have to allow the original sources of ethical feeling to grow again.

4. Diversity

Different aspects of our relations with environment, and with others, produce different types of experience, and diverse experience develops the various facets of the human personality. But this does not happen in a facile way. The interaction with total environment has to be at the profound level of creating from it the means for the continuation of life. We cannot manufacture “experience” in the belief that we are creating “multifaceted people”; rather diversity has to be a component of the basic processes of the society. Hence, social production has to be re-organized to provide several kinds of production (agriculture, industry) in each commune, to permit a mix of several types of involvement (mental, physical) at any time in each sphere of production, with the purpose of permitting diverse kinds of experience. Anarcho-communists value the qualities they allow to develop in others, and in themselves, more than the volume of commodities produced. A fine quality of social existence makes easy any material sacrifice that may be necessary to accomplish it. People are more lastingly interesting than products!

5. *Integration*

Capitalism yields a rich harvest of disintegrated lives as it separates the components of life into different social and spatial spheres. Decentralization aims at re-integrating, in small places, production and social reproduction, work and leisure, men, women, and children, old and young. Of these the basic re-integration is that of economic production with social reproduction. Not only should both occur in close proximity, with an exchange of people between, but as the purpose of production changes to one of allowing the creation of new kinds of people, so social reproduction can assume its true function (which is to raise children to meet the highest aspirations of the society) and be fully integrated with economic production. In these integrated activities there is no place for age or sex discrimination. Everyone is part of the production and reproduction of life, all have much to offer, all can get from this a sense of worth because all make a contribution to the whole.

6. *Creativity*

Under capitalism, creativity is separated from the every-day practice of life and made into a thing by itself, carried on by an artistic or technocratic elite, and transmitted back to dominate us as artifacts, products, ideas, or “super-people.” Yet creativity stems, originally, from the nature of our relations with objects and with others in the production of life. Everyone who is involved in this great production thus works at the source of creativity, and has the opportunity to be creative, if the processes of life are re-organized on a small scale to *allow* the expression of individuality in all products and relationships. Decentralization can provide the opportunity for everyone to develop a natural creativity, one concerned with making more efficient, or more beautiful, the real activities one engages in.

Further, a people group struggling together in direct contact with each other, is a creative act in itself. It is a rich social environment for a new type of technology, one which makes production more efficient, but which considers “efficiency” in terms of total contribution to all the life objectives of the group. Creativity and technology are reintegrated into life in a decentralized system. We control our technology, everyone understands it, everyone contributes to its growth and shapes its direction. The aim of anarchist decentralization is to use our creativity to make a peoples’ art and a peoples’ technology.

7. *Naturalism*

Our present alienation from the natural environment stems immediately from the characteristics, the motives, of capitalism, under which the environment becomes merely a group of commodities – animals which we can relate to only by

“humanizing” (“Disneyizing” in the advanced ideological phase), resources that we “tame,” etc. In capitalism we relate to each other and to environment by trying to dominate, which is, of course, the crudest attempt at a relationship. Yet we are, in the end, dependent on the natural environment for the physical inputs necessary to preserve our existence. Inevitably we must enter into organic relations with environment, for we are, at last, organically related to it. Communist decentralization is a technique aimed at renewing direct relations with the natural world, of placing production and life within it, as part of it, by daring to make ourselves immediately dependent on the environment. When we have to live off one limited piece of earth we must enter into different forms of relationship with it, for we suffer from mistreatment in an immediate and forceful way. By depending on environment, by knowing its processes in intimate detail, by entering into these processes to maintain our life, we become again natural people, who perhaps can then be trusted to humanize nature.

8. The Geography of Human Liberation

A liberated people are free to collectively make of themselves what they want within the limit of not damaging others. To do this they must have the confidence which can come only from controlling their own means of production based on their own piece of earth environment. Decisions must be made collectively with all joining in. They have to be bound together, in a set of intimate relations, by mutual dependency; in mutual aid should they find their sense of ethical morality, and in ethics a mode of transcendence. Social production, as the main source of life experience, must be organized not only on the basis of its role of commodity output but also and dominantly, on the basis of its multiple effects on the people who work in it – especially it must provide intensity and diversity in every-day experience. The various components of life must be reintegrated into a whole life experience, conducted in a recognizable place, with creativity – the chance to make original contributions to others – at its core. And the whole social process should relax back into nature, as its human part: “the consummate oneness in substance of man and nature – the true resurrection of nature – the naturalism of man and the humanism of nature both brought to fulfillment” (Ollman, 1971, 110).

Anarcho-communism does not prescribe an *exact* way of life for people to lead. No-one can do this for anyone else. Few can do it exactly even for themselves. Anarchist decentralization merely presents magnificent, original opportunities for people to respond in their own ways. New lives and new people come from experiment, and decentralization describes the conditions under which a people is free to make its own mistakes, with only themselves suffering the consequences of their actions. Under the anarchist version of communism a variety of communal life-styles is probable, and any individual is free to live a number of different kinds of life either by an agreement to change by the people one lives among, or by moving to a more compatible group. Beyond freedom from want lies freedom from a fixed, determined self. The internal interaction of human qualities in dialectical interrelation with a

complex of changing environmental stimuli forms an unlimited frontier for us to move into. Human “perfection,” like outer space, expands without end. But we have to live in a social system which allows, encourages, processes of human perfection rather than discourages or perverts them. Anarchist communism tries to do this. Decentralization is its socio-spatial method.

Contradiction and Revolution

The major social, cultural and environmental contradictions of capitalism interact one with another and result in a rush of problems unsolvable within the structure of the system. As this complex of contradictions matures, as the problems of social life intensify, the system’s protective ideological membrane can no longer hold back the development of true consciousness. Individuals and groups of people break away, begin to attack in various ways;¹³ some begin to live a life of cooperative self-sufficiency – a way of physically surviving and immediately beginning the re-formation of self, *living* the revolution instead of merely talking about it. As consciousness is developed by the intensification of contradiction, and as it becomes physically impossible to survive within capitalism, the numbers of communes grow and the cooperative movement spreads, until it forms an alternative material base for a new life growing within the rapidly decaying body of the old. At this point we must expect capitalism to degenerate into a more obvious form of fascism: the contradictions of capitalism cannot be solved, but the effects of contradiction may be “ameliorated” through the use of physical, and extreme psychological, force. Finally, in the phase of capitalist collapse, when our rampant consumption is no longer supported by the raw materials and labor of the Third World, when shortages of fuel and food make it impossible to live, when the pollution (or the nuclear damage) of a failing “super-technology” is so severe that large areas have to be abandoned, when inflation is beyond control, when the level of crime and acts of alienated violence make whole cities uninhabitable, the alternative cooperative economy becomes the economy – the only one capable of ensuring the continuation of life.

If we survive the events of the next decades, what might this necessarily decentralized, cooperative economy look like?

¹³ The intensification of contradiction in late capitalism makes several kinds of revolutionary activity increasingly realistic and fruitful. It may be that these kinds of activity will be capable of creating revolutionary change before capitalism disintegrates. My own analysis of the depth of the penetration of ideology into the human personality make[s] me skeptical, however, even though I support virtually any effort aimed at the overturn of the capitalist system. From my perspective capitalism will be abandoned *only* when its contradictions have matured to the extent that they make capitalist life *physically* impossible.

A “Return to Nature”

The idea that history repeats itself is a simplified version of a fragment of the dialectic. The interpenetration of events, and the synthesis of the past into the present, precludes the possibility of historical repetition. The present always has certain similarities with the past, for it is its product: but it is also always new – the first moment in the rest of time.

Likewise, the idea that anarcho-communism represents an effort to return to a purified version of the past contains a faint truth but is, in general, inaccurate. Take, for example, the idea of the “return to nature,” which is a component of much anarchist thinking. This will be the return of a people who, even by selecting from their now-abundant stock of technology, could be relieved of much of the drudgery of previous agriculture life. And the new small- and intermediate-scale technology, which even now begins to develop, can be labor-saving and at the same instant improve the quality of the time spent in work. The conception of future people which guides anarchist thinking is that people are capable of transcending over-consumption, recognizing that in terms of the individual it is caused by other, unsatisfied wants and needs, and in terms of the society by the need for capital accumulation. Anarchist decentralization is an attempt to satisfy needs *directly*, in the course of social life, rather than indirectly via commodity consumption. But beyond, or beneath, this discussion, [lies] our present capability to see the natural world as it is, to understand its processes as they are, to place ourselves within it scientifically instead of mystically. Our relations with the natural world may now be accurate and realistic. Our thoughts may now grow out of natural processes, may go beyond those processes but remain organically related to them. This time, when humans again become part of nature, the pattern of our lives can be both natural and distinctively human. Anarchist science is social, in that it considers the effects of its technology on the total quality of life rather than merely on “productivity;” is natural in that it attempts to place production into the context of environmental processes; and is organic in that its conception of social existence is one integrated into nature. Anarcho-communism therefore does not speak of a *return* to nature, but an advance to scientific, creative humans *in* nature. It is a *new* mode of natural life.

The anarcho-communist concept of landscape is organized around the principle of allowing people to retain direct contact with the essential process of life – those related to the production and reproduction of the species. Communities, ranging in size from a few people to several thousands, first produce the food and shelter necessary to maintain life and then specialize in production, services, and research suited to the local resources, their accumulated skills, or their synthesis of disposition and obligation to their fellow humans. The pattern of spatial interaction reflects a concept of social relations – intensive, frequent interaction with a sizeable group of trusted others and a wider network of less frequent contacts with diverse other groups. Contact with other groups is not via an anonymous price system, but is based on negotiated agreements (which might come in the guise of festivals – after all life is being

exchanged for life). And following from this, while the basis of commodity/service exchange is labor (human life time) content, exchange ratios are left fluid to allow for the expression of communal need. Eventually exchange is based only on need as communal consciousness bursts into total humanity consciousness.

In the anarcho-communist collective everyone works a part of the day to harness the renewable natural resources of the locality for the purpose of keeping human life in existence. During the physical labor of food and fuel production people daily renew their contact with the natural world, with their predecessors who have worked the land, with the future generation which that land will support. Food production is the nexus of environmental and spatial relations which extend through time. It places the individual's life in a socio-temporal continuum continually connecting momentary experience now, in a *deja vu* way, with similar moments in the past, and in a visionary way with the experience of *others* in the future. It is a fitting context in which anarcho-communist life can develop for it provides the basis of independence and the guarantee of freedom, which in turn allow an open, non-competitive relationship with others. In the future, even the crumbling cities of a past capitalist age, (where some production facilities are kept going by the workers' syndicates), should produce the food basis of their survival with the use of intensive gardening techniques. Yet overall, the future decentralized landscape will have to be a village and town society, one which can be based primarily on regional resources that are renewable, a low-energy system run by wind, water, sun and vegetation using a sophisticated but natural technology. It will be a society which finds that the satisfaction of physical needs could be done relatively easily, but chooses to do so in a delicate way, for in the mode of satisfying need we find the source of our greatest challenges and, at the moment, our most disastrous mistakes.

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A Socialist Feminist Perspective on Gender and Environment

Suzanne MacKenzie

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Rewriting geography “with the women in it” has been going on for some time now. This process has produced a diversity of literature which reflects a diversity of theoretical perspectives.² Recent discussions are nevertheless unified by two underlying themes which are extending the theoretical capability and vitality of feminist work in the discipline. First, feminist research in geography is not “just” about women. It is about the ways in which gender forms an essential parameter of human environmental relations. Second feminist research in geography is not “just” an empirical study. Rewriting geography “with the gender relations in it” – incorporating an androgynous [both female and male] human into human-environmental relations – is as much a process of methodological and conceptual rectification as it is of addressing new empirical questions.³

These two related themes are most apparent in the emerging socialist feminist work in the discipline, and have a particular relevance to ongoing historical materialist debates within geography. This is not surprising, given the historical development of work on women and the environment.

About ten years ago a growing number of geographers, beginning to look at contemporary developments in women’s roles and changes in urban and regional

¹ Reprinted with permission from Richard Peet. The original title of this essay was “Editorial Introduction”.

² For a general overview, see Zelinsky, Monk and Hanson (1982).

³ See, for example, Bowlby, Foord and MacKenzie (1981), MacKenzie and Rose (1982), and Hanson and Monk (1982).

structure and activity patterns, saw a relation. In the atmosphere of social and academic ferment which characterized the early 1970s, geographers began to explore this relation.

Such exploration seemed to involve a step into nearly uncharted territory. But researchers encountered guideposts established by workers in two areas: feminist analysis and politics as a whole, concerned to explore and explain changes in gender relations; and the emergence of historical materialist perspectives in geography, concerned to explore and explain changes in class relations relative to environmental alterations. The former body of work was obviously focused on examining the social processes underlying changes in women's lives. The latter, in its concern with the relation between process and spatial form, promised a way of contextualizing these processes and understanding the relations of women's lives to environmental production and alteration.

But the achievement of a synthesis, or even a dialogue, between these two analyses has taken many years and innumerable discussion.⁴ Despite the fact that feminist-inspired questions about gender and historical materialist explorations entered disciplinary discourse at the same time, motivated in large part by the same social changes (MacKenzie, 1980; MacKenzie and Rose, 1983), it is only in the last few years that connections between these two bodies of enquiry have been recognized and explicitly addressed at the empirical and theoretical level, and that the two themes noted above became evident. This required two previous developments: first a coherent socialist feminist perspective on the relations of gender and environment; and second a critical engagement with geographic perspectives as a whole and historical materialist perspectives in particular by socialist feminists within the discipline.

The former development is evident both in the growing range of empirical subjects addressed by feminists in geography and in the growing attention to methodological and theoretical questions which this empirical work raises. [...] And as this socialist feminist perspective emerges, it becomes clear that attempts to consider gender from a socialist perspective call for a process of critical discussion and reformulation of some basic assumptions of historical materialist work in the environmental disciplines.

This [essay] provides an historical and conceptual context for the papers, explicitly addressing the question of how such a socialist feminist perspective developed, both in feminist analysis as a whole, and within geographic research on gender. [...]

⁴ As it has in other social sciences and throughout the political arenas as a whole. See for example, Barrett (1980), Riwotham et al. (1979), Sargent (1981).

Feminist Geography is Not Just About Women: The Development of Socialist Feminist Perspective on Gender and Environment

Most feminist research in geography has been about women, as a population subgroup. And much of it has been carried out by women, as it is generally women who experience gender relations as oppressive or constraining. But the questions raised by this research, and by the feminist analysis and politics which inspired and guided its enquiry, have fundamental implications for our understanding of human-environmental relations as a whole. The recognition of these implications ensued from the incorporation, by geographers, of an increasingly capacious and coherent feminism. The following examines the development of feminist analysis as a whole and then explores its adoption and adaptation within geography.

The changes women have experienced within the last forty years have shifted the parameters of their lives, shifted women's geography, temporality, political vision and political priorities. They did so throughout the fifties and sixties, incrementally and largely unnoticed, developing as they did in a period of conservative "consensus," an era ostensibly without "class war" or "sex war," where affluence and democracy were allegedly crumbling all boundaries (Birmingham Feminist History Group, 1929, 48-51; Wilson, 1980, 4-14). These changes proceeded apace through the unquiet late sixties and seventies, and continued into a growing recession which tightened another, more repressive, form of conservatism. Largely unnoticed, and for men largely mediated through the lives of the women they lived and worked with, these changes created increasingly evident conflicts in women's daily lives. These conflicts called forth a growing range of economically unrati ed and socially unrecognized organizations among women which pressed for, and simultaneously created, greater opportunities. Both conflicts and opportunities converged by the late 1960s, to give rise to a women's movement, which grew in numbers and political clarity and force throughout the following years.

Feminist Analysis

The women's movement, and the body of work which has emerged from it – feminist analysis – have provided a coherent politics and theory which made women as a social group, and women's activities, more socially visible. This movement and analysis assembled the multitude of myths, actions, ideals and struggles which constitute the gender category 'woman' and defined 'women' as social actors. It connected the largely invisible and apparently disparate problems facing women – as wage workers, domestic-community workers, state and retail clients, mothers, sexual beings – and socially located these as "women's issues." It named the politically discounted and divergent actions and organizations by women as 'women's organizations' around these issues.

But feminist analysis, arising from this movement, is not itself homogeneous, nor is it historically static.

Initially, women's greater entry into "public life," especially in the labor force, gave rise to a liberal feminism. Liberal feminists were inspired by the critique of the private family as the source of restrictions on women and the source of the "feminine mystique."⁵ They therefore focused on securing a greater 'social' role for women, especially as wage workers, by attempting to give women "equal rights" within the confines of given capitalist social relations.⁶

But the inadequacy of legal and formal solutions became increasingly evident. The concept of equal rights was largely formulated in terms of the "public sphere," and had little pertinence to the interrelation between 'public' and 'private' which mediated women's lives.⁷ Extensions of rights in one area of women's dual roles merely exacerbated problems in others. For working class women, the "right" to a job was largely an equal right, with other women, to the low wages and insecure tenure of feminized occupational ghettos, coupled with an exhausting second shift of domestic work. For bourgeois women, the right to a career often meant the sacrifice of a sustained and satisfying personal life.

As these limitations became increasingly evident, the struggle for equal rights gave rise to a "new feminism," an analysis which emerged from the realization that the woman's position is socially structured. The conditions and content of women's lives are not historical accidents which can be eliminated through formal alterations which leave the 'public' and 'private' basically discrete. Rather, woman's position is created and challenged by the functioning of society as a whole. Women's activities and the constitution and change of the category, 'woman,' are embedded in the process of reproducing capitalist social relations as a whole, and are a component of such social reproduction. Understanding this position calls for a re-analysis of complex social change from the perspective of how it structures women's activities. Changing this

⁵ This critique is exemplified in the work of Betty Friedan (1963) and to some extent in Simone de Beauvoir's (1961) work. It underlies the sociological studies of women in the late 1950s and early 1960s (e.g., Garvon, 1966; Klein, 1965; Myrdal and Klein, 1968).

⁶ Women organized for, and to some extent succeeded in gaining, a greater legal equality in marriage and the workplace. They achieved, in equal pay and sex discrimination acts, and through a series of changes in family and welfare legislation, a growing recognition of women's independent legal and political existence, and a social recognition of their domestic role. They also achieved a rather ghastly celebration of the commercial potential of the new "career woman" and her equal right to coronaries, ulcers and Executive Class Jet Travel (e.g. *Cosmopolitan* Magazine and a spate of publications on the Managerial Woman).

⁷ In addition, the concept of equal rights, based on the ideal of free and equal citizens precluded a recognition

position necessitates an alteration in all the social relations of life and work, and specifically in the social relations between ‘life’ and ‘work.’

This re-analysis of society has been carried out within two major feminist streams: radical and socialist feminism. For radical feminists, the conflict between genders is ultimately the primary historical and social conflict, one which has psychological roots reinforced by social practices. Analytic energy is focused on understanding the formation and functioning of gender as an oppressive force, leading to a concentration on relations of reproduction, especially the ‘personal’ and the psychological constitution of the individual. Out of this developed the “politics of personal life.” Radical feminist analysis derives from and reinforces a practice focusing on “.... struggles against male power and the social institutions through which it is reproduced (marriage, heterosexuality, the family)” (Beechey, 1979, 69).⁸

This analysis, in focusing on the “woman question,” made a great contribution. But many feminists felt that the emphasis on gender alone fixed the question of women’s oppression at a psychological or biological level, and isolated the “woman question” within social analysis and action. It provided no basis, or a very restricted one, for assessing the relation of gender oppression to other forms of oppression – such as those based on race, class, age, sexual preference – all of which are inextricably related in the experience of different women.

Socialist feminist analysis arose out of an attempt to articulate these developing understandings to broader theories of social change, primarily, but not exclusively, historical materialist theories.

In contrast to radical feminism, socialist feminism, while centered around the question of gender constitution and oppression, sees history in the materialist tradition. Socialist feminist analysis thus focuses on the institutions and social practices of capitalism (or other modes of production) as these affect women, and attempts to understand the relations of gender and class in the course of social change. Political strategy is directed at collective confrontation with these institutions and practices in such a way as to challenge the capitalist system as a whole, and set in motion a transition toward a non-sexist socialism.

Socialist feminists therefore ask: how do gender relations articulate to class relations? How does the constitution of gender articulate to class formation and change?

Most socialist feminists have discussed such questions using a framework which argues that gender constitution is a process implicated within a complex of

⁸ Some of the classics of radical feminism include Firestone (1971) and Millet (1969). For discussions see Beechey (1979) and Eisenstein (1979).

“productive” and “reproductive” relations, and that women’s position can be located “.... in terms of the relations of production and reproduction at various moments in history” (Kuhn and Wolpe, 1978, 7). Analysis is focused around understanding the way in which these relations constitute gender and the way in which this process articulates to class formation and class action.⁹

While feminist analysis is neither homogeneous nor theoretically unproblematic, these developments have provided a basis for an increasingly coherent colonization and interrogation of the paradigms and empirical content of academic disciplines, including geography.

Gender and Environment

The development of work on gender and environment was influenced by these developments in feminism as a whole.

Work on women and the environment in geography is premised by three underlying assumptions:

1. Women, in their daily lives and historical roles, enter into social relationships which are significantly different – in some respects – from those of men.
2. These different social relationships mean that women will have significantly different perceptions, and make different uses, of the environment than men, and may encounter gender specific problems.
3. These differences may be important in understanding the development of urban and regional form and activity; and in urban and regional planning and policy formation.

Alison Hayford summarizes these premises, saying:

.... almost everywhere women’s lives are different in nature to men’s; their relations to the earth, to its resources, and to the productive systems that people have evolved for making use of these resources, are not the same as, nor even parallel with, those of men (Hayford, 1974, 1).

The aim of the research on women and the environment has been to define the nature and the parameters of these differences and to study their implications.

⁹ Also see Barrett (1980), Eisenstein (1979) and Rowbothom et al. (1979).

Work in the area began by criticizing the fact that women were either “invisible” within geographic literature (Hayford, 1974; Larimore, 1978) or were analyzed as “household surrogates” (Tivers, 1978, 304). In a seminal article, Burnett criticized behavioral and neoclassical equilibrium models of urban structure for assuming “... a society made up of patriarchal nuclear families with a traditional division of labour between the sexes” (Burnett, 1973, 57). Such assumptions were seen as weakening the explanatory and predictive power of models as theoretical and planning devices. Not only were such assumptions empirical oversimplifications, they prevented models from examining changes in family structure and process, and in female labor force participation, as possible parameters of urban change and development. These assumptions therefore prevented the incorporation of vital demographic and labor force changes into planning policy. By failing to examine, for example, the effect of women’s growing labor force participation and changes in family patterns on income distribution in the city, shopping, journey to work, residential patterns, and needs for specific social services, planning policies potentially exacerbated difficulties faced by urban residents, especially those faced by women whose lives no longer conformed to the “traditional pattern.”¹⁰

Writers in geography attempted to overcome these limitations by examining what had been assumed, through applying models to the measurement and analysis of women’s spatial activities. Most of this work was comparative, assuming a behavioral and perceptual norm in the city, that of a comparable group of men – husbands, co-workers – or of white, middle class heterosexual men in general. It measured women’s perception and behavior relative to this norm, specifying the extent to which women deviated. These comparisons laid the basis for an empirical definition of women as a distinct population subgroup and for specifying the parameters of this distinction.

Much of this work was, at least implicitly, concerned to analyze and plan for women’s growing labor force participation. It concentrated especially on studying the spatial constraints produced by married women’s dual roles as housewives and wage earners. It was found that wives generally have more restricted activity patterns than their husbands, and that wage earning wives have more restricted activity patterns than full-time housewives (Cichocki, 1980; Everitt, 1975; Hanson and Hanson, 1975). More specific work suggested frameworks for analyzing specific commuting constraints on dual role women and for locating facilities to overcome such constraints and increase the mobility of dual role women (Andrews, 1978; Madden, 1977; Palm and Pred, 1974). Other studies documented restricted activity spaces for other groups of women: full-time housewives (Michelson, 1973; Tivers, 1977), elderly women (Helms, 1974), and female criminals (Rengert, 1975).

¹⁰ For a general discussion of these issues from an inter-disciplinary perspective see Keller (1981) and Schmertz (1981).

The theme permeating this work is women's restricted activity spaces, and the fact that such restrictions remain with, and may in fact be exacerbated by, women's dual roles.¹¹ These empirical conclusions documented the legitimacy and importance of treating women as a geographic subgroup in their own right, and laid the basis for questioning the assumptions of many geographic models. But the concentration on women's spatial constraints per se also limited this research to documenting rather than explaining these constraints.

Other writers took women's restricted activity spaces as a starting point and attempted to analyze them as an expression and reinforcement of women's restricted social position. Much of this literature saw the gender division of labor as a space-structuring force, and saw spatial form as reinforcing women's restricted social position (Bruegal, 1973; Burnett, 1973). For example, cities were viewed as contributing to specific conflicts for women and as institutionalizing these conflicts. On a micro scale, it was argued that the "gender division of space" assigns interiors to women and exteriors to men, and that this assumes a moral status, becoming normative and self-reinforcing (Hayford, 1974; Loyd, 1975).¹² On the scale of the city as a whole, the home and residential neighborhood were seen to separate women from appropriation of urban space (Enjeu and Save, 1974; Hayford, 1974).

Similar themes have characterized work on women and the environment in other disciplines. A growing number of writers, for example, suggest that changes in women's roles render the current form of urban environment increasingly inappropriate or obsolete. They suggest that "Male domination and assumptions in environmental planning and design ... has (sic) led to the creation of many environments that discriminate against women and a design process that gives little recognition to the changing needs of women" (Wekerle, Peterson and Morley, 1980, 1) and "... there is agreement that the special needs of the 'new woman' have not been taken into account adequately by contemporary planners" (Haar, 1981, vii-viii).

Both the geographic literature and work in other disciplines have thus provided growing empirical evidence of the importance of understanding women's environmental constraints as one set of forces contributing to women's restricted social position. But all of this work has been limited by attempts to understand women's position within the "given" frameworks of the environmental disciplines. It all suffers, to some extent, from the aim defined by one geographer. "... the struggle to identify a distinct geographic perspective on women" (Loyd, 1978, 30).

¹¹ Similar work by non-geographers includes Gordon et al. (1980), Lopata (1980), Popenoe (1980), Saegert and Winkler (1980).

¹² In non-geographic literature see, for example, Berk (1980), Hayden (1980), Rock et al. (1980).

The attempt to prove that women suffer specific spatial constraints relative to men led to the definition of women as a “deviant” subgroup and, at least initially, precluded the recognition of the possible existence of a “distinctive women’s institutional metaphor[”] (Wekerle et al., 1980, 26). Women, by and large, were presented as “victims” of environmental constraints, not as actual or potential creators of environments.

This work has also implicitly elevated spatial restrictions to causal status, and failed to explicitly examine the social parameters of these restricted spaces, tending toward an implicit theorizing of “spatial oppression,” a “naturalization” of women’s roles as environmentally determined. In the process, the environment has been implicitly elevated to the status of villain. It is implied that the problem lies in the fact that women’s roles have changed, but the environment has not. In effect, this is an analysis in which two opposing structures – “women’s social position” and “urban environments” – face one another in a relation of hostile but untheorized opposition.

There are two fundamental problems stemming from this approach. First, the policy implications of this work can only be directed at facilitating women’s use of their restricted space. By neglecting direct examination of the question of the relation between the development of environment and women’s social roles, this literature can only ask how to overcome spatial dysfunctions in the efficient performance of women’s roles in capitalist society. The reforms recommended to eliminate restrictions on women’s spatial movement may in fact then serve to reinforce the oppressive aspects of the “new” role. Second, the attempt to fit questions about women into given spatial frameworks limits the ability of this work to contribute to the development of theory within the environmental disciplines as a whole. In the emergence of any new “area” in a discipline, there is invariably an attempt to ‘prove’ its empirical validity in terms defined by that discipline. But a continued concentration on empirical verification of women’s differences and problems will confine this work to the carving out of “women’s enclaves” within disciplines. Not only has this work been hampered by the lack of theoretical concepts for connecting ‘women’ and ‘environment,’ it may potentially be restricting its ability to produce these.

A growing number of writers are arguing for a reversal of the approach outlined above. Rather than attempting to fit questions about women into spatial frameworks, or into given environments, it is necessary to begin with an analysis of the social relations structuring women’s social position. It is essential to break down the ahistorical category ‘woman’ and ask what social relations define the specificity of women’s position in capitalist society. These relations will form the conceptual tools with which we can approach urban and regional development and begin to understand the relations between gender and environmental reproduction and change.

As noted above, socialist feminist analysis, in its focus on the interrelation between the activities of production and reproduction, provides a basis for approaching this question, one which is apparent in many of the papers in this issue. This and other

work make it evident that feminist research in geography has moved from an initial position of rediscovering and spatially locating an “invisible” female half of human in human-environmental relations to broader conceptual questions. But the integration of this new focus into the discussions of the discipline as a whole and specifically into non-feminist socialist discussions raises a number of issues. The following comments outline some of the parameters of this discourse [...].

Feminist Geography Is Not ‘Just’ Empirical: Some Implications for Historical Materialism

The implications of this emerging socialist feminist perspective for the discipline as a whole are only now becoming evident. [...].

It is evident that a socialist feminist perspective in common with “humanist Marxism” and critical theory precludes a “one-dimensional Marxism” which emphasizes relations of production to the exclusion of relations of reproduction.¹³ Just as socialist feminists as a whole have utilized a framework focusing on the interrelation of production and reproduction in structuring gender relations so, as noted above, much of the literature on women and environments has seen the relations between ‘private’ – largely reproductive – spaces and ‘public’ urban life as the basis of the relation between gender and environment. A large part of women’s historical and contemporary invisibility in discussions of human-environmental relations can be attributed to their assumed relegation to the ‘private’ sphere of the home, in which they carry on ‘natural’ and unwaged activities – reproducing labor power for a “separate” and external ‘economy.’ [...] [N]either this separation, nor this relegation, is historically consistent or ‘natural,’ nor can its reproduction and reinforcement be justified in historical materialist views of the environment.

A recent discussion of “new space for women” by Wekerle, Peterson and Morley (1980, 8-9) argues that

the separation of the home environment from public life and the denial of the economic contribution of domestic work are still the primary societal factors that lie behind women’s problems in relation to the home. Women’s traditional association with the home has been a major stumbling block in their access to the wider opportunities of the city. As a result, modern industrial cities are segregated into men’s and women’s spaces: women are viewed as “belonging” in the private domestic sphere of the home and neighbourhood, men are dominant in the public sphere

¹³ For discussions of critical theory, see Fay (1975) and Sayer (1982). On one-dimensional Marxism, see Lebowitz (1983).

of the market workplace, public institutions and political influence. This sexually segregated, public-private dichotomy is fundamental to modern capitalist societies and is reinforced by urban planning and design decisions.

Wekerle [1984] expands this argument, outlining some of the major constraints on women produced by the spatial separation of the contemporary city, noting how “solutions” to these problems necessitate an integrated approach to urban space.

[...]

[Current studies¹⁴] contribute to the development of a feminism which is cognizant of the importance of environment in reflecting reproducing and altering gender relations. They also reflect a geography which is cognizant of gender relations as an integral part of environmental creation, reproduction and change. Given the rapidity of changes in women’s lives which [current studies] document, and the protean and vigorous feminism which inspires them, one can neither expect, nor would one desire, quiescent and conclusive statements. But one can expect, and predict, a growing convergence between the empirical and conceptual concerns expressed here and those expressed within the historical materialist “mainstream.”

[...]

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¹⁴ Editors’s note: See papers published in a special issue of *Antipode* (vol. 16, no. 3, 1984), which this essay introduced.

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A Woman's Place?

Linda McDowell and Doreen Massey

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The nineteenth century saw the expansion of capitalist relations of production in Britain. It was a geographically uneven and differentiated process, and the resulting economic differences between regions are well known: the rise of the coalfields, of the textile areas, the dramatic social and economic changes in the organization of agriculture, and so forth. Each was both a reflection of and a basis for the period of dominance which the UK [United Kingdom] economy enjoyed within the nineteenth-century international division of labour. In this wider spatial division of labour, in other words, different regions of Britain played different roles, and their economic and employment structures in consequence also developed along different paths.

But the spread of capitalist relations of production was also accompanied by other changes. In particular it disrupted the existing relations between women and men. The old patriarchal form of domestic production was torn apart, the established pattern of relations between the sexes was thrown into question. This, too, was a process which varied in its extent and in its nature between parts of the country, and one of the crucial influences on this variation was the nature of the emerging economic structures. In each of these different areas 'capitalism' and 'patriarchy' were articulated together, accommodated themselves to each other, in different ways.

It is this process that we wish to examine here. Schematically, what we are arguing is that the contrasting forms of economic development in different parts of the country presented distinct conditions for the maintenance of male dominance.

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Extremely schematically, capitalism presented patriarchy with different challenges in different parts of the country. The question was in what ways the terms of male dominance would be reformulated within these changed conditions. Further, this process of accommodation between capitalism and patriarchy produced a different synthesis of the two in different places. It was a synthesis which was clearly visible in the nature of gender relations, and in the lives of women.

This issue of the synthesis of aspects of society within different places is what we examine in the following four subsections of this chapter. What we are interested in, in other words, is one complex in that whole constellation of factors which go to make up the uniqueness of place.

We have chosen four areas to look at. They are places where not only different "industries," in the sectoral sense, but also different social forms of production dominated: coal mining in the north-east of England, the factory work of the cotton towns, the sweated labour of inner London, and the agricultural gang-work of the Fens. In one [essay] we cannot do justice to the complexity of the syntheses which were established in these very different areas. All we attempt is to illustrate our argument by highlighting the most significant lines of contrast.

Since the construction of that nineteenth-century mosaic of differences all these regions have undergone further changes. In the second group of sections we leap ahead to the last decades of the twentieth century and ask "where are they now?" What is clear is that, in spite of all the major national changes which might have been expected to iron out the contrasts, the areas, in terms of gender relations and the lives of women, are still distinct. But they are distinct in different ways now. Each is still unique, though each has changed. In this later section we focus on two threads in this reproduction and transformation of uniqueness. First, there have been different changes in the economic structure of the areas. They have been incorporated in different ways into the new, wider spatial division of labour, indeed the new international division of labour. The national processes of change in the UK economy, in other words, have not operated in the same way in each of the areas. The new layers of economic activity, or inactivity, which have been superimposed on the old are, just as was the old, different in different places. Second, however, the impact of the more recent changes has itself been moulded by the different existing conditions, the accumulated inheritance of the past, to produce distinct resulting combinations. "The local" has had its impact on the operation of "the national."

The Nineteenth Century

Coal is Our Life: Whose Life?

Danger and drudgery; male solidarity and female oppression – this sums up life in the colliery villages of Co. [County] Durham during much of the nineteenth century. Here the separation of men and women's lives was virtually total: men were the breadwinners, women the domestic labourers, though hardly the “angels of the house” that featured so large in the middle class Victorian's idealization of women. The coal mining areas of Durham provide a clear example of how changes in the economic organization of Victorian England interacted with a particular view of women's place to produce a rigidly hierarchical and patriarchal society. These villages were dominated by the pits and by the mine owners. Virtually all the men earned their livelihood in the mines and the mines were an almost exclusively male preserve, once women's labour was forbidden from the middle of the century. Men were the industrial proletariat selling their labour power to a monopoly employer, who also owned the home. Mining was a dirty, dangerous and hazardous job. Daily, men risked their lives in appalling conditions. The shared risks contributed to a particular form of male solidarity, and the endowment of their manual labour itself with the attributes of masculinity and virility. The shared dangers at work led to shared interests between men outside work: a shared pit language, shared clubs and pubs, a shared interest in rugby. Women's banishment from the male world of work was thus compounded by their exclusion from the local political and social life.

Jobs for women in these areas were few. Domestic service for the younger girls; for married women poorly paid and haphazard work such as laundry, decorating or child care. But most of the families were in the same position: there was little cash to spare for this type of service in families often depending on a single source of male wages. For miners' wives almost without exception, and for many of their daughters, unpaid work in the home was the only and time-consuming option. And here the unequal economic and social relationships between men and women imposed by the social organization of mining increased the subordinate position of women. A miner's work resulted in enormous domestic burdens for his wife and family. Underground work was filthy and this was long before the installation of pithead showers and protective clothing. Working clothes had to be boiled in coppers over the fire which had to heat all the hot water for washing clothes, people and floors. Shift work for the men increased women's domestic work: clothes had to be washed, backs scrubbed and hot meals prepared at all times of the day and night:

“I go to bed only on Saturday nights,” said a miner's wife; “my husband and our three sons are all in different shifts, and one or other of them is leaving or entering the house and requiring a meal every three hours of the twenty four” (Webb, 1921, 71-2).

An extreme example, perhaps, but not exceptional.

These Durham miners, themselves oppressed at work, were often tyrants in their own home, dominating their wives in an often oppressive and bullying fashion. They seem to have “reacted to (their own) exploitation by fighting not as a class against capitalism, but as a gender group against women – or rather within a framework of sex solidarity against a specific woman chosen and caged for this express purpose” (Frankenberg, 1976, 40). Men were the masters at home. Here is a Durham man, who himself went down the pits in the 1920s, describing his father:

He was a selfish man. If there was three scones he'd want the biggest one. He'd sit at the table with his knife and fork on the table before the meal was even prepared ... Nobody would get the newspaper till he had read it (Strong Words Collective, 1977, 11-2).

Thus gender relations took a particular form in these colliery villages. National ideologies and local conditions worked together to produce a unique set of patriarchal relations based on the extreme separation of men's and women's lives. Masculine supremacy, male predominance in every area of economic and social life became an established, and almost unchallenged, fact. Patriarchal power in this part of the country remained hardly disturbed until the middle of the next century.

Cotton Towns: The Home Turned Upside Down?

The images of homemaker and breadwinner are of course national ones, common to the whole of capitalist Britain, and not just to coalfield areas. But they were more extreme in these regions, and they took a particular form; there were differences between the coalfields and others parts of the country.

The cotton towns of the north-west of England are probably the best-known example from, as it were, the other end of the spectrum, and a major element in this has been the long history of paid labour outside the home for women. It is often forgotten to what extent women were the first labour-force of factory-based, industrial capitalism. “In this sense, modern industry was a direct challenge to the traditional sexual division of labour in social production” (Alexander, 1982, 41). And it was in the cotton industry around Manchester that the challenge was first laid down.

Maintaining patriarchal relations in such a situation was (and has been) a different and in many ways a more difficult job than in Durham. The challenge was nonetheless taken up. Indeed spinning, which had in the domestic organization of the textile industry been done by women, was taken over by men. Work on the mule came to be classified as “heavy,” as, consequently, to be done by men, and (also consequently) as skilled (Hall, 1982). The maintenance of male prerogative in the face of threats from women's employment, was conscious and was organized:

The mule spinners did not leave their dominance to chance ... At their meeting in the Isle of Man in 1829 the spinners stipulated “that no person be learned or allowed to spin except the son, brother, or orphan nephew of spinners.” Those women spinners who had managed to maintain their position were advised to form their own union. From then on the entry to the trade was very tightly controlled and the days of the female spinners were indeed numbered (Hall, 1982, 22).

But if men won in spinning, they lost (in those terms) in weaving. The introduction of the power loom was crucial. With it, the factory system took over from the handloom weavers, and in the factories it was mainly women and children who were employed. This did present a real challenge: “The men who had been at the heads of productive households were unemployed or deriving a pittance from their work whilst their wives and children were driven out to the factories” (Hall, 1982, 24). Nor was “the problem” confined to weavers. For the fact that in some towns a significant number of married women went out to work weaving meant that further jobs were created for other women, doing for money aspects of domestic labour (washing and sewing, for example) that would otherwise have been done for nothing by the women weavers. Further, the shortage of employment for men, and low wages, provided another incentive for women to earn a wage for themselves (Anderson, 1971).

The situation caused moral outrage among the Victorian middle classes and presented serious competition to working-class men. There was “what has been described as ‘coincidence of interests’ between philanthropists, the state – representing the collective interests of capital – and the male working class who were represented by the trade union movement and Chartism – which cooperated to reduce female and child labour and to limit the length of the working day” (Hall, 1982, 25). In the same way, it was at [the] national level that arguments about “the family wage” came to be developed and refined as a further means of subordinating women’s paid labour (for pin money) to that of men’s (to support a family). The transformation from domestic to factory production, a transformation which took place first in the cotton towns,

provoked, as can be seen, a period of transition and re-accommodation in the sexual division of labour. The break-up of the family economy, with the threat this could present to the male head of household, who was already faced with a loss of control over his own labour, demanded a re-assertion of male authority (Hall, 1982, 27).

Yet in spite of that reassertion, the distinctiveness of the cotton areas continued. There were more women in paid work, and particularly in relatively skilled paid work, in the textile industry and in this part of the country, than elsewhere:

In many cases the family is not wholly dissolved by the employment of the wife, but turned upside down. The wife supports the family, the husband sits at home, tends the children, sweeps the room and cooks.

This case happens very frequently: in Manchester alone, many hundred such men could be cited, condemned to domestic occupations. It is easy to imagine the wrath aroused among the working-men by this reversal of all relations within the family, while the other social conditions remain unchanged (Engels, 1969/1887, 173).

This tradition of waged-labour for Lancashire women, more developed than in other parts of the country, has lasted. Of the early twentieth century, Liddington [1979, 98-9] writes "Why did so many Lancashire women go out to work? By the turn of the century economic factors had become further reinforced by three generations of social conventions. It became almost unthinkable for women *not* to work" [...].

And this tradition in its turn had wider effects. Lancashire women joined trade unions on a scale unknown elsewhere in the country: "union membership was accepted as part of normal female behaviour in the cotton towns" (Liddington, 1979, 99). In the nineteenth century the independent mill-girls were renowned for their cheekiness; of the women of the turn-of-the-century cotton towns, Liddington [1979, 99] writes: [...] "Lancashire women, trade unionists on a massive scale unmatched elsewhere, were organized, independent and proud". And it was from this base of organized working women that arose the local suffrage campaign of the early twentieth century. "Lancashire must occupy a special place in the minds of feminist historians. The radical suffragists sprang from an industrial culture which enabled them to organize a widespread political campaign for working women like themselves" ([Liddington, 1979,] 98).

The radical suffragists mixed working-class and feminist politics in a way which challenged both middle-class suffragettes and working-class men. In the end, though, it was precisely their uniqueness which left them isolated – their uniqueness as radical trade unionists *and* women, and, ironically, their highly regionalized base:

The radical suffragists failed in the end to achieve the political impact they sought. The reforms for which they campaigned – of which the most important was the parliamentary vote – demanded the backing of the national legislature at Westminster. Thousands of working women in the Lancashire cotton towns supported their campaign, and cotton workers represented five out of six of all women trade union members. No other group of women workers could match their level of organization, their (relatively) high wages and the confidence they had in their own status as skilled workers. Their strength, however, was regional rather than national, and when they tried to apply their tactics to working-class women elsewhere or to the national political arena, they met with little success. Ultimately the radical suffragists' localised strength proved to be a long-term weakness (Liddington, 1979, 110).

The Rag-Trade in Hackney: A Suitable Job for a Woman?

But there were other industries in other parts of the country where women were equally involved in paid labour, where conditions were as bad as in the cotton mills, yet where at this period not a murmur was raised against their employment. One such area was Hackney, dominated by industries where sweated labour was the main form of labour-organization.

What was different about this form of wage relation for women from men's point of view? What was so threatening about women working? Hall (1982) enumerates a number of threads to the threat. The first was that labour was now *waged* labour. Women with a wage of their own had a degree of potentially unsettling financial independence. But Lancashire textiles and the London sweated trades had this in common. The thing that distinguished them was the spatial separation of home and workplace. The dominant form of organization of the labour-process in the London sweated trades was homeworking. The waged-labour was carried out in the home; in Lancashire, birthplace of the factory-system, waged-labour by now meant leaving the house and going to the mill. It wasn't so much "work" as "going out to" work which was the threat to the patriarchal order. And this in two ways: it threatened the ability of women adequately to perform their domestic role as homemaker for men and children, and it gave them an entry into public life, mixed company, a life not defined by family and husband.

It was, then, a change in the social *and the spatial* organization of work which was crucial. And that change mattered to women as well as men. Lancashire women did get out of the home. The effects of homeworking *are* different: the worker remains confined to the privatized space of the home, and individualized, isolated from other workers. Unionization of women in cotton textiles has always been far higher than amongst the homeworking women in London.

Nor was this all. For the *nature* of the job also mattered in terms of its potential impact on gender relations:

Only those sorts of work that coincided with a woman's natural sphere were to be encouraged. Such discrimination had little to do with the danger or unpleasantness of the work concerned. There was not much to choose for example – if our criterion is risk to life or health – between work in the mines, and work in the London dressmaking trades. But no one suggested that sweated needlework should be prohibited to women (Alexander, 1982, 33).

Thinking back to the contrast between the coalfields and the cotton towns and the relationship in each between economic structure and gender relations and roles, it is clear that the difference between the two areas was not simply based on the

presence/absence of waged labour. We have, indeed, already suggested other elements, such as the whole ideology of virility attached to mining. But it has also to do with the *kind* of work for women in Lancashire: that it was factory work, with machines, and outside the home. In the sweated trades of nineteenth-century London, capitalism and patriarchy together produced less immediate threat to men's domination.

There were other ways, too, in which capitalism and patriarchy interrelated in the inner London of that time to produce a specific outcome. The sweated trades in which the women worked, and in particular clothing, were located in the inner areas of the metropolis for a whole variety of reasons, among them the classic one of quick access to fast-changing markets. But they also needed labour, and they needed cheap labour. Homeworking, besides being less of an affront to patriarchal relations, was one means by which costs were kept down. But costs (wages) were also kept down by the very availability of labour. In part this was a result of immigration and the vulnerable position of immigrants in the labour market. But it was also related to the predominantly low-paid and irregular nature of jobs for men (Harrison, 1983, 42). Women in Hackney *needed* to work for a wage. And this particular Hackney articulation of patriarchal influences and other "location factors" worked well enough for the clothing industry.

But even given that in Hackney the social organization and nature of women's work was less threatening to men than in the cotton towns, there were still defensive battles to be fought. The labour-force of newly arrived immigrants also included men. Clearly, were the two sexes to do the same jobs, or be accorded the same status, or the same pay, this would be disruptive of male dominance. The story of the emergence of a sexual division of labour within the clothing industry was intimately bound up with the maintenance of dominance by males in the immigrant community. They did not use the confused and contradictory criteria of "skill" and "heavy work" employed so successfully in Lancashire. In clothing *any* differentiation would do. Phillips and Taylor (1980) have told the story, of the establishment of the sexual division of labour in production, based on the minutest of differences of job, changes in those differences over time, and the use of them in whatever form they took to establish the men's job as skilled and the women's as less so.

Rural Life and Labour

Our final example is drawn from the Fenlands of East Anglia, where the division of labour and gender relations took a different form again. In the rural villages and hamlets of nineteenth-century East Anglia, as in the Lancashire cotton towns, many women "went out to work." But here there was no coal industry, no factory production of textiles, no sweated labour in the rag trade. Economic life was still overwhelmingly dominated by agriculture. And in this part of the country farms were

large, and the bulk of the population was landless, an agricultural proletariat. The black soils demanded lots of labour in dyking, ditching, claying, stone-picking and weeding to bring them under the “New Husbandry,” the nineteenth-century extension of arable land (Samuel, 1975, 12 and 18). Women were an integral part of this agricultural workforce, doing heavy work of all sorts on the land, and provoking much the same moral outrage as did the employment of women in mills in Lancashire:

... the poor wage which most labourers could earn forced their wives to sell their labour too, and continue working in the fields. In Victorian eyes, this was anathema for it gave women an independence and freedom unbecoming to their sex. “That which seems most to lower the moral or decent tone of the peasant girls,” wrote Dr. Henry Hunter in his report to the Privy Council in 1864, “is the sensation of independence of society which they acquire when they have remunerative labour in their hands, either in the fields or at home as straw-plaiters etc. All gregarious employment gives a slang character to the girls’ appearance and habits, while dependence on the man for support is the spring of modest and pleasing deportment.” The first report of the Commissioners on The Employment of Children, Young Persons and Women in Agriculture in 1867, put it more strongly, for not only did landwork “almost unsex a woman,” but it “generates a further very pregnant social mischief by unfitting or indisposing her for a woman’s proper duties at home” (Chamberlain, 1975, 17).

The social and spatial structure of the rural communities of this area also influenced the availability and the nature of work. Apart from work on the land, there were few opportunities for women to earn a wage. Even if they did not leave the village permanently, it was often necessary to travel long distances, frequently in groups, with even more serious repercussions in the eyes of the Victorian establishment:

The worst form of girl labour, from the point of view of bourgeois respectability, was the “gang” system, which provoked a special commission of inquiry, and a great deal of outraged commentary, in the 1860s. It was most firmly established in the Fen districts of East Anglia and in the East Midlands. The farms in these parts tended to be large but the labouring population was scattered ... The labour to work the land then had to be brought from afar, often in the form of travelling gangs, who went from farm to farm to perform specific tasks (Kitteringham, 1975, 98).

There are here some familiar echoes from Lancashire. And yet things were different in the Fens. In spite of all the potential threats to morality, domesticity, femininity and general female subordination, “going out to work” on the land for women in the Fens, even going off in gangs for spells away from the village, does not seem to have resulted in the kinds of social changes, and the real disruption to established ways, that

occurred in Lancashire. In this area, women's waged-labour did not seem to present a threat to male supremacy within the home. Part of the explanation lies in the different nature of the work for women. This farm labour was often seasonal. The social and spatial organization of farmwork was quite different from that of factory work, and always insecure. Each gang negotiated wage rates independently with the large landowners, the women were not unionized, did not work in factories, were not an industrial proletariat in the same sense as the female mill workers in the cotton towns. Part of the explanation too, as in the colliery villages, lies in the organization of male work. Men, too, were predominantly agricultural labourers, though employed on an annual rather than a seasonal basis, and like mining, agricultural work was heavy and dirty, imposing a similar domestic burden on rural women.

A further influence was the life of the rural village, which was overwhelmingly conservative – socially, sexually and politically. Women on the land in this area did not become radicalized like women in the cotton towns. Relations between the sexes continued unchanged. Women served their menfolk, and both men and women served the local landowner; nobody rocked the boat politically:

When the Coatesworths ruled the village to vote Tory was to get and keep a job. The Liberals were the party of the unemployed and the undeserving ... Concern over politics was not confined to men. The women took an interest, too. They had to. Their man's political choice crucially affected his employment, and their lives (Chamberlain, 1975, 130).

Where Are They Now?

What is life like in these areas now? Have the traditional attitudes about women's place in the home in the heavy industrial areas survived post-war changes? Have Lancashire women managed to retain the independence that so worried the Victorian middle class? In this century there have been enormous changes in many areas of economic and social life. The communications revolution has linked all parts of the country together, TV, radio, video and a national press have reduced regional isolation and increased the ease with which new ideas and attitudes spread. Changes in social mores, in the role of the family, in the labour process of domestic work, increased divorce rates and a rapid rise in women's participation in waged-labour between the Second World War and the end of the seventies have all had an impact. And yet, we shall argue here, regional differences remain.

There are, as we said in the introduction, two threads which we shall follow in this process of the reproduction of local uniqueness. The first concerns the geographically differentiated operation of national processes. Over 40% of the national paid labour-force in the UK now consists of women: a vast majority of them married.

One of the consequences of this growth of jobs “for women” has paradoxically been both an increase and a reduction in regional differences. The gender division of labour is changing in different ways in different areas, in part in response to previous patterns. Regional disparities in the proportion of women at work are closing, but the corollary of this, of course, is that the highest proportions of new and expanding jobs are in those very regions where previously few women have been involved in waged-labour. The four regions are being drawn in different ways into a new national structure of employment and unemployment. We cannot here attempt to explain this new spatial pattern. One thing we do hint at, though, is that the form of gender relations themselves, and the previous economic and social history of women in each of these places, may be one, though only one, thread in that explanation.

The areas, then, have experienced different types of change in their economic structure. In many ways the growth of jobs for women has been of greater significance in the north-east and in East Anglia than in the cotton towns or in Hackney. But that is not the end of the story. For those changes have themselves been combined with existing local conditions and this has influenced their operation and their effect. The impact of an increase in jobs for women has not been the same in the Fens as it has been in the coalfields of the north-east. This, then, is the second thread in our discussion of the reproduction of local uniqueness.

In the rest of this [essay] we try to show the links between past and present patterns, how changing attitudes to women and men’s roles at work and in the family in different parts of the country (themselves related to previous economic roles) both influence and are influenced by national changes in the nature and organization of paid employment over time. The present gender division of labour in particular places is the outcome of the combination over time of successive phases. Space and location still matter. The structure of relationships between men and women varies between, and within, regions. Life in inner London is still not the same as in the Fenlands, in the coalfields of the north-east, as in the textile towns round Manchester. The current division of labour between women and men is different, paid employment is differently structured and organized, and even its spatial form varies between one part of the country and another.

Coal was Our Life?

The decline of work in the pits is a well-known aspect of post-war economic changes in Britain. How have the men and women of the north-east reacted to this decline in their traditional livelihood? Have the changes challenged or strengthened the traditional machismo of the north-eastern male? What is happening in the north-east today in many ways recalls some of the images – and the social alarm – generated by the cotton towns a hundred years earlier. It is now in the north-east that homes are being “turned upside down” and patriarchy threatened by women going out to work. At the beginning of the 1960s, still something less than a quarter of all adult women in the old colliery areas worked outside their homes for wages. The figure has more than

doubled since then. And part of the explanation lies in the local distinctiveness, the uniqueness of these areas that has its origins in the nineteenth century. The women of this area have no tradition of waged-labour, no union experience. It was, of course, these very features that proved attractive to the female-employing industries that opened branch plants in increasing numbers in Co. Durham in the sixties and seventies.

The new jobs that came to the north-east, then, were mainly for women. They were located on trading estates and in the region's two New Towns built to attract industrial investment and also to improve housing conditions. The women who moved into the New Towns of Peterlee and Washington provided a cheap, flexible, untrained and trapped pool of labour for incoming firms. And added to this, the loss of jobs for men together with the rent rises entailed by a move to new housing pushed women into the labour market.

Male antagonism to the new gender division of labour was almost universal. Outrage at women "taking men's jobs," pleas for "proper jobs," an assumption that the packing, processing and assembly line work that loomed ever larger in the economic structure of the area was an affront to masculine dignity: "I think a lot of men feel that assembly work wouldn't be acceptable; they'd be a bit proud about doing that type of work in this area. North East ideas are ingrained in the men in this area" (Lewis, 1983, 19). These assumptions appear to be shared by the new employers: "we are predominantly female labour orientated ... the work is more suited to women, it's very boring, I suppose we're old-fashioned and still consider it as women's work ... the men aren't interested".

This lack of interest plays right into the hands of the employers: once defined as "women's work," the jobs are then classified as semi- or unskilled and hence low paid. An advantage that can be further exploited, as this factory director explains:

"we changed from full-time to part-time women(!) ... especially on the packing ... because two part-timers are cheaper than one full-timer ... we don't have to pay national insurance if they earn less than £27.00 a week, and the women don't have to pay the stamp ... the hours we offer suit their social lives" (Lewis, forthcoming).

So if men aren't doing jobs outside the house, what are they doing instead? Are men here, like their Lancashire forebears "condemned to domestic occupations?" Unlikely. An ex-miner's wife speaking on *Woman's Hour* in 1983 recalled that her husband would only reluctantly help in the home, pegging out the washing, for example, under cover of darkness!

Things *are* changing, though. Men are seen pushing prams in Peterlee, Newcastle-upon-Tyne Council has a women's committee, TV crews come to inquire into the progress of the domestication of the unemployed north-eastern male and the

social and psychological problems it is presumed to bring with it. Working-class culture is still dominated by the club and the pub but even their male exclusivity is now threatened. The 1984 miners' strike seems set to transform gender relations even further. New battle lines between the sexes are being drawn. The old traditional pattern of relations between the sexes, which was an important condition for the new gender division being forged in the labour market, is now under attack.

Industry in the Country?

How has life changed in the Fens? In some ways, continuity rather than change is the link between the past and present here. For many women, especially the older ones, work on the land is still their main source of employment:

hard work, in uncompromising weather, in rough old working clothes padded out with newspaper against the wind ... Marriage for convenience or marriage to conform ... Land-worker, home servicer. Poverty and exploitation – of men and women by the landowners, of women by their men (Chamberlain, 1975, 11).

Not much different from their grandmothers and great-grandmothers before them. Gangs are still a common feature and the nature of fieldwork has hardly changed either. Flowers are weeded and picked by hand. Celery and beet are sown and picked manually too. And this type of work is considered “women’s work.” It is poorly paid, seasonal and backbreaking. Male fieldworkers, on the other hand, have the status of “labourers,” relative permanence and the benefits associated with full-time employment. And they are the ones who have machinery to assist them.



Women harvesting in nineteenth-century Norfolk (reproduced [and reprinted here] by kind permission the [Norfolk County Council and Information Centre].

Life *has* changed though. Small towns and rural areas such as the Fens have been favoured locations for the new branch plants and decentralizing industries of the sixties and seventies. Labour is cheap here – particularly with so few alternatives available – and relatively unorganized. Especially for younger women, the influx of new jobs has opened up the range of employment opportunities. It provides a means, still, both of supplementing low male wages, and of meeting people – of getting out of the small world of the village.

The impact of such jobs on women's lives, though, even the possibility of taking them, has been structured by local conditions, including gender relations. This is still a very rural area. The new jobs are in the nearby town. So unless factories provide their own transport (which a number do), access is a major problem. Public transport is extremely limited, and becoming more so. There are buses – but only once a week to most places. Not all families have a car, and very few women have daily use of one, let alone own "their own" car. For many women, a bicycle is the only means of getting about. This in turn has wider effects. For those who do make the journey to a factory job the effective working day (including travel time) can be very long.



A landworker at Gislea Fen, 1974 (photograph by Angela Phillips, and reproduced [and reprinted here] with her kind permission).

The time for domestic labour is squeezed, the work process consequently intensified. Those who remain in the village become increasingly isolated. The industrial workers,

be they husbands or women friends, are absent for long hours, and services – shops, doctors, libraries – gradually have been withdrawn from villages.

It seems that the expansion of industrial jobs “for women” has had relatively little impact on social relations in the rural Fens. In part, this is to do with the local conditions into which the jobs were introduced: the impact back of local factors on national changes. The Fenland villages today are still Conservative – politically and socially. Divorce, left-wing politics, women’s independence are very much the exception.

Old cultural forms, transmitted, have remained remarkably intact:

Although love potions and true-lovers’ knots made of straw have disappeared, Lent and May weddings are still considered unlucky. The Churching of Women – an ancient post-natal cleansing ceremony – is still carried on, and pre-marital intercourse and the resulting pregnancy is as much a hangover from an older utilitarian approach to marriage as a result of the permissive society. In a farming community sons are important and there would be little point in marrying an infertile woman (Chamberlain, 1975, 71).

Attitudes to domestic responsibilities also remain traditional:

No women go out to work while the children are small – tho’ there isn’t much work anyway, and no facilities for childcare. Few women allow their children to play in the streets, or let them be seen in less than immaculate dress. Many men come home to lunch and expect a hot meal waiting for them ([Chamberlain, 1975,] 71).

It takes more than the availability of a few jobs, it seems, substantially to alter the pattern of life for women in this area:

Although employment is no longer dependent on a correct political line, the village is still rigidly hierarchic in its attitudes, and follows the pattern of the constituency in voting solidly Conservative. And in a rigidly hierarchical society, when the masters are also the men, most women see little point in taking an interest in politics, or voting against the established order of their homes or the community as a whole ... Most women must of necessity stick to the life they know. Their husbands are still the all-provider. The masters of their lives (Chamberlain, 1975, 130-1).

Gender relations in East Anglia apparently have hardly been affected by the new jobs, let alone “turned upside down.”

A Regional Problem for Women?

The contrast with the cotton towns of Lancashire is striking. Here, where employment for women in the major industry had been declining for decades, was a major source of female labour, already skilled, already accustomed to factory work, plainly as dexterous as elsewhere. And yet the new industries of the sixties and seventies, seeking out female labour, did not come here, or not to the extent that they went to other places.

The reasons are complex, but they are bound up once again with the intricate relationship between capitalist and patriarchal structures. For one thing, here there was no regional policy assistance. There has, for much of this century, been massive decline in employment in the cotton industry in Lancashire. Declines comparable to those in coalmining, for instance, and in areas dominated by it. Yet the cotton towns were never awarded Development Area status. To the extent that associated areas were not designated on the basis of unemployment rates, the explanation lies at the level of taxes and benefits which define women as dependent. There is often less point in signing on. A loss of jobs does not necessarily show up, therefore, in a corresponding increase in regional unemployment. Development Areas, however, were *not* designated simply on the basis of unemployment rates. They were wider concepts, and wider regions, designated on the basis of a more general economic decline and need for regeneration. To that extent the non-designation of the cotton towns was due in part to a more general political blindness to questions of women's employment.

So the lack of regional policy, incentives must have been, relatively, a deterrent to those industries scanning the country for new locations. But it cannot have been the whole explanation. New industries moved to other non-assisted areas—East Anglia, for instance. Many factors were in play, but one of them surely was that the women of the cotton towns were not, either individually or collectively in their history, 'green labour'. The long tradition of women working in factory jobs, and their relative financial independence, has continued. In spite of the decline of cotton textiles the region still has a high female activity rate. And with this there continued, in modified form, some of those other characteristics. Kate Purcell, doing research in the Stockport of the 1970s, found that:

It is clear that traditions of female employment and current rates of economic activity affect not only women's activity per se, but also their attitudes to, and experience of, employment. The married women I interviewed in Stockport, where female activity rates are 45 per cent and have always been high, define their work as normal and necessary, whereas those women interviewed in the course of a similar exercise in Hull, where the widespread employment of married women is more recent and male unemployment rates are higher, frequently made references to the fortuitous nature of their work (Purcell, 1979, 119).

As has so often been noted in the case of male workers, confidence and independence are not attributes likely to attract new investment. It may well be that here there is a case where the same reasoning has applied to women.

But whatever the precise structure of explanation, the women of the cotton towns are now facing very different changes from those being faced by the women of the coalfields. Here they are not gaining a new independence from men; to some extent in places it may even be decreasing. Women's unemployment is not seen to 'disrupt' family life, or cause TV programmes to be made about challenges to gender relations, for women do the domestic work anyway. Having lost one of their jobs, they carry on (unpaid) with the other.

Hackney: Still Putting Out

What has happened in Hackney is an intensification of the old patterns of exploitation and subordination rather than the superimposition of new patterns. Here manufacturing jobs have declined, but the rag trade remains a major employer. The women of Hackney possess, apparently, some of the same advantages to capital as do those of the coalfields and the Fens: they are cheap and unorganized (less than 10% are in a union – Harrison, 1983, 69-70). In Inner London, moreover, the spatial organization of the labour-force, the lack of separation of home and work, strengthens the advantages: overheads (light, heat, maintenance of machinery) are borne by the workers themselves; workers are not eligible for social security benefits; their spatial separation one from another makes it virtually impossible for them to combine to force up wage rates, and so on.

So given the clear advantages to capital of such a vulnerable potential workforce, why has there been no influx of branch plants of multinationals, of electronics assembly-lines and suchlike? Recent decades have of course seen the growth of new types of jobs for women, particularly in the service sector, if not within Hackney itself then within travelling distance (for some), in the centre of London. But, at the moment, for big manufacturing capital and for the clerical – mass production operations which in the sixties and seventies established themselves in the Development Areas and more rural regions of the country, this vulnerable labour of the capital city holds out few advantages. Even the larger clothing firms (with longer production runs, a factory labour process, locational flexibility and the capital to establish new plant) have set up their new branch plants elsewhere, either in the peripheral regions of Britain or in the Third World. So why not in Hackney? In part the women of Hackney have been left behind in the wake of the more general decentralization, the desertion by manufacturing industry of the conurbations of the First World. In part they are the victims of the changing international division of labour within the clothing industry itself. But in part, too, the reasons lie in the nature of the available labour. Homeworking does have advantages for capital, but this way of making female labour cheap is no use for electronics assembly-lines or for other kinds

of less individualized production. The usefulness of this way of making labour vulnerable is confined to certain types of labour process.

The influx of service jobs in central London has outbid manufacturing for female labour, in terms both of wages and of conditions of work (see Massey, 1984, ch. 4). But working in service jobs has not been an option available to all. For women in one way or another tied to the home, or to the very local area, homeworking in industries such as clothing has become increasingly the only available option. Given the sexual division of labour in the home, homeworking benefits some women:

Homework when properly paid, suits many women: women who wish to stay at home with small children, women who dislike the discipline and timekeeping of factory work and wish to work at their own pace. Muslim women observing semi-purdah (Harrison, 1983, 64).

But homework seldom is "properly paid." Harrison again, on types of work and rates of pay in Hackney in 1982:

There are many other types of homework in Hackney: making handbags, stringing buttons on cards, wrapping greeting cards, filling Christmas crackers, assembling plugs and ballpens, sticking insoles in shoes, threading necklaces. Rates of pay vary enormously according to the type of work and the speed of the worker, but it is rare to find any that better the average female hourly earnings in the clothing trade in 1981, £1.75 an hour, itself the lowest for any branch of industry. And many work out worse than the Wages Council minimum for the clothing trade of £1.42 per hour (in 1982). Given these rates of pay, sometimes the whole family, kids and all, are dragooned in: ... one mother had her three daughters and son helping to stick eyes and tails on cuddly toys (Harrison, 1983, 67-8).

The involvement of all members of a family in homework or working as a team in small family-owned factories is not uncommon, especially among ethnic minorities. For small companies the extended family may be essential to survival:

the flexibility comes from the family: none of their wages are fixed. When times are good, they may be paid more. When they are bad, they are paid less. They get the same pay whether their hours are short or long.

The fact that women are employed in the context of an extended family is important not only in the organization of the industry but also for the lives of the women themselves. They may have a wage, but they do not get the other forms of independence which can come with a job. They do not get out of the sphere of the

family, they do not make independent circles of friends and contacts, nor establish a spatially separate sphere of existence. Within the family itself the double subordination of women is fixed through the mixing in one person of the role of husband or father with that of boss and employer.

But it is not that there have been no changes in recent decades for the homeworkers of Hackney. They too have been caught up in and affected by the recent changes in the international division of labour. The clothing industry of London in the second half of the twentieth century finds itself caught between cheap imports on the one hand and competition for labour from the better working conditions of the service sector on the other. The clothing firms with the ability to do so have long since left. For those that remain, cutting labour costs is a priority, and homeworking a means to do it. So an increasing proportion of the industry's work in the metropolis is now done on this social system while the amount of work overall, and the real wages paid, decline dramatically. For the women who work in this industry there is thus more competition for available work, increasing vulnerability to employers and intensification of the labour process. And this change in employment conditions brings increased pressures on home life too, though very different ones from those in the north-east, or the Fens. For these women in Hackney their workplace is also their home.

Here's Mary, a forty-five-year-old English woman with teenage children describing the pressures she feels:

I've been machining since I was fifteen, and with thirty years' experience I'm really fast now ... But I'm having to work twice as hard to earn the money. The governors used to go on their knees to get you to take work if they had a rush to meet a delivery date. But they're not begging no more. It's take it or leave it. If you argue about the price they say we can always find others to do it. It's like one big blackmail. Three years ago we used to get 35p to 40p for a blouse, but now (1982) you only get 15p to 20p ...

I used to get my work done in five hours, now I work ten or twelve hours a day ... The kids say, mum, I don't know why you sit there all those hours. I tell them, I don't do it for love, I've got to feed and clothe us. I won't work Sundays though. I have to think about the noise ... I'm cooped up in a cupboard all day – I keep my machine in the storage cupboard, it's about three feet square with no windows. I get pains in my shoulders where the tension builds up. I've got one lot of skirts to do now, I've got to do sixteen in an hour to earn £1.75 an hour, that means I can't let up for half a second between each skirt. I can't afford the time to make a cup of tea. With that much pressure, at the end of the day you're at screaming pitch. If I wasn't on tranquillizers, I couldn't cope. I'm not good company, I lose my temper easily. Once I might have been able to tolerate my kids' adolescence, with this I haven't been able to, I

haven't been able to help them – I need someone to help me at the end of the day (Harrison, 1983, 65-7).

Reflected in this woman's personal experience, her sweated labour and family tensions, is a new spatial division of labour at an international scale. Low wage, non-unionized workers in Hackney are competing directly with the same type of low-technology, labour-intensive industries in the Third World. But it is precisely the history of the rag trade in Hackney, the previous layers of economic and social life, that have forced this competition on them. The intersection of national and international trends, of family and economic relationships, of patriarchy and capitalism have produced this particular set of relationships in one area of Inner London.

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When in the World are Women?

Janice Monk and Cindi Katz

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About 1860, when she was in her mid-thirties, my great-grandmother sailed from England to Australia with her husband and four or five children, despite her mother's apprehensions that this was a dangerous move. She had three more children in Sydney – the last, my grandmother, when she was forty. Child-bearing and -rearing occupied a great portion of her life. What else she did I do not know, but taking regular care of elderly parents was not part of her life's experience.

My grandmother, born in 1865, spent most of her life in one area of Sydney. She married at about the age of twenty-five and had four children, never working outside the home. Her husband's income was always small and social services were limited. At the end of his working life, faced with financial and health problems and the onset of the 1930s Depression, she and my grandfather came to live with my recently married parents and their baby son. She remained in this extended family till she died at the age of eighty-one. Born when she was seventy-two, I experienced her as an important companion of my childhood, but as an old woman who virtually never left the house and whom we did not leave there alone for more than a few hours.

My mother, born in 1901, has had yet a different life course and geography. Leaving school at the age of fourteen, she became a

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“comptometrist” with a firm of accountants, working until her marriage at twenty-eight. She had two children – a son when she was twenty-nine and a daughter when she was thirty-five. Caring simultaneously for her parents, husband, and children, weathering hard times in the Depression, and living on her husband’s modest income till she was widowed at fifty-nine, her spatial world was mainly limited to the neighbourhood and to those places she could reach on foot or by public transport. Then, as a widow, with a state pension and benefits, some support from her children, and years of experience as a careful money manager, she was financially able as well as motivated to take some vacations, visiting relatives outside Sydney and me in the United States, thus widening her world and acquiring new experience’s for later memory. At the age of eighty-eight, no longer able to live alone, she moved to a ‘hostel’ in an outer suburb of Sydney, partially subsidized by church and state agencies, where, with other women (and a few men) mostly in their eighties and nineties, she receives assistance in daily living. Her space is primarily one room, her view mostly open land. She feels isolated.

Like my great-grandmother, I moved across the world, though as a single woman, at the age of twenty-four. Unlike my forebears, I obtained considerable education, the beneficiary of a variety of state scholarships and institutional support from the age of eleven. Like them, I married in my late twenties. Unlike them, I had no children. Also unlike them, I support myself financially, now live alone, and travel widely nationally and internationally for work and pleasure. Unlike my great-grandmother, I am able to visit my family almost every year. But, living in the United States, I cannot anticipate the significant state support for my old age which my mother has received, nor the family care that was my grandmother’s.

As I work on this book, reflection on the life experiences of the women in my family brings home to me how generation and historical context, changing fertility patterns, class position and class mobility, state policies and personal motivations intersect with the geographies of women’s lives, constraining choices and providing options. As a daughter, I regret that my mother, at ninety, does not have the company and family care her mother experienced. As a middle-aged woman, I value the chances I have had and the choices I have made to create a different geography and to try to share with others some aspects of women’s collective experience.

J.M.

My own reflections on the life course cross space rather than time, revealing my “having to take into account the simultaneity and extension

of events and possibilities” (Berger, 1974, 40, as cited in Soja, 1989, 22). As I contemplate my relationships with and to the women in rural Sudan with whom I lived for a year while conducting fieldwork on children’s learning and knowledge, the socially constructed nature of each aspect of the life course becomes more vivid.

When I went to Howa I was nearly twenty-seven years old and in a long-term relationship with a man. Settling in a couple of months before my [partner] arrived I lived with Leila, a sixteen-year-old school-leaver from [a small Sudanese] city who had just come to Howa to teach reading, writing and basic home science to the women. I was her first student. Despite having had my own household for almost ten years, my skills were next to useless in the face of charcoal stoves, dirt floors, distant water supplies and handfuls of goat meat. I was grateful to learn how to be an efficient and clean homemaker from this teenager living away from her mother for the first time.

At first I felt an affinity with other young married women, thinking that we were at the same stage in our lives except that they had young children. I soon realized that most of them were nineteen or twenty years old. Women of my own age already had upwards of four children, some as old as ten or eleven. Becoming aware of these disjunctures in our lives, I understood why everyone in Howa found it inordinately amusing that someone would postpone childbearing to complete a university degree and, given my advancing years, called upon me repeatedly to explain my lack of children. They elicited and listened to my explanation with a mixture of amusement and pity, which did not stop them from questioning me closely on other occasions about birth control.

In recent years as I have written about my work in Sudan (and entered my mid-thirties) it has been unnerving to realize that one of the women I considered a mother to me was all of thirty-seven years of age. At the same age as I (finally) began to feel like a ‘grown-up’ – degree completed, professional position secured, seriously considering having children – my fictive ‘mother’ had completed her family – married to the family patriarch, her youngest child sixteen; already a grandmother. She has made it clear to me that the family would prefer me to return with a baby than with more books. (I suspect my real mother might be in on this particular plot as well.)

These intersections point at once to the ties between biological life stages and their social construction. They also suggest the latitude in timing (and spacing) of life course stages, depending upon access to particular resources, and their interdependence on the choices and practices of those with whom we share our lives. These issues and

questions connect production and reproduction, crossing public and private spheres of material social practice.

Clearly my life choices were in part framed by my access to educational resources and facilitated by both reproductive freedom and the health and economic independence of my parents. My particular choices have certainly attenuated aspects of the life stage associated with young adulthood. Yet the organization of and articulation between production and reproduction in the United States remain rooted in a sociospatial and political-economic structure that is not supportive of combining work in both spheres. Elements of the constraints of this structure came home to me repeatedly in Sudan, as I witnessed both the extended family in operation and the closer convergence of the spaces of production and reproduction which freed parents from full-time child care and supported their participation in other activities.

I witnessed this most poignantly in an occurrence that reveals again some of the cross-currents in the life course as constituted in different social, cultural and economic settings. Towards the end of my stay in Sudan, Medina, one of the women closest to me, had a stroke and died, pregnant at thirty-four. The family was, of course, devastated by her death, as was I, but what made it remarkable was the way the extended family structure sustained her immediate family, which included seven children from two to seventeen years of age, through the loss. This helped fill in the yawning gaps of her absence, even for her youngest children, who had their father, sisters, brothers, grandparents, aunts, uncles and cousins in the same household compound. A similar loss in the United States is generally much more destabilizing to the family, requiring, for example, family members to move house, enormous investments in family time at the expense of outside work activities, and/or great financial outlays.

When I returned to Howa a few years later, Medina's oldest daughter, by that time fifteen, was nine months pregnant. When she went into labour, all the women of her family were with her during an arduously long night that ended in a stillbirth. I, twice her age, still childless, in some ways her 'fictive mother,' sat at her side and thought of Medina.

These reflections bring home the diversity in women's experiences across space, time, class and culture, but also distil some of the structural similarities on which they pivot. Theorizing across these geographical settings may enable us to identify and examine some of the underlying processes within and against which women construct their lives.

C.K.

As Western feminist scholarship began to mature in the 1980s, attention turned increasingly to the significance of context in shaping women's lives and to the intersection of gender with other forms of difference, especially race, ethnicity and class. Reminded by women in other parts of the world that their experiences and visions are not encompassed by Western models, and as geographers who believe in the importance of place in people's lives, we were struck by international data assembled in the mid-1980s which revealed that one-third of the world's female population is under fifteen years of age and that this proportion reaches 45 per cent in sub-Saharan Africa (Sivard, 1985, Table 1). Likewise, we were reminded that female life expectancy varies widely geographically – the difference between the highest and lowest countries is a startling forty-seven years (Sivard, 1985, 24). Interest in the geographic meanings of these demographic variations, together with our own research on children (Katz) and older women (Monk), stimulated us to try to go beyond the body of feminist work in geography (and many other fields) which largely addresses the lives of women in their middle years, especially those given over to child-bearing and -rearing, and which generally keeps separate the experiences of women in First World and Third World contexts.

[...]

In this [essay] we will first present some basic demography, then review concepts that we have found useful in illuminating women's changing geographies—their uses of space, their relationships to place, and the ways in which place and space constrain and offer opportunities over women's life course.

The Ages of Women: Contemporary World Patterns

Though Shakespeare's "Seven Ages of Man" has been widely quoted over the centuries since its writing, his categories do not speak to women's lives, nor to the historical and cross-cultural diversity of experiences. Indeed, defining life in terms of a set of "stages," especially if these are linked to chronological ages, is fraught with difficulty, especially if we adopt a comparative perspective. Comanches, for example, have been reported as identifying five stages, the Kikuyu six for males and eight for females, the Andaman Islanders twenty-three for men and the Incas ten (Falk *et al.*, cited in Chaney, 1990, 43). If we recognize that a woman's life expectancy at birth is as low as 32-3 years in Kampuchea, Sierra Leone and Afghanistan but over seventy-eight years in France, Japan and Switzerland, we can hardly assume that "stages" will be closely linked to chronological age or be experienced in universal ways. Yet we generally ignore these differences in research on women's lives, assuming in some fundamental way that "a mother is a mother is a mother."

Chronological age by itself does not define the roles and statuses a woman may have, the work she may do, or the timing of marriage, childbearing or attainment of varying degrees of power in the family and society. Nevertheless, some understanding of the demography of women, country by country, does help us to identify how certain

of their activities, such as caring for children or the elderly, will vary in salience across geographic contexts. Thus we will review the distribution of women around the world on the basis of age, using three broad categories: 0-14 years, 15-64 years and sixty-five years and over. We chose these categories mainly because that is how the data are available, but we also consider them of some consequence, despite the qualifications we have already expressed.

The contrast in the population profiles of rich and poor countries is well known. Underdeveloped nations, almost without exception, are characterized by a triangular profile, the wide base indicating many more young than old people; while wealthy industrial countries, with similar numbers in each age cohort, have more symmetrical and narrow silhouettes, signifying enduring patterns of low fertility. The first form signals not only higher dependency ratios, but portends continued population growth as growing numbers reach fertility. The latter profile connotes stabilized population growth and more of a balance between dependants and caretakers, although growing numbers of older people mark a new form of dependence, with dramatic life course implications, as Ruth Fincher [1993] discusses [...]. Figures 1.1, 1.2 and 1.3 map these differences. Given our concern with the life course of women, we want to highlight some of the gendered short- and long-term consequences of these distributions.

We emphasize that it is not population size which creates problems; rather that it is the global and national distribution of wealth, power and other resources which makes any particular demographic situation problematic or not. The global recession and stupendous levels of Third World debt, for example, have stymied virtually all advances in education and health in these countries. Under circumstances of growing impoverishment and debt, many nations of Africa, Asia, South America and the Caribbean must work harder just to stay in place, given both the overall numbers of children and youth, and high rates of population growth.

There are sobering indications that they are failing. For example, since the Second World War the numbers of six- to eleven-year-olds not in school in the underdeveloped countries declined steadily, reaching a plateau in 1986 at 50 million, since then they have increased significantly for the first time in four decades, to 60 million (UNICEF, 1990). Likewise, in the least developed countries (characterized by UNICEF as those with the highest rates of under-five mortality), the percentage of those enrolled in first grade who completed primary school dropped from 49 per cent in 1980-4, to 40 per cent in 1985-7. Among the next cluster of countries – largely in Africa and Asia, with a small number in South America – there was a decline from 70 to 64 per cent over the same periods. These trends, which point to economic difficulties at both the national and household levels, mean, of course, that as we reach the end of the millennium, the number of adult illiterates will grow and overall literacy rates will rise more slowly throughout much of the world.

As advances in education and health are slowed or reversed, the consequences for females and thereby society as a whole are critical. The very countries with the highest numbers of young people have the fewest resources – human, financial, infrastructural – for providing education or improving health. There are no easy conclusions or comparisons, however. Two brief examples, amplified below, illustrate this point. First, the availability of education does not correlate with whether or not girls are enrolled at similar levels to boys. Some countries with low levels of enrolment reach equal rates for both sexes, others with high levels of enrolment educate the majority of boys but few girls. The reasons for these differences reflect the intersection of political economy, cultural ideologies concerning education, specific sociospatial patterns and cultural ecologies and the gender division of labour at all scales. These interrelationships, which connect global with local processes, are dynamic and context-specific. Some of their determinants and consequences for particular sites and populations are explored [...] by Janet Townsend [1993] and Cindi Katz [1993]. Second, evidence is mounting that in the face of scarce resources, the preference for male children is exacting an enormous toll in female infanticide, abortion and neglect that results in death. However, these practices appear to be largely limited to Asia, where they are often exacerbated by strict government controls on family size. Despite devastating poverty, this phenomenon has not been witnessed in Africa or South America and the Caribbean (Kristof, 1991).

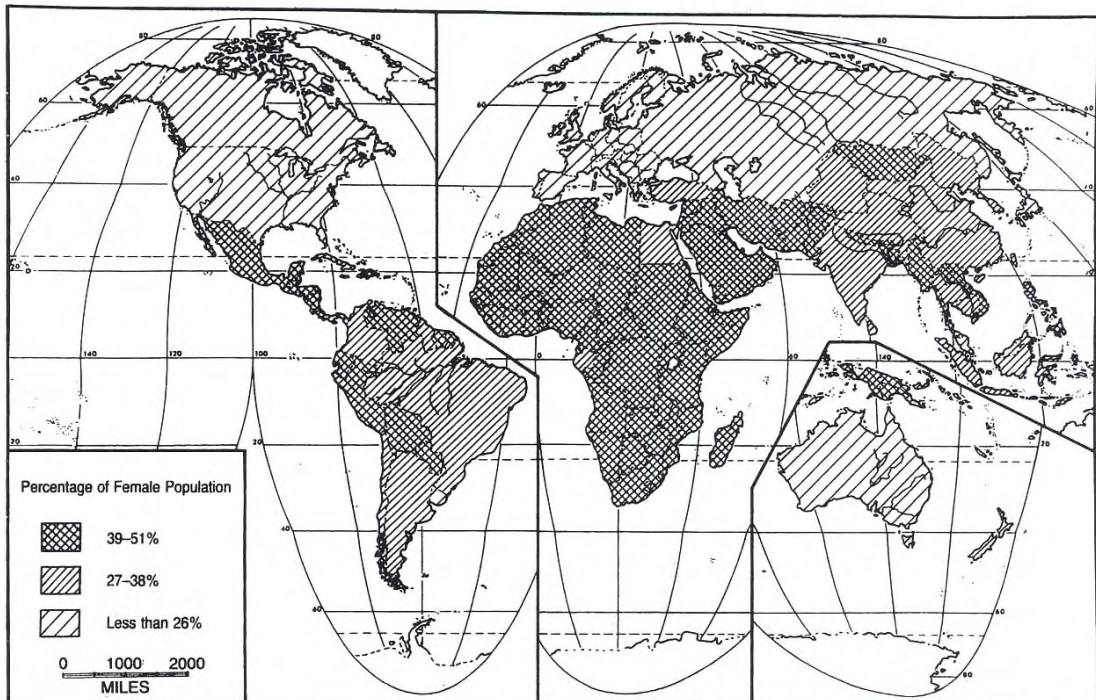


Figure 1.1: Global distribution of the female population aged 0-14 years.

Having briefly identified some of the problems that confront females at the beginning of the life course in the contemporary world, we now examine the spatial variations in their expression. In many parts of the world inequalities between males and females in their access to schooling are long-standing. Among those countries with high populations under fifteen years and low levels of overall primary school enrolment, some, such as Guinea, Somalia and Burkina Faso, exhibit serious disparities between boys' and girls' enrolment. Elsewhere, enrolments are low but the disparity between males and females is less; among these countries are Mali, Uganda and Haiti. Others, such as Tanzania, Malawi, Rwanda and El Salvador have moderate levels of primary enrolment (between 47 and 65 per cent of school-aged children) with no significant differences between male and female enrolment. Several countries in Africa, Asia and South America with large numbers of young people are characterized by relatively high levels of enrolment. Some of these, such as Benin, Nepal and Togo, exhibit disparities in boys' and girls' enrolment. This pattern, which favours boys, does not occur in any South American or Caribbean countries for which data are available – these countries generally have high rates of enrolment and parity between boys and girls. Among other areas where this pattern prevails, Zimbabwe and Sri Lanka stand out with 100 per cent of both sexes enrolled in primary school. In Syria the figures are 100 and 94 per cent, in Indonesia 99 and 97 per cent and in Nicaragua 74 and 79 per cent (all figures for 1986-8, UNICEF, 1990). In countries characterized by smaller youth ratios, enrolment figures are generally high and relatively even between boys and girls.

The life course implications of these different situations should be apparent. Not only will girls who are educated have different skills, as they confront fast-changing economies and sociocultural situations which may alter their traditional modes of work, but they will be better prepared, as many studies of maternal literacy have demonstrated, to support the education of future generations. It is of serious concern, then, that over the past decade, long before universal primary education has been achieved, the rate of increase in female enrolment slowed throughout the Third World. In Africa, for example, it was 9.1 per cent between 1975 and 1980, compared with just 2.7 per cent between 1980 and 1988; in South America and the Caribbean it fell from 3.9 to 2.2 per cent over the same periods. In Asia the decline was negligible (from 1.2 to 1.0 per cent), but the rates of growth were minimal in the face of conditions in which 43 per cent of the total enrolment was female ([UNICEF], 1990). These reversals in progress are illustrative of the historically and geographically specific mutual determinations between the global political economy, development economics, cultural values and the division of labour. The particular constellation of these factors in any location will have a substantial bearing upon life course decisions, as well as upon the articulation of these with larger sociocultural and political-economic structures.

It remains the case that in much of the Third World, especially in the poorest countries of Africa and Asia, only a small minority of children attend secondary school. Just a fraction of these are female. As we discuss in more detail below, many

women in these countries marry and begin bearing children in their teenage years. This pattern exacerbates extant health problems, because infant health and survival are compromised both by early pregnancy and with each birth from the same mother. Low birthweight babies (two kilograms or less) are more common among teenage mothers, for example. A study in the United States revealed that 13.8 per cent of the babies born to mothers under age fifteen had low birthweights, whereas among mothers of fifteen to nineteen years of age, 9.3 per cent were low birthweight; and among mothers of twenty to twenty-four years of age, the figure dropped to 7 per cent (Population Reference Bureau, 1989). A study from Brazil, one of the countries with moderate numbers of births to mothers younger than fifteen years of age, revealed infant mortality rates of 124 per 1,000 live births among mothers under eighteen years of age. For mothers between eighteen and twenty-four years old, the figure drops by a third. While the same study found an increase in infant mortality with each new birth, the increase was substantial at the seventh birth and after. Similarly, the shorter the interval between births, the higher the infant mortality; under two years the figure is 138, while with a four year interval, it drops to 50 per 1,000 live births (UNICEF, 1990). These figures reveal some of the ways in which socially constructed life-course patterns, such as age of marriage and child-bearing, have serious implications for health and education in general.

Available statistics on infant mortality reveal, in the main, slightly higher rates for boys than girls in almost all countries. Likewise, female life expectancy at birth exceeds males' almost everywhere. Available data on malnutrition are not reported by sex, but evidence from many parts of the world indicates that males continue to be favoured in the distribution of resources, whether this be food, healthcare or maternal attention. When resources are scarce, we may expect girls to suffer more than boys. Recent demographic reports suggest widespread and substantial "excess female mortality." Girls are being aborted, killed and neglected at staggering rates in several regions, and these practices are showing up increasingly in skewed population ratios. In India and China alone, conservative estimates point to over 52 million missing females (that is, the number of females that should be alive according to expected population ratios and rates of population growth). A Swedish study suggested that in countries without strong patterns of discrimination, about 130 infant boys die for every 100 infant girls. In China, however, only about 112 boys die for every 100 girls (Johansson and Nygren, 1991; Kristof, 1991). Here it is calculated that among infants under a year old, 44,000 female deaths annually result from unequal treatment (Kristof, 1991). Other Asian countries are experiencing this phenomenon as well, but it remains uncommon in Africa, South America and the Caribbean. The preference for boys, which is already having a pronounced effect on the sex ratios in much of Asia, has profound implications for the future. Not only will ratios of males to females be much higher, thus altering marriage, sexual and childbearing patterns, but given that throughout the world most of the "caring work" is done by females, it remains to be seen who will look after everyone. This trend illustrates, in an extreme and disturbing way, how the work of production and reproduction over the life course is profoundly

altered by everyday material social practices and how these are articulated with larger social relations of production and reproduction at all scales.

In virtually all countries the years between fifteen and sixty-four include those in which women carry their maximum responsibilities for productive and reproductive work, generating income and caring for partners, children and the elderly. The proportion of the female population available for such work varies considerably among countries, however (Figure 1.2). The percentages are highest in eastern and western Europe, the United States and Canada, Australia and New Zealand, China and Japan; they are lowest in most African countries, parts of the Middle East and Central America. Intermediate values occur in much of South America and the Caribbean and south and south-east Asia.

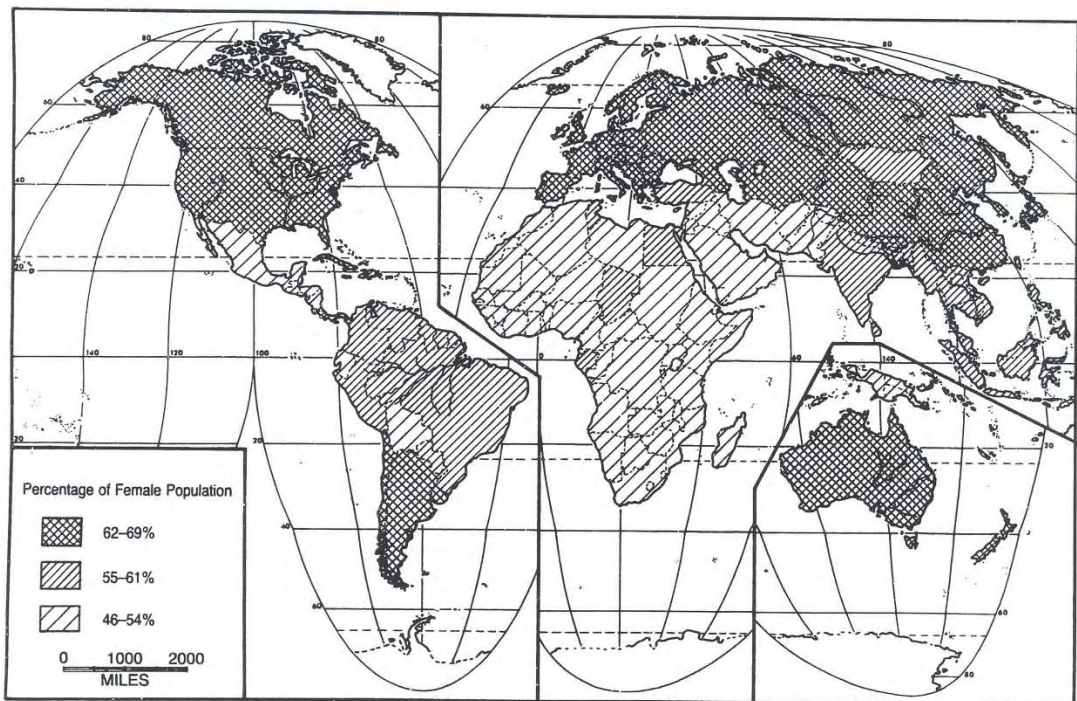


Figure 1.2: Global distribution of the female population aged 15-64 years

To some extent, these differences can be linked to the nature of economic development and, indeed, lead one to ask how development is related to the availability of women for work. Yet this distinction is simplistic, for the distribution also reflects differences in fertility, child and maternal mortality and women's longevity which are shaped by cultural values as well as political-economic structures and socio-economic practices, reflected for example in the quality of healthcare afforded women or the demand for household labour. Perhaps the most important implication of the distribution is an obvious one: the countries with the highest proportions of children (Figure 1.1) are, by definition, those with the lowest proportions of women available for productive and reproductive work. Even though

children may assist with work, this circumstance surely contributes to the long hours of work and small amount of time available for leisure, sleep and other physiological needs that have been documented for women in some African and Asian countries (Seager and Olson, 1986, 13).

How women experience these years also varies widely among countries. Not only does the number of children (and women's access to contraception and abortion) differ widely (Seager and Olson, 1986, 79), so too do the age at which child-bearing begins, the age of marriage and the frequency of marriage and divorce. A few examples illustrate the extent of the differences. Data on fertility indicate that the proportion of all births to teenagers is as low as 1 per cent in Japan and 4 per cent in Egypt, 13 per cent in the United States and Thailand, 20 per cent in El Salvador and 29 per cent in Cuba (Population Reference Bureau, 1989). By age twenty, an average of 50 per cent of women are married across an array of African countries, compared with 38 per cent in South America and the Caribbean (Population Reference Bureau, 1989). The average annual number of divorces reaches over 20 per 1,000 married couples in the United States but stands at between 5 and 10 per 1,000 in several eastern and western European countries, among them Finland, Hungary and (formerly West) Germany and some South American ones such as Venezuela and Uruguay. Rates fall to below 2.5 per 1,000 in Costa Rica, Ecuador, Italy and Sri Lanka. What patterns of marriage or non-marriage mean in women's lives, however, requires interpretation within specific historical and geographic contexts, as Lydia Pulsipher [1999] illustrates [...].

The ways in which women arrange for or are assisted with caring for their children and elderly family members also differ markedly from country to country. While expectations that the mother will assume full or primary care for all dependants are pervasive (though see Pulsipher [1993]), the extent to which the State and other institutions provide support varies not only by country, but also by class, ethnicity and location within countries, as Ruth Fincher [1993] and Damaris Rose [1993] make clear [...]. Seager and Olson (1986) indicate that as many as 37 per cent of pre-school children in Sweden are in day-care centres, compared with 15 per cent in Canada, and less than 1 per cent in Nicaragua. While it has long been recognized that women juggle their schedules both over the long term and over much shorter intervals, to cope with their multiple roles as workers in and out of the labour force, the spatial aspects of these temporal gymnastics have rarely been addressed. Our studies show some of the ways in which women of all classes adjust their spatio-temporal arrangements, from the selection of places of employment and residence to the organization of their daily movements, in order to cope with their care-taking responsibilities (see [...] Pratt and Hanson [1993], Fagnani [1993], Rosenbloom [1993], Rose [1993] and Christensen [1993]).

Women's participation in productive work also varies widely geographically. Global patterns of women's labour are well summarized by Momsen and Townsend (1987). The inadequacies of international statistical data on women's work are widely

known (see, for example, Beneria, 1982), especially as they fail to deal with unpaid and informal sector activities and part-time employment. Within the limitations of these data, however, Seager and Olson have identified an array of countries, especially in Scandinavia and eastern Europe, where more than 65 per cent of women aged fifteen and over are working for wages or trade; and others, especially in the Middle East, where their documented labour force participation falls below 10 per cent (1986, 16). Age of entry into the workforce and withdrawal from it, however, also vary considerably by geographic context, as Janet Henshall Momsen [1993], Janet Townsend [1993], Geraldine Pratt and Susan Hanson [1993] and Kathleen Christensen [1993] reveal [...].

The geographic distribution of older women (Figure 1.3) around the world in the early 1980s presented a simpler pattern than that of the younger age groups. Countries clearly have either high or low proportions of women over age sixty-five. Globally, these women account for seven per cent of the female population, but proportions range from 2 or 3 per cent in most countries of sub-Saharan Africa to 16-19 per cent in most of western Europe (Sivard, 1985, Table 1).

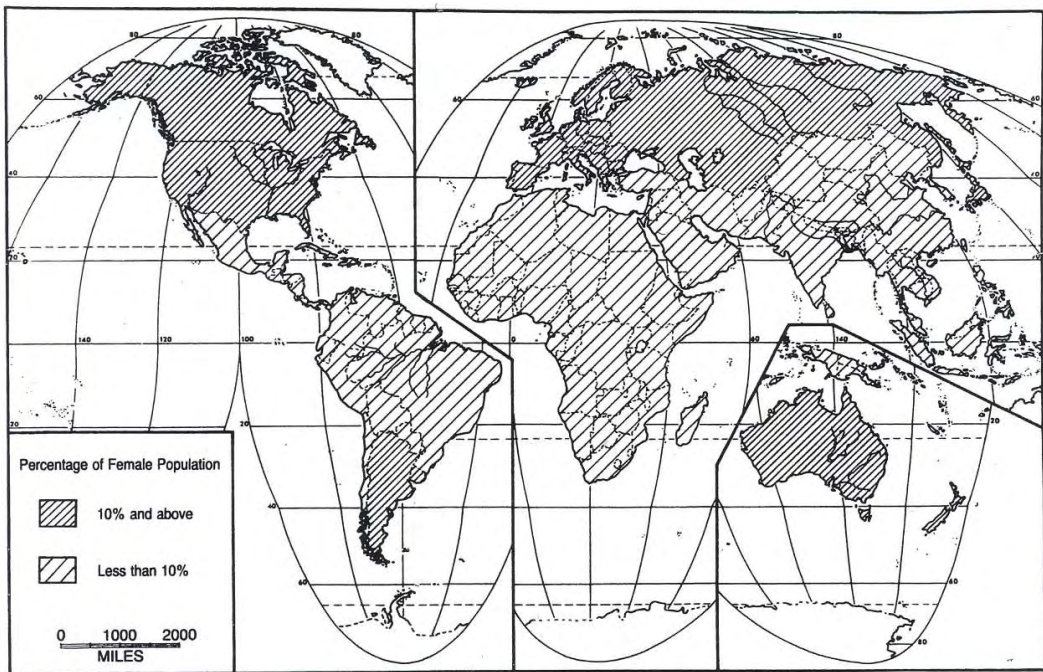


Figure 1.3: Global distribution of the female population aged 65 years and over.

By the twenty-first century, however, the distribution of older women will be somewhat different because of current patterns of fertility and changes in life expectancy world-wide. Although most African countries will continue to have low proportions of older women, this group will increase in importance in South and Central America, the Caribbean and in China. Estimates for South and Central

America and the Caribbean region as a whole are that women who turn sixty in the year 2000 can expect, on the average, to live an additional twenty years (Anstee, 1990, 3). Already the proportions of older women in the populations of Argentina, Barbados and Uruguay are comparable to those found in the United States, Canada and Japan. Although in several Latin American countries – for example, Bolivia, Peru, Venezuela and the Dominican Republic – the proportions of women over age sixty-five in the early 1980s were similar to those in African nations, fertility is generally lower (except in Bolivia), and in many cases, life expectancy already more than ten years higher (Sivard, 1985, Table 1). Of course, to understand changes in population structure we also have to examine immigration trends, especially in the Caribbean.

Unfortunately, we know relatively little about the experiences of older women around the world, even in the European Community, where one-third of the female population is over fifty years of age, 12 million women are over age seventy-five and 2.5 million are over age eighty-five (*Network News*, 1990, 9). These data remind us that older women represent an increasingly diversified group with different needs; those in their late fifties and sixties may still be in the labour force, whereas those in their late eighties and nineties are likely to be frail and to require considerable assistance to manage their daily lives. [...] Ruth Fincher [1993], Sandra Rosenbloom [1993] and Patricia Sachs [1993] discuss in detail some of these differences in experience.

The increasing numbers of the oldest groups are especially marked. For example, while the population aged 55-64 grew by 20 per cent in Spain and Italy between 1950 and 1980, the number over eighty-five increased by more than 100 per cent. Most remarkable has been the expansion of the proportions of people living into their eighties and nineties. Since two-thirds to three-quarters of those over eighty-five in most western European countries are women, it is clearly important to learn more about the experiences and needs of very elderly women (*Network News*, 1990, 9). Not only are high proportions of elderly women likely to be widowed, but more than 10 per cent of women currently aged fifty-five and over in many of the countries of the European Community (and nearly one-quarter in Ireland) have never married (*Network News*, 1990 10). How do these older women support themselves? What roles do they fulfil? How do families, the State and other institutions assist them? What is the nature of their geographies and how do these relate to their well-being? What are the differences within the region? A recent report on the *Social and Economic Situation of Older Women in Europe*² suggests some answers to these questions. For example, labour force participation by women aged 55-64 varies markedly among countries, from a low of 16 per cent in Belgium and the Netherlands to a high of 50 per cent in

² The report was prepared for the Federation for Policy on Ageing in the Netherlands and the Age Concern Institute for Gerontology in the United Kingdom by Marianne Coopmans, Anne Harrop and Marijke Hermans-Huiskes. Its major findings are summarized in *Network News: Global Link for Older and Midlife Women* 5 (1) Spring/Summer, 1990, pp. 9-15.

Denmark. Whether these employed women are likely to be married, divorced, widowed or never to have married also varies among the countries. Though older married women are generally less likely to be employed than unmarried women of the same age, in Belgium, Greece, the Netherlands and the United Kingdom it is the widowed and divorced women in the 50-64-year-old age group who are the least frequently employed. The kind of work that women do also varies among the countries. Agriculture is still an important source of employment for older women in southern Europe and Ireland, for example, though less so elsewhere. Economic changes are also modifying older women's employment prospects. Growth in the service sector and in part-time work seems to be associated with their increasing labour force participation in Denmark, the Netherlands and Portugal, though the work does not pay well.

The ability of older women to manage their everyday lives clearly relates to both their incomes and their health, with the latter especially affecting their geographic mobility and capacity to fulfil their needs. Surveys reported in the European study note that poor health inhibits women's ability to climb stairs, go shopping, use public transportation or walk to the nearest medical facility unaided. Sandra Rosenbloom [1993] addresses similar problems among older women in the United States [...] Though European Community and British Commonwealth nations generally provide national health insurance and health service schemes, differences remain in local provision, especially between rural and urban areas, and are heightened as emphasis shifts from institutional to community-based care. The consequences of this unevenness and some implications of elder-care policies for middle-aged women care-givers are addressed [...] by Ruth Fincher [1993], who writes of the situation in an Australian metropolitan area.

Adequate housing for older women is another issue identified in the European study. Frequently their older homes lack adequate amenities, especially in such places as the rural areas of Italy and Greece. Some of the dimensions of the housing situation of older women in a rural community in the United States are dealt with by Patricia Sachs [1993] who describes how women and their husbands have taken steps to improve their housing and to sustain a supportive neighbourhood.

The increasing numbers of older women in many Latin American and Caribbean countries in principle have access to various forms of state support, especially pensions. Changes in the global economy, however, threaten the abilities of debt-burdened countries to meet these obligations. Further, because coverage is generally limited to those in the paid labour force, the many women who are agricultural workers, domestic workers and informal sector traders are ineligible for pensions. Because coverage, age of eligibility, benefits and patterns of labour force participation differ among the countries of the region, the results for women also vary. For example, in the early 1980s, just under 25 per cent of El Salvadoran women were employed in positions with social insurance coverage, compared with almost 45 per cent of women in Barbados (Mesa-Lago, 1990, 9). These data refer to women

currently employed, however. Essays [...] by Janet Henshall Momsen [1993], Lydia Pulsipher [1993] and Janet Townsend [1993] address the survival strategies of women who are now elderly in Latin America and the Caribbean; among other things they combine their own labour, remittances from adult children and help from other kin or neighbours, or move to live with adult children who have migrated away from their home regions.

Whether women have the power, status and autonomy to secure an acceptable quality of life in their later years, as opposed to simply attaining longevity, is a difficult question to answer. In her review of literature on a range of pre-industrial societies, Chaney (1990) suggests that women had a greater degree of power in the family and community in pastoral, nomadic and hunting and gathering societies than in agricultural and industrial ones. Still, she notes that prestige and influence also had to be attained (rather than simply being bestowed on the basis of age) in these societies, especially through the exercise of creativity and initiative, principally in service to the community. [...]

Women's Geographies from a Life Course Perspective

In approaching the geographical experiences of women from a life course perspective, we are largely charting new territory. With few exceptions, feminist geographers have emphasized the behaviour, concerns and perceptions of women who are implicitly in the younger and middle years of adulthood, focusing on questions related to employment, the journey to work and childcare in their studies in Western societies and on the relationships between development and women's productive and reproductive work in Third World countries. They have paid almost no attention to the years of childhood and adolescence, and only a little more to the lives of older women.³

The larger multidisciplinary feminist literature provides more guidance in approaching our topic, though here again, studies which make the life course their central concern are relatively rare. Most notable is a collection of British essays (Allatt *et al.*, 1987), which brings together discussion of conceptual issues with case studies that cover various life stages, dealing with both private lives and structural issues. As we noted earlier, the interest in the diversity of women's experiences in the feminist literature has emphasized differences based in race, ethnicity and class, as well as sexual orientation and cultural context. Only recently have we seen the call to consider

³ Geographic studies of children have been reviewed by Hart (1983); studies of older women are reviewed in Zelinsky, Monk and Hanson (1982). Little has been added since that time. Though a small number of geographers continue to conduct research on topics related to ageing, this work often does not identify gender concerns, nor address feminist questions. Recent geographic research in the United States on ageing is summarized by Golant, Rowles and Meyer (1989).

all phases of the life course and development over the life span (Rosser, 1991). Rosser locates the neglect in the composition of feminist scholars. Not only have they been predominantly white, middle class and Western, they have also been relatively uniform in age (20-45). She suggests that only as women's studies scholars began to age have we seen any serious attention paid to issues facing older women, such as menopause, osteoporosis and healthcare and housing for older women.

Despite its gaps, the feminist literature does include some studies that incorporate a life course perspective in their consideration of the ways in which adult women develop and change. A number of these focus on women's experiences of midlife as these reflect social changes in the United States. The collection *Women in Midlife* (Baruch and Brooks Gunn, 1984), for example, includes essays on the influences of economic conditions, ideologies and the normative timing of marriage and childbearing on the problems women face, the quality of life they experience and the powers they assert. These essays also explore how other sources of difference (culture, race, cohort) interact with the phenomenon of midlife. Among other feminist works interpreting women's life course transitions are Mary Catherine Bateson's (1990) portraits of five "successful" women shaping their professional and personal lives as they confront losses and opportunities, and Myra Dinnerstein's (1992) study of married midlife women who have turned from homemaking to business and professional careers. She examines how they negotiate changing roles within the family as they develop new aspirations and self-images.

Returning to geography, this time to non-feminist literature, we find a few approaches of interest, though surprisingly little relevant empirical research. Population studies, largely in their examination of intra-urban residential mobility in North America, have long incorporated the concept of the family life cycle into their models.⁴ This work has two major limitations from the perspective of understanding the lives of contemporary women, however. First, it has generally proffered a culturally and temporally bound notion of family structure, and second, it has portrayed women only in the context of family relationships. Much more attention needs to be paid to the dynamic nature of household units, as Clare Stapleton suggested over a decade ago (1980), and women's lives also need to be situated in a wider array of relationships and contexts.

Geographic research on environmental perception and behaviour has also been sensitive to life stage variations (Aitken *et al.*, 1989; Saarinen, Sell and Husband, 1982), though as Janice Monk (1984) pointed out, the stages are treated discretely, with few efforts to examine transitions or connections between the various phases of childhood, adulthood and old age. A rare exception is the comparison by Graham Rowles (1981) of his own work on the elderly with Roger Hart's work on children, in which he concludes that older people's perceptions of their shrinking behavioural

⁴ See White *et al.* (1989) for a summary of recent work.

space does not represent the inverse of children's learning about their expanding spatial realm.

We had hoped that the Swedish time geographical studies initiated by Torsten Hagerstrand and his colleagues would provide us with more fully developed insights to approach our undertaking. Conceptually, this research acknowledges longitudinal perspectives as well as people's short-term daily needs to coordinate movements in time and space. But while there are theoretical explications [...] our search yielded only a few empirical studies which go beyond the daily scale. Among the exceptions are Hågerstrand's study of weekly and seasonal movements (1982) and of lifetime moves (1975) in rural communities in Sweden, and Solveig Martensson's (1977) analysis of the complex interplay between the developmental needs of children and the shifting time commitments of their parents' work.

Having identified relatively little to guide us in these literatures, we turned to the multidisciplinary research on the life course, drawing particularly on writing in developmental psychology, family history and sociology of the family. Though the questions and approaches in these fields differ in a number of ways from our own, most notably by their lack of interest in the spaces and places of women's lives, we nevertheless find their conceptual insights valuable. First we should comment on basic terminology. The long-standing and relatively common term "life cycle" is no longer widely used in this literature, especially in the United States. One reason for this retreat, Alice Rossi argues, is that "cycle" inappropriately implies multiple turns (1980). A second, less obvious, reason is that the concept is associated with earlier research that often linked life experience to a relatively fixed or inevitable series of biological stages and ages (Allatt *et al.*, 1987; Hareven and Adams, 1982; Rossi, 1980). Research that now emphasizes the diversity of experiences within an age group and the lack of clear associations between chronological age, perceptions and behaviour, has instead adopted the terms "life course" and "life span." The former is commonly used by sociologists and historians, the latter by psychologists (Neugarten, 1985; Rossi, 1980). This research is primarily concerned with the transitions that occur as people age; it explores their pathways through the various structures in the major role domains of life. These transitions are interpreted within the context of changing historical conditions. Because our interests are closer to those of the historians and sociologists than to those of psychologists, who focus more on individuals and the inner world, we have chosen to use the term "life course." With the British sociologists Allatt *et al.* (1987), however, we find some continuing value in the "ages and stages" idea, particularly as we recognize the importance of attending to demographic variations among women world-wide. Further, we are attracted by Bateson's recognition that women make many new beginnings in life, but in living new lives draw on their pasts even as they use them in new ways (1990). She invokes ecological concepts in proposing alternative ways of thinking about "composing a life," among them the notion of recycling. [...]

An important premise of the multidisciplinary literature is that change throughout the life course is based not only in biology, but in experiences of family, community and history. Since these experiences reflect multiple influences, which have interactive and cumulative effects, divergence among people increases over the life course (Campbell *et al.*, 1985; Featherman, 1983). It thus becomes important to examine the significance of prior experience on later life, both for individuals and for groups (Back, 1980). In this vein Ozawa (1989) identifies many of the causes of poverty among contemporary women in the United States in their educational and employment histories and in the ideologies about women's economic support that have prevailed during their lifetimes. From a developmental perspective, these past experiences do not determine present and future courses, but they shape the capacity for choice and constrain options.

Within this framework it is important to identify the cohort to which a woman belongs. Behaviours we associate with a specific life stage may more truly reflect the conditions through which a group has lived collectively, such as its access to education, than biological age. As Rossi (1980) has pointed out, much of what has been written about middle age in the United States is based on the particular histories of people born in the 1920s and 1930s, whose childhood and young adulthoods were affected by economic depression and war, in ways not shared by those now in middle age. In an interesting study of Italian women Saraceno (1991) demonstrates clearly how three recent cohorts of women reveal very different patterns of labour force participation, varying in terms of their age of entry into the market and continuity of employment. These differences reflect changes in gender ideologies, marriage laws, educational provision, fertility trends and restructuring of the Italian economy. Changing conditions have not only influenced employment experiences but also family roles and the psychological burdens each cohort bears as the women in them try to balance reproductive demands and their aspirations with the employment scene. Jeanne Fagnani [1993], Kathleen Christensen [1993] and Geraldine Pratt and Susan Hanson [1993] discuss these issues [...].

The Italian study highlights one of the more interesting questions for scholars concerned with women and the life course – assessing how the conjunction in timing (or synchronization) of diverse roles affects experience (Hareven, 1982). To understand the life course we need to be aware of both the issue of time, whether this is individual time, family time or historical time, and of the diversity of roles that women assume. Our examination of women's roles has to be extended so that we see them not only as mothers, wives and workers, but also in relation to other generations – as daughters, grandmothers, aunts and so on – and in domains outside the family and workplace, their wider community of friends as well as in relation to various social and political institutions (Lopata, 1987), which will vary in significance over the life course. As geographers, we further argue that the study of temporal and social circumstances needs to be extended to consideration of the spaces and places within

which women construct their lives. Bringing together these ideas, we have titled our project “full circles,” choosing a metaphor that refers to space as well as time.⁵

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⁵ Editors' note: The authors suggested to add this final sentence and make some minor changes in language to the original.

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Getting Personal: Reflexivity, Positionality, and Feminist Research

Kim V. L. England

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Think we must. Let us think in offices; in omnibuses; while we are standing in the crowd watching Coronations and Lord Mayor's Shows; let us think as we pass the Cenotaph; and in Whitehall; in the gallery of the House of Commons; in the Law Courts; let us think at baptisms and marriages and funerals. Let us never cease from thinking – what is this 'civilization' in which we find ourselves? What are these professions and why should we make money out of them? Where in short is it leading us, the procession of the sons of educated men? (Woolf, 1938, 62-63)

Virginia Woolf's words speak to the process of making geography. She urges us to think about and to reflect on the spatial fabric of everyday life. She asks us to consider the structure of our social relations and how we are accountable for them and how our actions perpetuate those relations. She wants us to consider how things could be different.

In this paper I discuss the process of making geography at a time when social scientists are increasingly suspicious of the possibility of "objectivity" and value-free research, and when the acceptance of the socially constructed and situated nature of knowledge is increasingly commonplace [among social scientists]. In particular, I

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focus on and problematize fieldwork, a term that I use as shorthand for those research methods where the researcher directly confronts those who are researched.² I approach this task as a feminist, but recognize that many of the issues that I am struggling with exist for researchers of other philosophical-political-methodological stripes.

Troubling Questions, Professional Armor, and the Threat of the Personal

Feminism and poststructuralism have opened up geography to voices other than those of white, Western, middle-class, heterosexual men. This allows for a geography which, as Lowe and Short put it, “neither dismisses nor denies structural factors, but allows a range of voices to speak” (1990, 8). While this makes for a more complete analysis of the complexities of the social world, it also raises new ethical issues. In our rush to be more inclusive and conceptualize difference and diversity, might we be guilty of appropriating the voices of “others”? How do we deal with this when planning and conducting our research? And can we incorporate the voices of “others” without colonizing them in a manner that reinforces patterns of domination? Can these types of dilemmas be resolved, and if so, how? Geographers have had relatively little to say about these troubling questions (important exceptions include Miles and Crush, 1993; Moss, et al. 1993; Pile, 1991; Sidaway, 1992; S. J. Smith, 1988). Instead, anthropologists and, to a lesser extent, sociologists have been leading the discussion on the ethics of fieldwork.³

Feminism and the so-called postmodern turn in the social sciences represent a serious challenge to the methodological hegemony of neopositivist empiricism. One of the main attractions of “traditional” neopositivist methods is that they provide a firmly anchored epistemological security from which to venture out and conduct research. Neopositivist empiricism specifies a strict dichotomy between object and subject as a prerequisite for objectivity. Such an epistemology is supported by methods that position the researcher as an omnipotent expert in control of both passive research subjects and the research process. Years of positivist-inspired training have taught us that impersonal, neutral detachment is an important criterion for good research. In these discussions of detachment, distance, and impartiality, the personal is reduced to a mere nuisance or a possible threat to objectivity. This threat is easily dealt with. The neopositivist’s professional armor includes a carefully constructed public self as a mysterious, impartial outsider, an observer freed of personality and bias.

² This includes those methods that are variously described as feminist, qualitative, interpretive, intensive, ethnographic, and critical. I recognize that each of these has its own unique contribution.

³ Of course, the primacy of anthropology here is partly related to classical anthropology’s colonial heritage when anthropologists were often members of the colonial regime that dominated the country they studied (Driver, 1992).

Perhaps Stanley and Wise (1993, 66) put it best when they said the “western industrial scientific approach values the orderly, rational, quantifiable, predictable, abstract and theoretical: feminism spat in its eye.” The openness and culturally constructed nature of the social world, peppered with contradictions and complexities, needs to be embraced, not dismissed. This means that “the field” is constantly changing and that researchers may find that they have to maneuver around unexpected circumstances. The result is research where the only inevitability seems to be unreliability and unpredictability. This, in turn, ignites the need for a broader, less rigid conception of the “appropriate” method that allows the researcher the flexibility to be more open to the challenges of fieldwork (Hondagneu-Sotelo, 1988; Opie, 1992).

For me, part of the feminist project has been to dismantle the smokescreen surrounding the canons of neopositivist research – impartiality and objectivist neutrality – which supposedly prevent the researcher from contaminating the data (and, presumably, vice versa). As well as being our object of inquiry, the world is an intersubjective creation and, as such, we cannot put our commonsense knowledge of social structures to one side. This immediately problematizes the observational distance of neopositivism because, as Stanley and Wise (1993, 168) tell us, “treating people like objects – sex objects or research objects – is morally unjustifiable.” Their point is that those who are researched should be treated like people and not as mere mines of information to be exploited by the researcher as the neutral collector of “facts.”

In general, relationships with the researched may be reciprocal, asymmetrical, or potentially exploitative; and the researcher can adopt a stance of intimidation, ingratiation, self-promotion, or supplication (S. J. Smith, 1988). Most feminists usually favor the role of supplicant, seeking reciprocal relationships based on empathy and mutual respect, and often sharing their knowledge with those they research. Supplication involves exposing and exploiting weaknesses regarding dependence on whoever is being researched for information and guidance. Thus the researcher explicitly acknowledges her/his reliance on the research subject to provide insight into the subtle nuances of meaning that structure and shape everyday lives. Fieldwork for the researcher-as-suppliant is predicated upon an unequivocal acceptance that the knowledge of the person being researched (at least regarding the particular questions being asked) is greater than that of the researcher. Essentially, the appeal of supplication lies in its potential for dealing with asymmetrical and potentially exploitative power relations by shifting a lot of power over to the researched.

The intersubjective nature of social life means that the researcher and the people being researched have shared meanings and we should seek methods that develop this advantage. We can attempt to achieve an understanding of how social life is constituted by engaging in real or constructed dialogues in order to understand the people studied in their own terms (sometimes described as the insiders’ view); hence the recent efforts to retrieve qualitative methods from the margins of social science.

These methods offer the opportunity “to convey the inner life and texture of the diverse social enclaves and personal circumstances of societies” (Jackson, 1985, 157).

In essence I am arguing for a geography in which intersubjectivity and reflexivity play a central role. Reflexivity is often misunderstood as “a confession to salacious indiscretions,” “mere navel gazing,” and even “narcissistic and egoistic,” the implication being that the researcher let the veil of objectivist neutrality slip (Okely, 1992). Rather, reflexivity is self-critical sympathetic introspection and the self-conscious *analytical* scrutiny of the self as researcher. Indeed reflexivity is critical to the conduct of fieldwork; it induces self-discovery and can lead to insights and new hypotheses about the research questions. A more reflexive and flexible approach to fieldwork allows the researcher to be more open to any challenges to their theoretical position that fieldwork almost inevitably raises. Certainly a more reflexive geography must require careful consideration of the consequences of the interactions with those being investigated. And the reflexive “I” of the researcher dismisses the observational distance of neopositivism and subverts the idea of the observer as an impersonal machine (Hondagneu-Sotelo, 1988; Okely, 1992; Opie, 1992).

Failed Research?

In the social sciences the lore of objectivity relies on the separation of the intellectual project from its process of production. The false paths, the endless labors, the turns now this way and now that, the theories abandoned, and the data collected but never presented – all lie concealed behind the finished product. The article, the book, the text is evaluated on its own merits, independent of how it emerged. We are taught not to confound the process of discovery with the process of justification (Burawoy, 1991, 8).

A further characteristic of neopositivist empiricism, as Burawoy indicates, is to ignore the actual *making* of geography. The concerns associated with *doing* research are usually ignored and accounts are produced from which the personal is banished. However, research is a *process* not just a product. Part of this process involves reflecting on, and learning from past research experiences, being able to re-evaluate our research critically, and, perhaps deciding, for various reasons, to abandon a research project. In short, I see research as an ongoing, intersubjective (or more broadly, a dialogic⁴) activity, and it is in this spirit that I want to discuss my dilemmas about “doing” a recent research project about lesbians in Toronto.

⁴ Dialogism is Mikhail Bakhtin’s (1986) theory about encountering “otherness” through the potential of dialogue between people (or with oneself). It involves the continual interaction between meanings, each of which has the potential of conditioning the others. Dialogism turns on the notion that people’s responses are conditional and human circumstances are contingent (Folch-Serra, 1990).

Questions relating to sexualities have been placed firmly on the research agenda of cultural and feminist studies (Crimp, 1992; de Lauretis, 1991; D'Emilio, 1992; Douglas, 1990; Gamson, 1991; Grosz, 1989; Ross, 1990) and geography (Bell, 1991; Geltmaker, 1992; Jackson, 1989, 1991; Knopp, 1987, 1990, 1992; Valentine, 1993a, 1993b). In the last few years I have read this work with great interest, but have been disappointed that geographers have paid very little attention to lesbians (but see, Adler and Brenner, 1992; Peake, 1993; Valentine, 1993a, 1993b; and Winchester and White, 1988). Living in a city with a large, gay male and lesbian population, I began to consider developing a research project about the extensive lesbian communities of Toronto.

Most previous geographical work on sexual identities has focused on the residential geography of gay men, especially their role in inner city revival. Inspired by Adler and Brenner's (1992) work on locating and characterizing the lesbian neighborhoods of a United States city, I used publicly available information (for example, "The Pink Pages: Toronto's Gay and Lesbian Directory") to compile and map the postal codes of lesbian-positive and lesbian-owned services and amenities in Toronto. However, I wanted to move beyond merely uncovering spatial patterns to explore the [social and spatial] implications and political consequences of this particular form of urban restructuring. Moreover, given that the most recent work in geography has advanced the notion that sexualities and space are mutually constructed (Geltmaker, 1992; Knopp, 1992; Valentine, 1993b), I felt it was important to explore how lesbian identities are constructed in and through [spatial relations].

Recently there has been a surge of interest in urban-based marginalized groups (see, for example, Laws, 1993; Rowe and Wolch, 1990; Ruddick, 1994; N. Smith, 1993). This interest broadens the horizons of geography, promises new research directions, and asks new questions. Generally, marginalized groups seem better able to exist autonomously, or even anonymously, in central cities than elsewhere. Certainly lesbian (and gay) territories and spaces are relatively insulated "safe places" away from heterosexism and homophobi[a].⁵ They help provide a collective affirmation of identity, and allow for self-definition and self-exploration. However, the territorial claims of marginalized people are almost always contested more vigorously than those of more privileged groups. Despite gains made regarding prejudice and discrimination against numerous social groups, North America is still very heterosexist and homophobic. A chilling example of this was the extensive support of Amendment 9 in Oregon and Initiative 2 in Colorado (measures to overturn existing municipal laws protecting lesbians and gay men from discrimination in housing and employment) during the 1992 United States elections. So, for the minority of gay men and lesbians who live in self-identified neighborhoods, such self-[exposure] is not without its

⁵ Homophobia is the irrational fear and hatred of lesbians, gay men, and bisexuals. Heterosexism refers to the privileging of heterosexuality over other sexual identities, and the assumption that heterosexuality describes the world [or that it is the normal state of being].

dangers. The more lesbian and gay communities imprint and reinvent their identities in space, the more vulnerable they become to surveillance and containment. The most obvious and pernicious outcome of this is lesbian/gay baiting, bashing, and [...] murder.⁶

Sexual identities are negotiated, contested, and, quite literally, defended in and through space. Toronto's gay men and lesbians have been actively struggling against heterosexism and homophobia, and space has been a crucial component of this struggle. This is particularly apparent in lesbian and gay protests in "public" spaces: "homo kiss-ins" in shopping centers and straight bars; the annual lesbian and gay Pride Week Parade⁷; the frequent demonstrations around efforts to increase federal and provincial funding for AIDS prevention and research; and the recent, very loud demonstrations about the Canada Customs seizure of lesbian-explicit erotica. The cheers of "We're queer, we're here, get used to it" and "We're fags and dykes and we're here to stay" are noisy expressions of anger and affirmations of identity. Derogatory, "deviant" labels are turned on their head. T-shirts printed with "DYKE" or "I'm so queer I can't even think straight" reclaim meanings, disrupting and challenging the very process of categorizing and labelling. I read these events as lesbians (and gay men) occupying spaces that have been coded heterosexual. Spaces that are, supposedly, public are actually "heterosexed" spaces that are not intended to be spaces for lesbians or gay men. In short, these protests and resistances of heterosexism and homophobia are inherently territorial and capture the link between identity, resistance, and space.

Clearly, I think that the intersection of gender, sexual identities, and space is a very fruitful area for geographic research, but I have not really progressed much beyond merely thinking about doing this research. Initially I had three major concerns. First, is it ethical to identify the place of the study? Other research did not reveal the location of the community studied (Adler and Brenner, 1992; Lockard, 1985;

⁶ Bashing appears to be on the increase in Toronto's most visible lesbian/gay neighborhood. Although bashing occurs throughout the year, it increases during the summer months when the main perpetrators – male youth – are out of school and come to this part of the city specifically to beat up gay men and lesbians. In 1990 the neighborhood community center established a "bashing hotline" so that victims can call for support, but also to log the details of the attack. This information has been used to prompt better police response and sensitivity. In the summer of 1993 the Toronto Metropolitan Police (in cooperation with the City of Toronto's committee on lesbian and gay issues) began a campaign against bashing. This campaign includes public service announcements and bus shelter advertising that announce that "Lesbian and gay bashing is a hate-motivated crime" and "Being lesbian or gay is not a crime. Bashing is."

⁷ Pride Week is in June and marks the anniversary of the 1969 Stonewall riots in Greenwich Village. These riots, a reaction to continued police raids on gay bars, are generally considered to have been the beginning of the lesbian and gay rights movement in the United States. It is celebrated in a number of cities around the world. The parade has a 13-year history in Toronto, but it was not until 1993 that the police designated it a community event, exempting it from policing costs.

Valentine, 1993a, 1993b). The reason was that some lesbians and gay men might not have wanted their communities “outed,” and there was the real fear of reprisals, including physical attack. Second, I had concerns regarding my research assistant. I had employed her mainly because of her intellectual abilities, but also because she is a lesbian and, as such, provided me with another means by which I could gain entry into the lesbian world. The complicated layering and interweaving of power relations between myself, my research assistant, and the project became too much for me. I began to engage in what I can only describe as the mental hand-wringing of a straight, white (my research assistant is an Afro-Caribbean Canadian), feminist academic. Finally, I made a few preliminary phone calls to, for example, the organizing committee of the Pride Week Parade. My calls were not returned. It is probable that my timing was not very good; I made my calls a few weeks before the parade took place. Then, I began to think about Gerda Wekerle choosing to exclude a nonprofit housing project for native women from her study of Canadian women’s housing cooperatives because the women “felt that they had already been over-studied” (1988, 103). I began to wonder whether, in an era of postmodernity marked by the celebration of “otherness” in which, as Suzanne Westenhoefer (a lesbian stand-up comic) wryly put it, “everyone wants to know a lesbian or to be with a lesbian or just to dress like one” (quoted in Salholz et al., 1993), we are engaged in the process of fetishizing “the other” (Probyn, 1993). Some of my discomfort about these three problems is captured by Liz Bondi:

the post-modern venture is a “new kind of gender tourism, whereby male theorists are able to take package trips into the world of femininity,” in which they ‘get a bit of the other’ in the knowledge that they have return tickets to the safe, familiar and, above all, empowering terrain of masculinity (Bondi, 1990, 163).

I had to ask myself if I am guilty of something similar? Could I be accused of academic voyeurism? Am I trying to get on some cheap package tour of lesbianism in the hopes of gaining some fleeting understanding of, perhaps, the ultimate “other,” given that lesbians are not male, heterosexual, not always middleclass, and often not white? In the midst of academic discourse on the problems of appropriating the voices of marginalized people and the perils of postcolonialism, I worried that I might be, albeit unintentionally, colonizing lesbians in some kind of academic neoimperialism.

Appropriating the Voices of “Others”; Or When Reflexivity Is Not Enough

The questions prompted by my “failed research” raise two sets of problems. The first revolves around the role of the researcher in the research encounter, the second around the nature of power relations in research about marginalized groups. I see fieldwork as a dialogical process in which the research situation is structured by both the researcher and the person being researched. Two issues flow from this point. The first is that the dialogical nature of research increases the probability that the

research may be transformed by the input of the researched. The second is that dialogism means that the researcher is a visible and integral part of the research setting. Indeed, research is never complete “until it includes an understanding of the active role of the analyst’s *self* which is exercised throughout the research process” (S. J. Smith, 1988, 18; also see Evans, 1988; Pile, 1991). We do not parachute into the field with empty heads and a few pencils or a tape-recorder in our pockets ready to record the “facts.” As Stanley and Wise point out:

Whether we like it or not, researchers remain human beings complete with all the usual assembly of feelings, failings, and moods. And all of those things influence how we feel and understand what is going on. Our consciousness is always the medium through which the research occurs; there is no method or technique of doing research other than through the medium of the researcher (Stanley and Wise, 1993, 157).

In short, the researcher is an instrument in her/his research and despite some commonalities (our education, and in many instances, our “race” and class), geographers are not part of some universal monolith. We are differently positioned subjects with different biographies; we are not dematerialized, disembodied entities. This subjectivity does influence our research as is illustrated by, for example, the extensive literature on how the gender of the researcher and those being researched influences the nature of fieldwork (Geiger, 1990; Herod, 1993; Oakley, 1981; Warren, 1988). Moreover, we have different personal histories and lived experiences, and so, as Carol Warren (1988, 7) makes clear, the researcher as “any person, without gender, personality, or historical location, who would objectively produce the same findings as any other person,” is completely mythical.

The biography of the researcher directly affects fieldwork in two ways. First, different personal characteristics (be it that I am a white, straight English woman living in Canada or that I don’t have a flair for quantitative methods) allow for certain insights, and as a consequence some researchers grasp some phenomena more easily and better than others. Indeed fieldwork “requires imagination and creativity and, as such, is not for everyone” (Mills and Withers, 1992, 163). At the same time, the everyday lives of the researched are doubly mediated by our presence and their response to our presence. I will illustrate this point with an example from my fieldwork experience. A couple of my previous projects have involved interviewing managers, almost all of whom are white men who are older than me. Occasionally they volunteered information that indicated that their firm had been engaged in practices that were, at best, marginally legal. My questions were not intended to elicit these responses (an example of the people being investigated shaping the nature of the research), and I have often wondered whether this information would have been so readily revealed to an older, more established male academic, especially one who did not supplicate, but instead intimidated the managers or was motivated by self-promotion. This experience reflects Linda McDowell’s assertion that because women may be perceived by men that they interview as “unthreatening or not ‘official,’

confidential documents (are) often made accessible, or difficult issues broached relatively freely” (McDowell, 1988, 167; also see McDowell, 1992a, 1992b). Certainly, I think that a combination of my biography and my tendency towards supplication gained me access to information that might not be given so willingly to a differently positioned academic. The researcher cannot conveniently tuck away the personal behind the professional, because fieldwork *is* personal. As Okely (1992, 2) notes “those who protect the self from scrutiny could as well be labelled as self-satisfied and arrogant in presuming their presence and relations with others to be unproblematic.” A researcher is positioned by her/his gender, age, “race”/ethnicity, sexual identity, and so on, as well as by her/his biography, all of which may inhibit or enable certain research method insights in the field (Hastrup, 1992).

The second set of problems raised by my “failed research” derives from the nature of power relations in the research encounter. My “failed research” taught me that recognizing or even being sensitive to these power relations does not remove them. I would even argue that adopting the role of a supplicant may make it too easy for the researcher to “submerge the instrumental and exploitative elements of participant observation beneath a wave of altruistic intent” (S. J. Smith, 1988, 22). Fieldwork is inherently confrontational in that it is the purposeful disruption of other people’s lives. Indeed, anthropologists even speak of the “violence” of fieldwork, even if the violence is symbolic (Crapanzano, 1977; Hastrup, 1992; Rabinow, 1977). In fact, exploitation and possibly betrayal are endemic to fieldwork. This is not to say that the research experience is always a negative one for the researched. Many of the women whom I have interviewed told me that they found the exercise quite cathartic and that it enabled them to reflect on and re-evaluate their life experiences. Despite this I think that fieldwork might actually expose the researched to greater risk and might be more intrusive and potentially more exploitative than more traditional methods (Finch, 1984; Oakley, 1981; Okely, 1992; Stacey, 1988, 1991). Judith Stacey summarizes these worries:

Precisely because (these methods rely) upon human relationship, engagement, and attachment, it places research subjects at grave risk of manipulation and betrayal by the (researcher) ... For no matter how welcome, even enjoyable the fieldworker’s presence may appear to “natives,” fieldwork represents an intrusion and intervention into a system of relationships, a system of relationships that the researcher is far freer than the researched to leave (Stacey, 1988, 22-23).

Indeed, I am concerned that appropriation (even if it is “only” textual appropriation) is an inevitable consequence of fieldwork. This possibility is uncomfortable for those of us who want to engage in truly critical social science by translating our academic endeavors into political action. Yet, as researchers we cannot escape the contradictory position in which we find ourselves, in that the “lives, loves, and tragedies that fieldwork informants share with a researcher are ultimately data, grist for the ethnographic mill, a mill that has a truly grinding power” (Stacey, 1988,

23). Like Stacey, I have to admit there have been interviews when I have listened sympathetically to women telling me about the details of their lives (my role as participant) while also thinking how their words will make a great quote for my paper (my role as observer).

At the same time I am not convinced of the viability of some of the popular solutions for dealing with this (textual) appropriation. These include sharing the prepublication text with the researched for feedback and writing “multivocal” texts that “give voice” to the researched by, for example, including lengthy quotes from their interviews. Indeed, some feminists argue that these practices are vital parts of the research process. The intent is to minimize appropriation by avoiding misrepresentation and extending the idea of a reciprocal research alliance between the researcher and the researched. While we can revise our work in response to the reactions of the researched, surely the published text is the final construct and responsibility of the researcher. For example, it is the researcher who ultimately chooses which quotes (and, therefore, whose “voices”) to include. Also, is weaving lengthy quotes from interviews into the text a sufficient means of including “others,” especially when those quotes are actually responses to unsolicited questions that came about through the researcher’s disruption of someone else’s life (Okely, 1992; Opie, 1992; Stacey, 1988, 1991)?

So where does all of this leave those who wish to conduct research with integrity about marginalized people? I am, quite frankly, still unsure about the answer to this question. However, at this point my position is this. The first step is to accept responsibility for the research[. As] Rahel Wasserfall (1993, 28) remarks, researchers “cannot pretend to present fully their informants’ voices and have to take responsibility for their intrusions both in their informants’ lives and the representation of those lives.” There also needs to be recognition that the research relationship is inherently hierarchical; this is simply part and parcel of the (conflictual) role of the researcher. I am not saying that we should not adopt strategies to counterbalance this inevitability, but reflexivity alone cannot dissolve this tension. Reflexivity *can* make us more aware of asymmetrical or exploitative relationships, but it cannot remove them.

Perhaps the [thornier] question is whether, given the inevitability of unequal power relations in fieldwork, we should even be doing this research at all. I think any answer must be equivocal. What I have argued thus far is that the research encounter is structured by both the researcher and the research participants, and that the research, researched, and researcher might be transformed by the fieldwork experience. I want to take this argument a step further. I suggest that we approach the unequal power relations in the research encounter by exposing the partiality of our perspective. I am a straight woman who is sympathetic to the argument that lesbian geographers should do lesbian geography. However, I agree with Linda Peake who has argued that “in their efforts to wrest control of developments in feminist theory (certain Black feminists) are delivering a potent rhetoric of political correctness that can strike panic in feminists who are sympathetic to their concerns” (1993, 419). Of course, all the sympathy in the

world is not going to enable me to truly understand what it is like for another woman to live her life as a lesbian. However, researchers are part of the world that they study; as Dorothy Smith (1987, 142) puts it, “Like Jonah, she is inside the whale. Only of course she is one among the multiplicity of subjects whose coordered activity constitute the whale ... she is of and inside the cosmos she seeks to understand.” There exists a continuum between the researcher and the researched. We do not conduct fieldwork on the unmediated world of the researched, but on the world between ourselves and the researched. At the same time this “betweenness” is shaped by the researcher’s biography, which filters the “data” and our perceptions and interpretations of the fieldwork experience (Hastrup, 1992; Hondagneu-Sotelo, 1988; McDowell, 1992b). So, should I decide to pursue my research project on the lesbian community, it will be in the full knowledge that I cannot speak for them and not myself. What I will be studying is a world that is already interpreted by people who are living their lives in it and my research would be an account of the “betweenness” of their world and mine.

In short, I believe that we need to integrate ourselves into the research process, which admittedly is anxiety-provoking in that it increases feelings of vulnerability. However, as Geraldine Pratt (1992, 241, emphasis in the original) remarks “establishing the grounds for taking a position and the right to speak – for oneself and certainly *about* others – is by no means unproblematic.” I believe it is important to be more open and honest about research and the limitations and partial nature of that research. We need to locate ourselves in our work and to reflect on how our location influences the questions we ask, how we conduct our research, and how we write our research.

Conclusion

I have discussed the process of making geographies that are sensitive to feminist and poststructuralist challenges to objectivist social science. I explored ethical questions that exist in most research, but are thrown into stark relief when there is an immediate relationship between the researcher and the people being investigated. I began with a critical discussion of neopositivist and feminist/critical methodology. I noted that the latter does not provide a clear set of rules to follow, but a series of “maps” to guide research. I argued that greater reflection on the part of the researcher might produce more inclusive, more flexible, yet philosophically informed methodologies sensitive to the power relations inherent in fieldwork. Hence, I engaged in a reflexive inquiry into a “failed” research project about gender, sexual identities, and space. That process raised further insight into the ethical nature of my research question, especially with regard to the dialogical relationship between the researcher and the researched. Of course, ethical problems, by their very nature, are not easily resolved and the solution that I offered illustrates the situated and partial nature of our understanding of “others.” I argued that fieldwork is intensely personal, in that the positionality [i.e. position based on class, gender, race, etc.] and biography of the

researcher plays a central role in the research process, in the field as well as in the final text.

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19

Different Diasporas and the Hype of Hybridity

Katharyne Mitchell

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This is the historical movement of hybridity as camouflage, as a contesting antagonistic agency functioning in the time lag of sign/symbol, which is a space in-between the rules of engagement.

– Bhabha, 1994, 193

Today's self-proclaimed mobile and multiple identities may be a marker not of contemporary social fluidity and dispossession but of a new stability, self-assurance and quietism.

– Young, 1995, 4

In much of contemporary cultural criticism there is a celebration of diaspora and hybridity as spaces of subversion. The terms are attractive because of the inherent instability associated with each concept. In contrast with the unappealing teleologies of modernist paradigms or the paralyzing binaries of either/or frameworks, hybridity and diaspora seem to offer a satisfyingly unstable and ambivalent alternative. For many poststructuralist critics, conceptualizations of the mobile, marginal, contradictory, and ambiguous are especially soothing in a period where a growing number of Marxist and feminist scholars have demanded locations of actual resistance in addition to positions of textual critique. The “third space”² of hybridity and the margins of the diasporic

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² Editors' note: third space, in this context, is an in-between conception of space, which mediates between the “first space” of concrete and material circumstances and the “second space” of

have been offered to the sacred altar of resistance as new sites of hope. These liminal spaces are theorized as important positions in the tactical war against dominant hegemonies. In particular, they are conceptualized as key sites of intervention in narratives of race and nation and as the chiasmatic spaces of a progressive and liberatory transnational culture.

I would like to draw out some assumptions implicit in these analyses and offer a partial critique of this growing body of literature. Without denying the *potential* for resistance, I critique the notion that the diasporic, the liminal and the hybrid can *always* be equated with a politically progressive agenda. I argue that the focus on linguistic and cultural disruptions to hegemonic norms, and the implicit assumption of the nation as an abstract cultural space with borders which “contain” lands which must be crossed or “translated” in order to intervene in the ongoing narration of the nation, obscures the importance of contemporary economic processes and of various kinds of diasporic, deterritorialized, and hybrid subject positions that can be and have been used strategically for economic gain. In other words, liminal and partial sites can be used for the purposes of capital accumulation quite as effectively as for the purposes of intervention in hegemonic narratives of race and nation.

Just as it is necessary to situate any discussion of hybridity and diaspora within history [...], it is also critical to locate the concepts geographically. The overuse of abstract metaphors [...] often leads to thorny problems of fetishization. As concepts such as hybridity become disarticulated from the historically shaped political and economic relations in which identities and narratives of nation unfold, they take on a life and trajectory of their own making. Second and third readings, borrowings, interventions, elaborations – all can contribute to conceptualizations that are not only completely removed from the social relations of everyday life, but which also, because of this very abstraction, become ripe for appropriation. The disingenuous move of the “third space” is to occupy a position “beyond” space and time, and beyond the situated practices of place and the lived experience of history.³ The space thus satisfyingly transcends the kinds of essentializing locations that characterize a certain branch of work in historical materialism and feminism. But without context, this “in-between” space risks becoming a mobile reactionary space, rather than a traveling site of

mental and imagined representations, and which exposes practices of exclusion while offering possibilities for liberation.

³ Soja’s recent book is a case in point. In this work the “Thirdspace” is called upon to heal all of the theoretical rifts and “binarisms” of the last several centuries, as well as to open up our spatial imaginations through a critical strategy of “thirling-as-Othering” (1996, 5). This space is able to accomplish all of these marvelous things, precisely because it does not actually exist. Lavie and Swedenburg (1996, 16-23) have expressed a similar [enamoured with] the thirdspace concept, although with considerably more attention to the historical politics of location. Nevertheless, they too conjure up a notion of space relying more on psychoanalytic and cultural narratives than the “geographies” of identity to which they refer in their title. I am indebted to Donald Moore for his insights here.

resistance. It is this problem of appropriation, particularly with reference to economic processes and agents, that I wish to investigate further in this paper.

Diaspora and Hybridity

In the past, the invocation of diaspora has related most specifically to the situation of a people living outside of their traditional homeland. Historically, for example, the general dispersion or scattering of a “diasporic” people has been identified most closely with the dispersion of Jews among the “Gentile” nations.⁴ In contemporary usage in much of cultural theory, however, the term has come to signify a more general sense of displacement, as well as a challenge to the limits of existing boundaries.⁵ The tighter definitions that signified specific groups as diasporic, or which followed an ideal-type model in which certain features taken together signified diasporas have, by and large, given way to broader conceptualizations of travel, displacement, dislocation, and divided loyalties.⁶ Clifford (1994), among others, has offered a useful contemporary critique of the kinds of constraints imposed by the normative assumptions of ideal type models. Although the attempt to define diaspora is important, it limits our understanding of the “ambivalent, even embattled” signifying features of diasporic groups. It also elides the [historical] process of change, wherein different societies “wax and wane in diasporism, depending on changing possibilities” (Clifford, 1994, 306).

[...]

[T]here is a powerful critique of prior narratives of fixity and mobility, and the power relations involved in them. This broad conceptual understanding of the ways in which the invocations of diaspora can have critical material and symbolic effects has provided a crucial impetus for scholars to further their research into the roots and

⁴ See, for example, the definition of the *Oxford English Dictionary* (shorter edition).

⁵ Lavie and Swedenburg write, “The phenomenon of diasporas calls for reimagining the ‘areas’ of area studies and developing units of analysis that enable us to understand the dynamics of transnational cultural and economic processes, as well as to challenge the conceptual limits imposed by national and ethnic/racial boundaries” (1996, 14; see also Gilroy, 1992).

⁶ Safran (1991, 83-84) has written a defining model of diaspora, in which he lists six key features. These include a history of dispersal, memories of a place of origins, alienation in the new country, a desire to return to the homeland, ongoing support of the homeland, and a sense of collective identity as a group. Within the confines of this somewhat restrictive definition, he identifies just seven contemporary diasporic populations. For many contemporary theorists, this approach is far too narrow, and prescriptively limits both the epistemological potential of the term, as well as the possibilities of differently framed “diasporas” such as those of the *[B]lack Atlantic*, so persuasively described by Gilroy (1993; see also Clifford, 1994, 305).

routes of specific diaspora histories and geographies. Despite the imperative to contextualize, however, many contemporary poststructuralist theorists have seized on the progressive theoretical potential of the term itself, and abstracted it away from the situated practices of everyday life. The identification of peoples who have multiple loyalties, move between regions, do not occupy a singular cultural space, and who often operate in some sense exterior to state boundaries and cultural effects, has proven attractive for theorists who have sought to disrupt normative narratives and understandings of nation and culture. Those in literal motion in-between nations or outside of proscribed, static cultural locations become vaunted as the potential locus of cultural understandings that resist hegemonic norms of both race and nation.

The same abstracting away from a situated historical perspective has also occurred in numerous discussions of hybridity. The standard dictionary definition of the term is of a thing derived from heterogeneous sources or composed of incongruous elements. Not surprisingly, this definition has proven attractive for those interested in questions of identity and the constitution of subjectivity in a postmodern era. Many cultural theorists herald the ways in which apparently hybrid subject positions can facilitate multivocal communications and the production of syncretic [i.e. combined] cultural forms. Owing to the manifest lack of an essentialized or fixed identity (through the derivation from heterogeneous sources and incongruous elements), the hybrid stands as the perfect conduit for poststructuralist understandings of the advantages of pluralism, ambivalence and nonfixity. Because of its neither-nor nature, hybridity is celebrated as a process rather than a thing; its inherent resistance to fixed binaries causes it to remain in a perpetual state of flux, related to and yet not originating from or causing other moments, spaces, or entities. For many cultural theorists, it is this mobile undecidability that posits hybridity and hybrids as the perfect interlocutors of resistance to essentialist narratives.

With both diaspora and hybridity it is the spaces in the margins, the unfixed spaces *in-between* states and subject positions that are vaunted as the location of resistance and intervention in hegemonic narratives of race, culture and nation. Bhabha, for example, writes of the importance of the “turning of boundaries and limits into the *in-between* spaces through which the meanings of cultural and political authority are negotiated” and heralds the “*international dimension both within the margins of the nation-space and in the boundaries in-between nations and peoples ...*” (1990, 4, emphasis added). Bhabha posits hybridity as a form of in-between space, which he terms the “third space”, a space inherently critical of essentialism and conceptualizations of original or originary culture. He writes, “For me the importance of hybridity is not to be able to trace two original moments from which the third emerges, rather hybridity to me is the ‘third space’ which enables other positions to emerge” (1990, 211).

[...]

The emphasis on the cultural spaces of the nation – spaces which can be marked and then crossed – leads a geographer to the [...] critical question: what are the

actual physical spaces in which these boundaries are crossed and erased? [...] A pertinent contemporary example of hybridity's glorification at the expense of the historical and material is evident in a recent article on hybridity in Hong Kong.

The Hong Kong Hybrid in Diaspora

We (as Hong Kong intellectuals) need to define our CCD [culture of critical discourse] from 'within' Hong Kong's hybridized culture which is at the same time within and without the legitimized 'purer' cultures, straddling a problematic position between the East and the West. (Lee, 1994, 18).

In Lee's work the Hong Kong intellectual is positioned as the perfect hybrid subject – one whose "mixed-code hybridized language" can aid in the "perpetuation of Hong Kong's culture as a hybridity" (1994, 21-22). It is both this linguistic liminality and the ambivalent position between national cultures (of China and Britain) which Lee believes enables new spaces of resistance and new kinds of interventions in the national narratives of "Great China" and "Western civilization." He writes,

Translation and mimicry produce a new hybridized subjectivity and culture which are precisely those of Hong Kong people. The role of Hong Kong intellectuals is to re/present such a subjectivity and culture, and their ambivalence, in order to deconstruct the illusion of cultural purity that many Hong Kong people still cling to: either the dead tradition of Great China, or the blind worship of Western civilization (1994, 19).

Lee argues that intellectuals who grew up in Hong Kong, and are either still in Hong Kong or have now emigrated to the West, would likely identify themselves as Chinese, or as a hybrid, or as "someone from Hong Kong – a purely geographical location devoid of national boundary and cultural identity" (1994, 12). The discussion of Hong Kong as a site "devoid of national boundary and cultural identity" is made in many places, as he discusses the territory's "lack of national identity" and cultural authenticity. As Hong Kong is depicted as a place *in-between* China and the West, without real national borders and thus without any national imagining of a common territory, tradition or origins, Lee posits Hong Kong people as subjects uncompromised by the myth of origins or the necessity to "perform" or supplement the nation.

In Lee's analysis, it is Hong Kong's politically ambiguous and culturally ambivalent situation that has created the potential for a progressive "hybrid" intervention. The tremendously successful capitalism of the colony, noted by most of the rest of the world, is mentioned only as one of the reasons that Hong Kong has been a blind spot for post-colonial discourse; in other words, because of its very success, it has deconstructed the "romanticization of the colonialism-wrecked East" (1994, 12) and thus provided unsuitable fodder for numerous postcolonial critics. The separation of the economic and the cultural in his analysis is most clearly marked in the

discussion of language, where linguistic liminality is theorized as a site in-between, a space that allows and facilitates critiques of both Great China and Western civilization.

Yet this “third space” is clearly a space related to capital accumulation in a very literal sense. As the author notes himself, English is learned as a tool in Hong Kong – one that is strategically important for business and a “necessity for social mobility and white-collar employment” (1994, 13). It is this English, incompletely learned, or learned and manipulated that forms the “Chinglish” hybrid which Lee finds so subversive. Language is theorized here as a product of colonialism and capitalism, one that allows for an in-between subject positioning that may resist national narratives of authenticity and purity. Yet there is no conceptualization of how language may also be *productive of* spaces of colonialism and/or capitalism. Theorized in the abstract and culturally inscribed, a “hybridized vernacular” and “mixed-code language” is posited as inherently progressive because of its creolized nature. It is produced by economic and cultural forces, but then takes a position of antagonist ambivalence in an abstracted “third space”. The economic provenance of this hybrid is lost, as is its potential to produce spaces that may be violent, retrogressive, or strategically materialist.

The problem is compounded by the notion of language as something that is chosen and wielded at will. As Poster (1990) and others have discussed at length, people are constituted by and through language. The belief that Hong Kong intellectuals can “define our CCD from ‘within’ Hong Kong’s hybridized culture” and manipulate this hybrid discourse in politically progressive ways [...], neglects the ways in which the economic, cultural, political, and social threads woven into the very language of the “culture of critical discourse” infect the speaker and not just the words themselves. The notion of a culture of critical discourse, as Lee borrows it from Gouldner,⁷ abstracts away from the necessary situatedness of language and its imbrication in the economic as well as social practices of everyday life.⁸

The implicit notion of a progressive hybrid choice for the Hong Kong intellectual returns as Lee asks, “May Hong Kong intellectual be used as a strategic corrective to the polarizing binarism between ‘Chinese intellectual’ and ‘*the* (Western) universal intellectual’”? He answers by suggesting that if this is possible it is through the *popular_culture* of Hong Kong, because it is popular culture which allows a “hybridization of Chinese and Western” and does not insist on the “purity of imagined cultural polarizations.” Hybridity is again conceptualized in terms of contemporary

⁷ Gouldner's definition: “a relatively situation-free discourse is conducive to a *cosmopolitanism* that distances persons from local cultures, so that they feel an alienation from all particularistic, history-bound places and from ordinary, everyday life. ... The grammar of critical discourse claims the right to sit in judgement over the actions and claims of any social class and all power claims to truth, however different in social origin, are to be judged in the same way” (quoted in Lee, 1994, 12).

⁸ For a further discussion of the economic and social situatedness of language, see Pred's (1990) brilliant ethnography of working-class life and language in Sweden at the turn of the century.

cultural and linguistic boundaries – boundaries that the Hong Kong intellectual can choose whether or not to cross. By virtue of their inherently ambivalent national positioning, Hong Kong intellectuals can occupy the marginal spaces which allow them the critical cultural distance to resist hegemonic narratives of race and nation. This conceptualiz[es] [...] a cultural position able to “detach itself from self-serving interest or unquestioned, but strictly limited, ends.” [...]

Without contextualizing both the specific movements and constitution of hybrid subjects, as well as the historical provenance of theoretical terms “within the ideologies of their times”, it would be easy to position Hong Kong Chinese “hybrid” and “diasporic” emigrants to Canada as the perfect conduits for “supplementing” the nation and forcing the renegotiation of its cultural and political authority. It would appear that this group, among all others, could make substantial interventions in the narration of the nation as the archaic temporality of territory and tradition, and provide the perfect chiasmic location for a new transnational culture.⁹ But interventions in hegemonic nationalisms that are posited in cross-border or transnational, transcultural spaces are limited by their reliance on an abstract notion of preexisting space. For example, that national identity always originates and is supplemented in a nation-*space* is an assumption that doesn’t always hold true. It could be argued that the origins myth, which Bhabha claims forms the roots of modern nations, is not necessarily singular (cf. Sparke, 1996, chapter 2) and not necessarily about a common *spatial* territory.¹⁰ For some contemporary Hong Kong Chinese citizens, for example, the foundation of national identity may be rooted in both historical memories related to China and also to the common spaces of capital accumulation located in Hong Kong itself. The strategic use of ethnic identity as a signifier of nationness (in this case ‘Chineseness’), may not be entirely bound to literal roots in the sense of a rootedness in a common origin territory or nation-space, but may be bound more closely to another kind of location – one that privileges certain types of economic spaces, such as

⁹ To some degree, this type of “forced renegotiation” has taken place in Vancouver in the context of major struggles over municipal zoning. In one contestation that I examined in the early 1990s, an AD HOC neighborhood group formed primarily of recent Hong Kong immigrants, contested a downzoning measure in a formerly racially exclusive area of the city, Shaughnessy Heights. In the process of contesting the zoning, the group also exposed the types of racial exclusions that had formerly kept Chinese residents from equal participation in public hearings, such as those concerned with neighborhood zoning. In this way, the AD HOC committee effectively challenged the idea of equal access to the public sphere and forced a renegotiation of the actual workings of democracy within Canada’s liberal welfare state. Despite this “liberatory” component, however, it is worth noting that the critique of the political workings of the liberal democratic process was made from a position of *economic* liberalism. The key argument of the AD HOC committee rested on an individual’s economic freedom vis-à-vis private property. This case thus amply demonstrates the complexity of any given “resistance” to dominant narratives, and the need to contextualize and consistently monitor these liberatory sites (see Mitchell, 1997a; Ley, 1995).

¹⁰ Clifford notes in this regard the early work of the Jewish anti-Zionist, Simon Dubnow, whose “secular vision of ‘autonomism’ projected a cultural/historical/spiritual ‘national’ identity beyond the territorial/political” (1994, 328).

those of free market capitalism. It may also be a complicated mix of paradoxical or shifting allegiances and identities. It is only through an examination of particular histories and geographies that these issues can be understood with any clarity.

I examine these ideas by looking at some self-fashioning strategies of Hong Kong Chinese entrepreneurs who are engaged in business ventures in both 'Asia' and 'the West'. I focus first on one of the hegemonic narratives of the type which Bhabha, Lee, and others, wish to disrupt. This narrative, which was prevalent in Vancouver in the 1980s, is that of the literal rootedness of Anglo citizens in the physical spaces (soil) of the Canadian nation, a narrative which clearly excluded the recent Hong Kong immigrants to the city. I then discuss the counternarrative offered by the Hong Kong-Canadian business community, and look more broadly at some of the self-fashioning strategies of Hong Kong Chinese business-people as they operate in the "liminal" and diasporic sites in-between nations. Without denying the potential and indeed often realized resistance to many *cultural* narratives, such as that of rootedness, I foreground instead the ways in which counternarratives can be and are also used for the purpose of furthered economic integration and capital accumulation.

Trees and the Roots of Nation

There is probably no better symbol for British Columbia at this time than trees. Nice, big, old trees. It was through the mass destruction of hollies and sequoias in Vancouver's neighborhoods and on West Vancouver's hills that we all became aware of the fact that the Lower Mainland was changing. (Taylor, *Vancouver Sun*, 1991, A2)

People are often thought of, and think of themselves, as being rooted in place and as deriving their identity from that rootedness. The roots in question here are not just any kind of roots; very often they are specifically arborescent in form. (Malkki, 1992, 27)

It is odd how the tree has dominated Western reality and all of Western thought ... The West has a special relation to the forest and deforestation ... (Deleuze and Guattari, 1987, 18)

In Vancouver in the late 1980s, pervasive urban development led to major dislocations for numerous urban residents. Much of this development was related to voluminous capital flows from Hong Kong, as many Hong Kong capitalists sought secure locations for both capital investments and residence in Canada.¹¹ Conflicts over

¹¹ For further discussion of the changes and conflicts in Vancouver during this time period see Mitchell (1993b). See also Olds (1995) for an analysis of the impact of urban megaprojects funded by Hong Kong dollars.

rising house prices and apartment rents, housing and apartment demolitions, and the construction of large, “monster houses” became imbricated in a racial discourse, as many long-term Anglo residents associated the rapid transformation of the city with the increased immigration and investment from Hong Kong.¹² One of the most bitter sites of contention was the removal of mature trees from the lawns and gardens of houses slated for demolition and rebuilding. Numerous community movements, such as the Kerrisdale-Granville Homeowners’ Association (KGHA), quickly arose to combat the “destruction” of the landscape and to protest the loss of ambience and character in the west-side neighborhoods of Vancouver.¹³

In a neighborhood action against the felling of two giant sequoias in April, 1990, members of the KGHA protested by tying yellow ribbons around the trees a few days before they were scheduled to be removed. The protesters joined hands around the trees and left informational placards where bypassers could read them. A month later, after the two sequoias had been felled, forty neighbors from the area planted new sequoias in a city park to commemorate the loss of the older trees. The community organization invited high-school students from two schools to help plant the new trees. Tom Arnold, a reporter from the *Vancouver Sun*, described the tree-planting event with the phrase, “‘An eight-year-old boy helped turn the soil ...’ Cindy Spellman said of the planting, ‘It’s worth it because we are planting the new trees for our children’” (Arnold, *Vancouver Sun*, 1990, B1).

The removal of mature trees and gardens in west-side neighborhoods caused greater anger and resistance than either the demolition of apartment buildings or the construction of the so-called monster houses. Trees were linked with an image of Vancouver that was extremely important for many Anglo residents to maintain. The tree-lined streetscape and even specific trees and gardens were identified with the essence of a west-side way of life; removal of the trees was threatening to this image and was fought with great vehemence. As Duncan and Duncan (1984) have written about Shaughnessy Heights, many of the west-side neighborhoods of the city were established in the image of a pastoral Britain of the pre-industrial era. The free-flowing landscaping and mature trees operated symbolically as a link to an imagined aristocratic past, but also as a bulwark against change, particularly the pernicious influences of change brought in from the outside. Canetti (1978, 84-85) writes of the forest:

¹² The term “monster houses” refers to a commonplace description of a number of extremely large, often box-shaped homes that were constructed in west-side areas in the 1980s and early 1990s. These houses were sources of major conflict, as they were perceived by many long-term residents as destroying the “character” of the neighborhood (see Mitchell, 1997b).

¹³ Urban redevelopment transformed all of Vancouver in the late 1980s, but it was protested most vociferously in the upper-class, mainly Anglo neighborhoods of the city’s west-side.

Another, and no less important, aspect of the forest is its multiple immovability. Every single trunk is rooted in the ground and no menace from outside can move it. Its resistance is absolute; it does not give an inch. It can be felled, but not shifted. And thus the forest has become the symbol of the *army*, an army which has taken up a position, which does not flee in any circumstances, and which allows itself to be cut down to the last man before it gives a foot of ground.

As the trees were also considered to be living beings, their destruction was perceived in a particularly serious light. Resistance took on the character of a moral crusade. Those who destroyed trees were morally wrong or depraved; at the least they were misguided or uneducated. One activist protested the felling of two sequoia trees at 6425 Marguerite in Kerrisdale by invoking religious language in her speech at a neighborhood protest. She said dramatically, “These trees are part of the soul of the neighborhood” (Quoted in the *Courier*, 1990, 7). After their removal, a reporter described the remaining empty space in terms of death and burial, again recalling metaphysical imagery: “All that remains of what one horticulturalist called ‘the most perfectly matched sequoias in Vancouver’ is two earth-covered stumps” (Blain, *Vancouver Sun*, 1990, B4).¹⁴

Investing territory and things with human characteristics allows the naturalization of links between people and place. The connection between people and place – metaphorically expressed through tree imagery – is important not only in establishing, confirming, and romanticizing those who are “of the soil”, who are part of a traceable, genealogical tradition, who “belong”, but also in identifying and demonizing transients or sojourners arriving from elsewhere – those who are “without place”. The condition of placelessness or rootlessness in society is perceived and represented as pathological – and described so in moral terms (Malkki, 1992).

The moral element of the fray was clearly linked to a positive depiction of “the country” and a negative image of “the city” (compare Williams, 1973).¹⁵ As a dichotomy between city and country morals and ways of living emerged, the Hong Kong Chinese often became identified as the essential city dwellers. These

¹⁴ For a further analysis of this particular tree confrontation, see Ley (1995). The controversy over the removal of trees on private property has been ongoing, and remains one of the most divisive and bitter issues in Vancouver city politics.

¹⁵ Of course this idea of the country and its ethically superior ways of life were promulgated from suburban residents well within municipal boundaries. The irony of the use of morality in the tree debate extends in several directions, including the fact that a number of the wealthy, west-side residents involved in this controversy may have secured their positions in these upscale, wooded neighborhoods as a result of the profits reaped from the BC timber industry. In addition, as Willems-Braun (1997) has shown with regard to the wider rhetoric surrounding the ‘rainforest’ and ‘nature’ in British Columbia, discourses such as these have completely excluded and/or appropriated the history, experiences, and voices of First Nations people, from whom the ‘wooded’ land was originally seized.

cosmopolitan urbanites, carriers of the ill effects of accelerated modernism, were set up in opposition to and confrontation with those who “love gardens”. Virginia Cohen, a west-side homeowner, said in an interview:

V: What I feel personally, I’m European, so I very much like the garden. Our garden stretches quite a ways so that it’s actually balanced with the house. You know how the houses in Europe are in proportion with the garden in general. You look at Spain and France and Germany, it’s been the same for years. Although people have come and added to it, it’s kept that balance. That’s my difficulty. I love to see the houses in proportion with the garden. The problem is, in Hong Kong they have very little land. Here they come and there’s so much land and so what do they do? You see?

K: Is it changing so quickly that you have a sense that it’s going to be different for your children?

V: Well my other area that I lived in between Oak and 41st and 49th, you wouldn’t recognize it, it’s completely changed. All the houses are torn down, and they were a right good size. But now they’re huge, immense houses with very little garden. ... Because I really wonder if they love gardens (author’s interview, 1990).¹⁶

In this statement, a past European heritage and an aesthetic sense of love for a well-proportioned garden is set up in contrast with the Hong Kong tradition, in which an inherent love of the garden is considered dubious. The love of the garden represents an old and venerable European way of life, a way of life which has “been the same for years.” It conjures up images of large garden estates, rootedness, tradition, folk, soil, a past.¹⁷ The contrary image, of urban space and the lack of a proper “balance” of house and garden, distills meanings of rootlessness, sojourn, and transience.¹⁸ In specific neighborhood actions against tree removal, these images were invoked time and again, with the protection of mature trees coded as the protection of tradition, heritage, and a nostalgic, communally remembered past.

¹⁶ Pseudonyms have been used to protect privacy.

¹⁷ Here the imperial significance of well-balanced, well-tended gardens can be linked with the broader domestication of the landscape under colonialism. The “ideal” landscape thus is one that has been tamed by a “civilizing” force, yet which simultaneously erases the scars of that force through the promotion of equilibrium, stasis, and tradition. See, for example, Kolodny (1975) and Schaffer (1990).

¹⁸ The negative depiction of the city and the linking of the city with a particular group of people was similarly employed against the Jews in [Nazi] Germany, when capitalist practices, Jewish lifestyles and immoral behavior were linked and located in an urban forum. See, for example, Theweleit (1987).

Both nation and culture are conceived in these rooted, territorialized, and essentializing images and terms. Transience or “decontextualized” culture threatens to denature and spoil these images of self-identification (Deleuze and Guattari, 1987, 18; Malkki, 1992, 34). Uprootedness is strenuously resisted, particularly by those who already feel a threat to personal or national identity. The loss of an arborescent, genealogically traceable connection to the past is connected with the loss of an imagined future community.¹⁹ The emphasis on this connection between past and future is ritualized in the gesture of using a child in the tree-planting ceremony. The symbolism of using an eight-year-old to “turn the soil” reflects a perceived movement of time from the heritage and traditions of the past, to the children and community of the future. In this vision, those who control the past control the future.

Apart from the sense of continuity that is advanced in these types of actions, there is also an implicit connotation of the right to judge what are appropriate and inappropriate activities on the landscape. The right to participate in the production of the landscape and its associated symbolic meanings is one that is held only by certain populations. These populations, who are themselves identified as “rooted”, maintain and reflect the “correct” sensibilities that are appropriate to the land. Historically, the ability to participate in landscape production is one that has been predicated on highly racialized and gendered grounds (see, for example, Haraway, 1989; Rose, 1993).

Graphic images which connected the preservation of Vancouver’s trees with the preservation of Vancouver’s future were evident in brochures such as the January, 1991 public information announcement concerning the proposal of new tree bylaws in the city. In this graphic, the white structure of the tree closely resembles that of a pregnant woman (see figure 1). Inside the pamphlet is another image that shows a tree structure composed of roots or branches inexorably dividing into smaller and smaller limbs. The image resonates as one of connectedness and of natural and organic growth and fecundity through time.²⁰



Figure 1: Public information announcement concerning the proposal of new tree bylaws in Vancouver (January 1991).

¹⁹ Anderson (1991, 11-12) writes of this imagined community: “If nation-states are widely conceded to be ‘new’ and ‘historical’, the nations to which they give political expression always loom out of an immemorial past, and, still more important, glide into a limitless future”.

²⁰ Here the feminized feature of landscape production is most evident. The trees that are being protected are coded as female, and contain the “seeds” of the future generation. For further discussion of discourses about community and stewardship and the feminization of nature (see Merchant, 1989; Rose, 1993).

In contrast with this fecund, pastoral imagery, sojourners and city-dwellers, who lack the direct connection to the past and the soil, are depicted as unable to participate in or even understand the imperative to guide and manipulate the future. As they are rootless (cut off) they can be portrayed as fundamentally [uncaring] of the needs of future generations. Although the majority of those resisting tree removal considered and presented their struggle as one of environmental protection, the aforementioned representations were vivid enough for many developers to contest the movements as racist. As with the monster house controversy, people I interviewed were extremely wary of and concerned about being considered racist. When asked if his organization's resistance to the felling of the two sequoias in April might be construed as racist, Eric Watt said in a newspaper interview, "I don't care who is doing it. If people are doing something that is destructive to the neighborhood, there is going to be a reaction" (quoted in the *Vancouver Sun*, see Blain, 1990).²¹

Despite Watt's stance, however, the location of the two sequoias on the property of Arnold Wu, a Hong Kong Chinese immigrant and developer, whose daughter, Suzanne Wu, is a prominent real-estate broker doing extensive business with Hong Kong, gave the conflict a racial cast. In many of the newspaper articles on the sequoia cutting and protest actions, the daughter's name was mentioned in connection with the event. During a period of extensive media coverage her Mercedes was vandalized. In Hong Kong, the story was a controversial high-profile news item for over a week, with the clear perception overseas that the resistance protests were racially motivated (Moore, 1997).

Over thirty letters concerning tree management were sent to the Vancouver Planning Department between 1988 and 1990. A majority of the letters came from west-side neighborhoods and indicated a desire for more tree regulation by city officials.²² On 7 March 1989, city officials petitioned the province for the authority "to regulate the destruction or removal of trees and for making different regulations for different areas of the city" (R A Rabnett and Associates, 1990, 1). Although the BC provincial government declined to give the city authority over tree-cutting on private lots, city officials initiated new bylaws in early 1991 designed to protect mature trees in RS-1 (single family) neighborhoods. These bylaws drew from a 1990 study by a

²¹ Watt was a member of the Granville-Woodlands Property Owners Association (GWPOA), which was one of the main organizations protesting the removal of mature trees on private property. In addition to the GWPOA, there were several other urban community groups protesting the changes in Vancouver's landscape during this time period. These organizations were composed of local area residents, primarily property owners. For more information about these types of organizations, which varied somewhat in style and in their general aims, see Mitchell (1993b), Majury (1990), Ley (1995), and Pettit (1992).

²² These letters are discussed in the publication, *Trees on Single Family Lots: A Program for the Protection of Trees on Private Property* (R. A. Rabnett and Associates, 1990). This publication is available in the City of Vancouver Planning Department.

consultant team of planners, landscape architects, municipal lawyers, and arboriculturalists entitled, *Trees on Single Family Lots: A Program for the Protection of Trees on Private Property*.

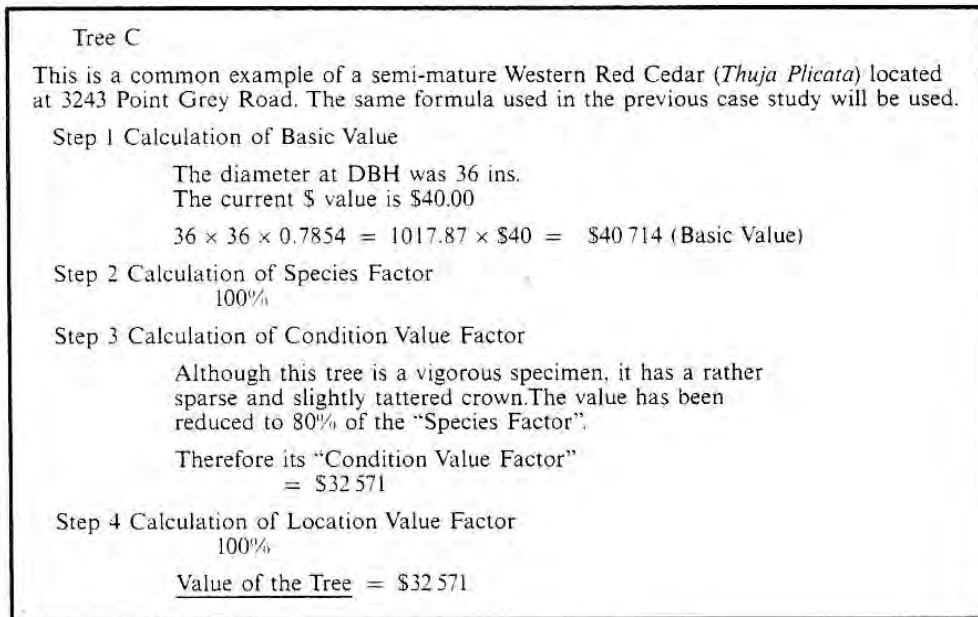


Figure 2: The value of a tree (source: R. A. Rabnett and Associates, 1990).

In this planning guide "heritage trees" are outlined by neighborhood and by individual tree. In a complex mathematical calculation, specific trees are valued based on the diameter of the tree, the species type, its condition and its location (see figure 2). In determining the value of trees in this "objective" manner, the tree debate is removed from the emotionally charged atmosphere of racism described above. By means of "rational" planning instruments and scientific criteria, the value of individual trees are calculated in a separate sphere, one that is abstracted away from the messy contaminations of ideological debate. The effort to foreground "reason" in the struggle can be seen as an attempt to maintain power. The introduction of racism as an element of the debate is an example of "nonreason", and can be dismissed.

What I've described here is one of the many ongoing pedagogical narrations of the nation which are contested by the Hong Kong Chinese immigrants. For example, in the specific disruption to the hegemonic narrative of nations and roots, a group of Chinese executives contested the urban and rootless images of the Hong Kong Chinese with a business fair, which they named, "TRANS/PLANTS: New Canadian Entrepreneurs" (see figure 3). The fair, organized by the Hong Kong-Canada Business Association (HKCBA), featured immigrant entrepreneurs engaged in trading and manufacturing. The intent of the exhibition was to counter the image of Hong Kong Chinese investors as exploitative real-estate speculators by demonstrating the many tangible economic contributions of the Chinese entrepreneurs in areas of the

productive economy. Real-estate speculation, or “flipping” was a source of great anger for long-term residents, who felt that Hong Kong buyers were interested in houses only for profit, rather than for establishing “roots” in a long-term home. Bruce Wong, the President of the HKCBA, said of the business fair:

B: Because of the newspapers’ attacks on Orientals mainly investing in real estate we came out with an exhibition. We didn’t invite anybody that’s involved in the real estate business. We invited only those people doing manufacturing and trading to participate in this exhibition.

K: Was it a deliberate attempt to counter the ideology that the media has been presenting?

B: Yes it’s a deliberate attempt put out by our organization to counter that situation. To show to the public that there is a group that is doing non real estate (author’s interview, 1991).



Figure 3: Poster for the business fair TRANS/PLANTS.

The term trans/plant, or transplantation elicits images of displacement in a positive sense, as something that remains viable and alive in a new setting. Rather than uprootedness, which resonates as an unwanted disruption, it evokes a degree of will, or power in the movement. Malkki (1992, 31) writes of the term “transplantation”: “It

strongly suggests, for example, the colonial and postcolonial, usually privileged, category of ‘expatriates’ who pick up their roots in an orderly manner from the ‘mother country,’ the originative culture-bed, and set about their ‘acclimatization’ in the ‘foreign environment’ or on ‘foreign soil’ – again, in an orderly manner”. The use of the image of the transplant as a Chinese entrepreneur, rather than a white colonial expatriate, again reverses pre[-]established meanings of nature and normality. “Civilization” is brought from the seedbed of Chinese entrepreneurial capitalism, and deposited to re[-]flower on Vancouver’s fertile, but largely untillied, suburban soil. Rather than the pastoral Eden of a preindustrial countryside, “the originative” site is Hong Kong, the original man is Chinese, and the origins of civilization are urban capitalism.

In this case, the reworking of a roots narrative by Hong Kong businessmen clearly disrupts normative cultural meanings in Vancouver. At the same time, however, it functions as a smooth supplement to an ideology of free trade and free markets. The counternarrative of roots is one that is associated with a narrative of transplanted capitalism; thus the new “inter” national spaces of a “transnational culture” produce the new rooted spaces of capital accumulation.

Other examples of the interconnections between cultural interventions and the furthering of economic ideologies are numerous. Methods of combating the growing racial frictions in late 1980s Vancouver included the appropriation of “positive” Orientalist representations of Chinese by wealthy Hong Kong-Canadian businessmen like Victor Li, Stanley Kwok and David Lam. One of the representations that was consistently promulgated was that of bridge-builder, a subject position *in-between* nations – literally straddling the Pacific Ocean. Stanley Kwok, the architect for the Vancouver mega-project undertaken by Hong Kong magnate Li Ka-shing, for example, was recruited by Li to “make Pacific Place happen and, not incidentally, to build bridges between Concord and Vancouver’s business establishment.” The Vancouver Finance Minister said of Kwok, “Stanley is a terrific bridge between the Chinese and Canadian business communities. He bridges it well and he brings them together, and that’s very important” (quoted in Williamson, 1992).

In his discussion of the concept of ambivalence, Bhabha also uses the bridge as a metaphor of ambivalent articulation. In countering the idea of the nation as timeless territory, one whose traditions are separate and autonomous, the bridge is conceptualized as a progressive space in-between. Bhabha writes, quoting Heidegger:

It is in this sense that the boundary becomes the place from which *something begins its presencing* in a movement not dissimilar to the ambulant, ambivalent articulation of the beyond that I have drawn out: “Always and ever differently the bridge escorts the lingering and hastening ways of men to and fro, so that they may get to other banks. ... The bridge *gathers* as a passage that crosses” (1994, 5).

Here it seems that the bridge metaphor is one of potentially resistant ambivalence. Yet the metaphoric bridges that were discussed by the Finance Minister, Grace McCarthy, in 1992, were heralded because of their potential to join international capitalisms. Those hybrid Chinese-Canadians serving in the position as cultural bridges between communities were celebrated for their ability to further Vancouver’s integration into the networks of the global economy, not for their ability to intervene in dominant national narratives. Furthermore, the appropriation of the bridge metaphor has occurred not just from within the western business community and Canadian government, but also from many of the “hybrid” Chinese businessmen themselves. Strategic appropriations of terms and concepts such as “bridgebuilder” have enabled businessmen to colonize the intermediary position between nations and cultures and to operate as the irreplaceable mediating figures of both commerce and culture.

In Vancouver, for example, other orientalist and self-essentializing representations such as the “model minority” and the “global economic subject” have been made alongside fervent proclamations of cultural Canadianness. Although the ongoing production of orientalism has always required the complicity of Asian elites to some extent (see, for example, Dirlik, 1996), the contemporary tensions between the increasingly unconstricted movements of capital and culture, and the boundaries, institutions, and myths of the nation-state have perhaps made the current moment particularly salient for this type of strategic orientaling [make sure this term is clear since the introduction of this paper]. As Dirlik has argued, “culturalist essentialism, regardless of its origins in the state or with intellectuals, serves to contain and to control the disruptive consequences of globalization. This helps explain the simultaneous appearance of cultural nationalism with calls for economic globalization” (1996, 115). In this sense, the favorable projection of model-minority, hybrid, Chinese-Canadian bridgebuilders by both Canadian government officials and Chinese-Canadian businessmen themselves serves to advance the idea of “multiculturalism” as a national value-system and ideological force at the same time that it furthers capitalist integration. This is similar to the move in some Asian societies such as Singapore and Malaysia, of advancing Confucianism as the source of both national ethics and economic success.²³

In Vancouver in the 1980s, the orientalist coding of the Chinese model minority and economic middleman was advanced as a kind of counternarrative to the exclusive framing of local knowledge and cultural citizenship such as were manifest in the various struggles over monster houses and the removal of trees.²⁴ This positioning was promulgated in Vancouver during a period of great upheaval and racial conflict in the city following the purchase of a large chunk of downtown real estate by the Hong Kong developer, Li Ka-shing. During this period, Li’s son, Victor Li, held several interviews with local and national newspapers in which he declared himself a “good Canadian” and his company, “a good blue-chip Canadian company” (quoted in Fletcher, 1989). Li’s attempts to position himself in a site in-between the narratives of

²³ Former Singapore Prime Minister Lee Kuan Yew, for example, recently promoted the term “neotraditional modernity” when describing the foundations of Singapore’s economic success. Lee locates the Confucian revival and Chinese cultural values in general as the best framework for both the legitimacy of the nation-state and the continuation of the economic “miracle”. For a further discussion see Wee (1996).

²⁴ By cultural citizenship I am referring to the sphere of cultural rights people possess and exercise that are frequently independent from formal membership in the state. The idea of the constitution of different citizenships is discussed in more detail in Holston and Appadurai (1996, 190-191). For a discussion of the ongoing exclusion of the Asian subject from cultural citizenship in the American context, see Lowe (1996, especially 1-36).

the model minority and the acculturated Canadian citizen occurred at a time of increasing capital connections between Hong Kong and Vancouver.

Clearly, the ultimate flexibility of this self-fashioning process is useful in the contemporary global economy. As capitalist networks articulate, Chinese businessmen who speak the language of the global economic subject, but are also imbricated in a Hong Kong Chinese discourse, are able to operate as the quintessential hybridized middlemen (Ong, 1996, 1993). With flexible citizenship and deterritorialized systems of credit, but with a durable and elastic business network established on the basis of the extended family (see Mitchell, 1995), overseas Hong Kong Chinese capitalists can manipulate images of both the transnational, transcultural cosmopolitan and the “ethnic Chinese”, enabling them to position themselves on the margins of the nation, but at the lucrative center of Pacific Rim business.

In conclusion, I suggest that the contemporary celebration of the disruptive qualities of diasporic identity, hybridity, and third spaces is premature. Although there is clearly the potential for resistance to hegemonic narratives of nation and race in these positionings, there is also the potential for collaboration in the hegemonic narratives of capitalism. In-between spaces and subject positions are produced in the context of economic as well as cultural processes and must be theorized in tandem. Theories which privilege the cultural spaces of the nation, and which continually render those spaces abstract, may neglect the actual geographies of capital accumulation in which those spaces are produced. Furthermore, the decontextualized use of terms such as hybridity and diaspora, which in theory provide exciting disruptions of national and cultural narratives, in practice can be and are often appropriated for projects furthering various economic agendas. It is the fetishization of these terms that allows for their quick appropriation; in order to ensure more progressive meanings the concepts must be historically and geographically located. This type of theorizing, one which is embedded in specific histories and maps, enables a richer comparative understanding of processes and events, and avoids the kinds of slippages and abstract spatial metaphors so common to literary criticism and cultural studies.

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Critically Understanding Race-Connected Practices: A Reading of W. E. B. Du Bois and Richard Wright

Bobby M. Wilson

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I think that the central issue of philosophy and critical thought since the eighteenth century has always been, still is, and will, I hope, remain the question: What is this Reason that we use? What are its historical effects? What are its limits, and what are its dangers?

- Michel Foucault (1984b, 249)

Introduction

The questions that Foucault raised as those central to philosophy and critical thought should also be a part of any critical discourse on race-connected practices. By race-connected practices, I mean practices resulting from racism – negative attitudes groups of people or individuals belonging to one race hold about individuals or groups of people belonging to a different race. We need to understand the historical effects and limits of these practices.

In explaining societal forces, W E. B. Du Bois, like Karl Marx and other social theorists before him, gave more weight to history than geography. In his

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autobiography, *Dusk of Dawn: An Essay Toward an Autobiography of a Race Concept* (1940, 8), Du Bois wrote that his “birthplace” was less important than his “birth-time.” He saw his life as movement between repeatedly historical moments and “personal interest” in his life story that formed his conception of race. According to Kenneth Mostern (1996, 29, 31), the book

is structured as a dialectical account that presumes to locate the individual in a world history This movement between self and history provides the basic structure of the book events of his life are followed by local events, which are, in turn, followed by international events, which then always circle back to describe their local meanings the text serves not merely as the “autobiography” of a “self” but also as a representation of the “concept” of the category “race” ...

Changes in the form and shape of race-connected practices follow historical moments, which shape our conception of race.

Although Du Bois gives more weight to his birth-time, he (1940, 8) begins his autobiography by discussing the significance of his birthplace: “I was born by a golden river in the shadow of two great hills. My birthplace was Great Barrington, a little town in western Massachusetts in the valley of the Housatonic, flanked by the Berkshire Hills.” Du Bois wants the reader of the autobiography to “revel in the aristocratic beauty and character of people who are of African descent, though race is not stressed in particular ...” (Mostern, 1996, 33). He (1940, 10) describes his birthplace as a place where “[t]he color line was manifest and yet not absolutely drawn” – unlike the South, which he would later experience and about which he would write. We learn that “Du Bois, a New Englander boy from a town with few African Americans, who has personal values that continue to seem conservative long after he has become a radical intellectual, makes clear that race has not prevented him from initially accepting the premises of his education,” which was “the most distinguished education available to any American in the late nineteenth century” (Mostern, 1996, 36, 37). In some fundamental sense, not only does Du Bois’ birth-time matter in forming his conception of race, but his “birthplace” does as well. Place matters.

A reading of Du Bois and Richard Wright suggests that race-connected practices should be understood not only in their proper historical context, but also in their appropriate geographical context. Groups, classes, ideas, values, and political systems produce their space at particular historical moments (Lefebvre, 1991). The practices of Jim Crowism in the American South and apartheid in South Africa produced their own geographies. Racial practices are (re)constructed at different historical moments and places.

Bringing in History

Like most people, geographers have very strong feelings and know where they stand personally about race. However, we must take care not to place race in what C. Vann Woodward (1974, 128) called the “realm of ideas, moral principles, and their agitators.” It remains largely impotent without the appropriate historical or social supports. Racial changes are not due just to failures or successes at instilling a sense of humanitarianism and morality in the economic or political elites, who would then move to build or eliminate racial barriers. The black community has a history of extending itself to that which seems implausible, that which makes little sense (Simone, 1989, 57-58). Du Bois’ initial theory concerning the race problem in America was that it was primarily a matter of ignorance on the part of whites, and the solution calls for “white folk to desist from certain practices and give up certain beliefs” (1940, 284). An appeal to the moral and personal goodness of white people was also the original intent of Martin Luther King, Jr. (1963). However, Du Bois moved toward a more critical discourse on race, situating the race problem in America in its appropriate historical context. And just before his death, King also realized that the success of the civil rights struggle would not have been possible if the time was not prepared for it. Moral or philosophical imperatives without meaningful referents in the historical and material world do not suffice (Gabardi, 2001, 43). Foucault (1984a) treated modernity and postmodernity as philosophical attitudes, rather than social and historical practices in the material world.

So much of the present discourse on race is ahistorical – a discourse that literally reinforces the notion of “the end of history.” Several years ago, a historian serving as an expert witness for the plaintiff in an Alabama redistricting case testified to the racial history of the community. The defense objected at every opportunity, on the grounds that the history was irrelevant to the present case. To avoid a critical discourse on race, the U.S. has become a society – a land – “without memory.” History disappears; the past is dead and is represented to us in this postmodern world as a series of glossy images and commemorations.

When it comes to explaining race (i.e., relations between different ethnic groups, racist practices, racist beliefs, racial prejudice, and so on), “it becomes a great deal more complex, because it requires putting together explanations from different areas of knowledge (and historical moments). All the attempts at simple explanations are doomed to fail” (Hall, 1981, 59). Du Bois (1940, 283) eventually realized that beyond “ignorance and deliberate ill-will as causes of race prejudice, there must be stronger and more threatening forces, forming the founding stones of race antagonisms ...” He (1940, 296) no longer believed that “looking for salvation from the whites was feasible.” Things are not always what they seem, or as obvious. As Marx (1974, 174) expressed it, “A distinction is made in private life between what a man thinks and says about himself and what he really is and does. In historical struggles one must make a still sharper distinction between the phrases and fantasies of the parties and their real organization and real interests, between their conceptions of themselves and what they

really are.” We must make the same kind of distinction in critically analyzing race-connected practices, distinguishing between fantasies and reality.

The purpose of bringing in history is not to return to the past, but to provide a critique and an understanding of the present. It is not simply for an understanding of social life as it is expressed in the black community; it is also, ultimately, for an understanding of life as it is expressed in the larger society. Hall (1981, 60) notes that

(r)ace is a phenomenon which one only begins to understand when one sees it working within the different institutions, processes, and practices of whole societies, in their full complexity; societies in which race becomes a determining aspect of the social structure, of the way in which its relations work and the way in which institutions are linked and connected with one another.

Geographers have to situate such practices historically to reveal their real structure. This entails asking critical questions regarding the historical effects of these practices, starting with black slavery and the need for surplus labor and working our way through the recent restructuring of the economy to understand how race has been (re)constructed (Wilson, 2000a, 2000b).

Race was (re)constructed at different historical moments or periods of social upheaval – e.g., Reconstruction, post-Reconstruction, the Great Depression, and so on – that shaped what happened in the 1960s. There are correlations between historical moments and race-connected practices; they are diachronic, changing form with each changing moment. Only by understanding these moments can we depersonalize the notion of race and critically understand what it “really” means to be “white” or “black.”

Although he was sensitive to its failures, the 1917 Russian Revolution, according to Du Bois (1940, 284), caused a change in his basic thought about the race problem: “(O)ne of the largest nations of the world made up its mind frankly to face a set of problems which no nation was at the time willing to face, and which many nations including our own are unwilling fully to face even to this day.” That set of problems involved the issue of massive poverty. More than fifty years later, America was still unwilling to face this problem. In his address to the Tenth Anniversary Convention of the Southern Christian Leadership Conference, Martin Luther King, Jr. (1969, 160-61) raised the issue again:

We must honestly face the fact that the (civil rights) Movement must address itself to the question of restructuring the whole of American society. There are forty million poor people here. And one day we must ask the question, “Why are there forty million poor people in America?” And when you begin to ask that question, you are raising questions about the economic system, about broader distribution of wealth. When you

ask that question, you begin to question the capitalist economy ... we've got to begin to ask questions about the whole society.

In his attempt to understand critically race-connected practices in America, Du Bois knew how important it was to ask these kinds of questions. Wright also knew that the race problem could not be solved until these critical issues were addressed, and he ({1944a} 1983, 41) put the burden on blacks to play an important role in resolving these issues:

The Negro could never solve his problem until the deeper problem of American civilization had been faced and solved. And because the Negro was the most cast-out of all the outcast people in America, I felt that no other group in America could tackle this problem of what our American lives meant so well as the Negro could ... It seemed to me that for the Negro to try to save himself he would have to forget himself and try to save a confused, materialistic nation from its own drift toward self-destruction. Could the Negro accomplish this miracle? Could he take up his bed and walk?

Planting “the Flesh of Black Experience”

Marxism has already uncovered the larger historical structures of society, providing the necessary foundation for critically understanding the black experience. Wright (1937, 60) noted that Marxism, as a tool of social analysis, has revealed the “skeleton of society,” the base. The revealing of the skeleton, he noted, “is just the starting point; there remains the [critical] task to plant flesh on those bones,” the “flesh of black experience” (quoted in George, 1999, 53).

Why does this critical task remain unfinished? It remains unfinished because, in the modern, urban, industrial economy, both segregation and the race prejudice that fed it were viewed as a contemporary condition, “an anachronistic survival from earlier, more primitive stages of evolution” (Cell, 1982, 4-5). For Marx and Engels (1955, 9-10, 17, 21), the modern industrial economy undermined the more primitive stages of evolution.

The modern bourgeois society ... has but established new classes, new conditions of oppression, new forms of struggles in place of the old ones. ... Differences of age and sex have no longer any distinctive social validity for the working class. ... All previous historical movements were movements of minorities, or in the interest of minorities. The proletarian movement is the self-conscious, independent movement of the immense majority, in the interest of majority.

While Marxism sought an understanding of the larger society, it marginalized or under-theorized consistently race in its analysis of social formation. It did not

recognize the same “Negro” that Wright and Du Bois saw. According to Wright ({1944a} 1983, 39, 40), “the only drawback was that their (Marxist) world was just too simple for belief ... I was now convinced that they did not know the complex nature of Negro life ...” Capital does not operate as a pure logic. It has always utilized existing values in the social terrain, As Jim Hoagland (1972, 191) noted, Marxism “ignores a highly variable human factor in history. And there are few more powerful and universal human forces than racism.”

The essentialism of Marxism did not prevent Wright and Du Bois from using Marxism as a tool for analyzing race in America. Without such analysis, Wright (1937, 53) noted, much of “Negro writing became a sort of conspicuous ornamentation,” external to the lives of blacks – another reason that the critical task of planting the flesh of black experience remained incomplete. He (1937, 54, 60) goes on to say:

Rarely was the best of this writing addressed to the Negro himself, his needs, his sufferings, his aspirations ... Negro writers have lagged sadly, and as time passes the gap widens between them and their people ... it is through a Marxist conception of reality and society that the maximum degree of freedom in thought and feeling can be gained for the Negro writer ... this dramatic Marxist vision, when consciously grasped, endows the writer with a sense of dignity which no other vision can give.

Du Bois (1940, 303) considered Marx one of the greatest men of modern times, stating that “he put his finger squarely upon our difficulties ...”

In planting the flesh of black experience, however, neither Du Bois nor Wright let the historical traditions of classical Marxism overburden their analysis of race. The complexity of the racial situation caused both to use Marxist theory, not as an unyielding application of categories grounded in a European bourgeois and a proletarian class struggle applied to a recalcitrant black reality, but as a tool of analysis for creating categories and ideas suitable to the black experience. We see this increasingly over time in the works of Du Bois.

In 1896, the University of Pennsylvania offered Du Bois a temporary appointment as an “Investigator of the Social Conditions of the Colored Race” in the city of Philadelphia. As a result of this appointment, he produced his study of *The Philadelphia Negro* ({1899} 1967), one of the earliest contributions to the study of residential segregation and discrimination in the workplace of a capitalist city. Du Bois’ (1940, 59) study of Philadelphia “revealed the Negro group as a symptom, not a cause; as a striving, palpitating group, and not an inert, sick body of crime; as a long historic development and not a transient occurrence.” The study countered Hegel’s notion that black people were not historical beings. According to Hegel, the ahistoricity of black people was evidence of their inferiority (Eze, 1997, 109-49).

Du Bois also edited the *Atlanta University Publications*, which consisted of 18 monographs published between 1896 and 1914. These publications represent the first

attempt at a comprehensive study of American blacks and the first writings to make factual, empirical evidence the center of sociological work on blacks (Green and Driver, 1987, 12). And, in what I consider his most important work, *Black Reconstruction in America, 1860-1880* (1935), Du Bois planted the flesh of black experience on the skeleton of Reconstruction, a major historical moment in U.S. capitalist development. He critically analyzed the structural and institutional forces driving Reconstruction to reveal its true meaning for blacks in the post-Civil War era.

In contrast with the racist biological assumptions held by most social scientists of the period, Du Bois (1940) realized that racism did not lay in the realm of nature. Race should be understood as nonbiological and historical. The economic foundation of the modern world was based on the recognition and preservation of race-connected practices that justified black slavery and kept white labor classes in their places by paying low wages. Du Bois (1940, 129-30) believed that

it was in Africa that I came more clearly to see the close connection between race and wealth. The fact that even in the minds of the most dogmatic supporters of race theories and believers in the inferiority of colored folk to white, there was a conscious or unconscious determination to increase their incomes by taking full advantage of this belief. And then gradually this thought was metamorphosed into a realization that the income-bearing value of race prejudice was the cause and not the result of theories of race inferiority; that, particularly in the United States, the income of the Cotton Kingdom based on black slavery caused the passionate belief in Negro inferiority and the determination to enforce it even by arms.

The hegemony of the ecological approach in urban geography for much of the twentieth century excluded the works of Du Bois, whose ideas contrasted sharply with the assimilation view on blacks in the city that the University of Chicago and urban sociology supported during the first half of the twentieth century (Burgess, 1925; Park, 1936, 1950; Wirth, 1938). Human ecologists saw blacks as progressing up the economic ladder, rather than trapped by discrimination in the housing and job market. E. Franklin Frazier (1932, 1938), a black sociologist and a student of human ecology, pointed to similar conclusions in his studies of the black communities on Chicago's Southside and Harlem in New York.

Income-Bearing Value of Race Practices

The “income-bearing value of race prejudice” – that is, racialized marketplaces – of which Du Bois spoke continues to be a major determinant of the residential and work patterns of the black population. In one of his last public addresses, delivered at Johnson C. Smith College in Charlotte, North Carolina, Du Bois indicated that the struggle for civil rights would be victorious in the end, but that this victory would not

eliminate racial inequality (Marable, 1991, 76-77). The subtle workings of the marketplace transform the geography of places along racial lines. Blacks become, as Burbach (1998) noted, “castaways of global capitalism.”

In post-civil rights America and post-apartheid South Africa, blacks continue to be over-represented among the poor and working classes. The black community lacks capital investments. It is more cost-effective to write off – to disinvest – the whole community, as opposed to acquiring the investment potential of a property site or place within the black community. This contributes to the spatial pattern of uneven development. In America, this has had a significant impact on black households’ net worth, 43 percent of which is based on housing equity. Devaluation causes the loss of significant housing equity and limits the potential for new investments in the community. Appraisers of real estate devalue properties in the black community, decreasing black households’ median net worth, which is ten times less than that of white households. Lending institutions are unwilling to invest, and insurance companies assess high premiums for black properties, further devaluing the dollar in the black community.

In a society that perceives blacks on the average to be less productive than whites, it pays both investors and employers not to consider blacks for investment or employment. Although judging individuals and communities on their merits would be more just, the cost of doing so would be prohibitive. The employer can easily observe racial attributes or practices, cheap forms of information that often become the basis for what Steele (1999) called “stereotype threats” – negative stereotypes.

While every community experiences such threats, they apply in many more situations for blacks. For Du Bois, these stereotypes obtain their historical necessity on the economic level – that is, in the formation of a particular labor force for the purpose of capital accumulation – and are fetishized through racial practices (Mostern, 1996, 30). Paying minimum wages, centers of financial trading and investment rely on black women from the inner city to clean the offices (in some cities, increasing numbers of Hispanic women perform this task). According to David Harvey (2000, 122), this indicates “a discursive and largely racist-sexist construction of the inherent ‘value’ of *that* kind of labor power from *that* kind of place” (emphasis in original). Reaffirming Du Bois, he goes on to say, “This stereotyping was automatically reinforced and framed within a circulation process of variable capital and capital accumulation that insisted that this was the kind of labor power that was essential to its own valorization.”

Stereotyping is reinforced not only through the production of labor power but also in more personal situations. Is it because of my race that the bank denied me the loan, or that the employer denied me the job? According to Steele (1999, 46), “(One) cannot know the answers, but neither can (one’s) rational self fully dismiss the question.” Whites, however, *can* dismiss the question, for being white in the U.S. has meant not having to acknowledge one’s whiteness. Blacks, on the other hand, are fearful of doing something that would inadvertently confirm racial stereotypes, which

raises a deeper question that reflects the hegemony of race-connected practices: “Will race be a boundary to (one’s) experience, to (one’s) emotions, to (one’s) relationships?” (Steele, 1999, 46). Historically, blacks have been unable to ask the question, “Can we do it?” Instead, their question has been “Will they (whites) let us do it?” (Wright, {1941} 1988, 35). For both Du Bois and Wright, this question raises a more general question concerning the nature of politics.

Politics of Racial Identity

In 1928, the Communist International Congress decreed that blacks in the South were the potential advance guard of a Communist revolution in the United States. Although agrarian in nature, this revolution would be launched from Birmingham, the South’s industrial hub. Birmingham became the Southern headquarters of the American Communist Party, and the nerve center of a Southern working-class movement that challenged the National Association for the Advancement of Colored People (NAACP) in the arena of black liberation (Kelley, 1990).

But there would be no revolutionary proletariat in America. The white proletariat, in particular, was not easy to mobilize for the class struggle. Responding to the complexity of the racial situation in the United States, Du Bois (1940, 192) first noted that blacks have not divided into capitalists and laborers, fully separate classes: “... we cannot follow the class structure of America; we do not have the economic or political power, the ownership of machines and materials, the power to direct the processes of industry, the monopoly of capital and credit.” More importantly, Du Bois (1972, 269) noted, blacks in the U.S. are “theoretically” part of the proletariat, being an exploited class of cheap labor; in *praxes*², however, they “are not a part of the white proletariat and are not recognized by that proletariat to any great extent.” Segmenting the working class along race lines enabled both the black and white segments “to be so influenced by their material surroundings that they see but a little phase of the complex process of their lives and the whole is obscured from them ...” (Wright, {1941} 1988, 24). According to Du Bois (1940, 205), Communists

did not envisage a situation where instead of a horizontal division of classes, there was a vertical fissure, a complete separation of classes by race, cutting square across the economic layers ... the split between white and black workers was greater than that between white workers and capitalists; and this split depended not simply on economic exploitation but on a racial folklore grounded on centuries of instinct, habit and thought and implemented by the conditioned reflex of visible color ...

² Editors’ note: plural of *praxis*, in this case meaning “practice,” or “everyday conduct.”

This flat and incontrovertible fact, imported Russian Communism ignored, would not discuss.

To illustrate this point, Du Bois (1940, 298-99) pointed to the Scottsboro case and the involvement of the Communists, who attempted to use the case to foment a revolution in the United States.

About the last thing calculated to arouse the white workers of America would be the defense of a Negro accused of attacking a white woman, even though the Negro was probably innocent and the woman a prostitute. This fact the Communists either did not know or ignored ... Right as they undoubtedly were on the merits of the case, they were tragically wrong in their methods if they were seeking to free these victims.

Because of race, it was “silly” to apply the doctrine of a class politics without “modification or thought” (Du Bois, 1972, 269). Du Bois (1933, 55) thus maintained that “(w)hatever (Marx) said and did, concerning the uplift of the working class, must, therefore, be modified so far as Negroes are concerned by the fact that he had not studied at first hand their peculiar race problem in America.”

Politically, Wright (1944b) tried to transcend race, seizing upon the essentialism of Marxism and its vision of unity among all workers.

It was not the economics of Communism, nor the great power of trade unions, nor the excitement of underground politics that claimed me; my attention was caught by the similarity of the experiences of workers in other lands, by the possibility of uniting scattered but kindred peoples into a whole ... My life as a Negro in America had led me to feel – though my helplessness had made me try to hide it from myself – that the problem of human unity was more important than bread, more important than physical living itself; for I felt that without a common bond uniting men, without a continuous current of shared thought and feeling circulating through the social system, like blood coursing through the body, there could be no living worthy of being called human. (Wright, {1944a} 1983, 63)

Increasingly, he ({1944a} 1983, 63) doubted the essentialism of Marxism and the Communists’ agenda, wondering whether “a solution of unity was possible.” Like Du Bois, he did not accept the straitjacket of communist orthodoxy, for it did not fit the American situation, and he eventually left the Communist Party.

“American Negroes,” according to Du Bois (1940, 205), “were asked to accept a complete dogma without question or alteration.” For the Communist Party to alter its

politics to accommodate a particular place or situation would have weakened international solidarity. According to Wright ({1944a} 1983, 120), to maintain solidarity, the American Communists used political methods forged by the underground Russian Bolshevik even when the American situation did not call for it. They linked the situation in America with the world scene, to the world struggle. And because the Bolshevik “associated betrayal with intellectualism” (Wright 1983, 120), American Communists were also distrustful of Wright, the self-achieved intellectual, who had much to offer. Du Bois (1933, 55) believed the failure of Communists to alter their politics to be “a great loss to American Negroes.” However, he (1940, 192) knew that blacks could not stand still: “we cannot permit ourselves simply to be the victims of exploitation and social exclusion.” And indeed, blacks did not stand still. The greatest antidiscrimination event in the first half of the twentieth century was not a class movement in the classical Marxian sense, but an all-black movement, which would set the American stage for the postmodern politics of identity and difference in the second half of the twentieth century (Wilson, 2000b).

The academy’s failure to recognize Du Bois’ contributions to the study of race-connected practices relates not only to the marginalization of such studies within the academy but also to his marginalization within the social sciences as a black scholar (Sibley, 1995, 137-56). His work on Philadelphia was one of the first community studies in the U.S., and *The Soul of Black Folk* – written in 1903 – provides much of the theoretical discourse for what is now called a “postcolonial critique” (Mostern, 2000, 62). Yet, many universities did not offer him an instructorship, while white classmates of “lower academic standing” became full professors at Pennsylvania and Chicago (Green and Driver, 1987, 11). Speaking of his situation at the University of Pennsylvania, Du Bois (1940, 58) noted, “I ignored the pitiful stipend. It made no difference to me that I was put down as an ‘assistant instructor’ and even at that, that my name never actually got into the catalogue; it goes without saying that I did no instructing save once to pilot a pack of idiots through the Negro slums.” It made no difference to Du Bois (1940, 58, 61), because he saw it as an opportunity “to study a historical group of black folk and to show exactly what their place was in the community.” He credited the University of Pennsylvania for attempting “to study the Negro problems in a single definite locality.” Not only did Du Bois realize the importance of situating race-connected practices within their appropriate historical context, but – I believe – he also saw the importance of studying these practices within their specific local and intersubjective context.

Bringing in Geography

We must situate race, not only in a historical context, but also in a historical-geographical context. We must expose the skeletons of places and plant the flesh of black experiences on those bones as well. Social practices are not only historically specific but geographically or place-specific, even in the age of globalization.

Regional differences in the mode of regulation are essential to understanding critically race-connected practices. Whereas a critical theory of race requires sensitivity to historical structures in capitalist development, a critical geography of race-connected practices requires sensitivity to the way in which regional regimes of accumulation transform racial practices. The institutionalization of race-connected practices as a mode of social regulation does not remain unchanged across regions, just as the practices themselves do not remain unchanged across time. Race-connected practices are a product of “a series of specific class relations that vary by place and over time, and that change as a consequence of changing material conditions” (Greenberg, 1980, 406).

Unlike classical Marxism, regulation theory denies that capitalism as a historical process could be comprehended as a single set of regulations that remained unchanged across national, regional, and local boundaries (Lipietz, 1986; Brenner and Glick, 1991). Social processes are not exportable commodities; they are outcomes of local, regional, and national regulatory processes, spatial contingencies that affect the role and status of people of color. As Hall (1981, 60) noted, “(r)ace and class relations will always be differently combined in different social formations, as you will see if you compare the complexities of their combination in South Africa, say, and the United States or Britain.”

The cultural logic of capitalism assumes that growth overcomes regional diversity. Marx treated the whole world as one nation and assumed that capitalist production everywhere was the same. Classical Marxism viewed the English pattern of capitalist development as something of a universal model. However, England was actually an individualistic, market-oriented, mobile society heavily dependent on hired labor (wage labor) as early as the thirteenth century. Marx knew a great deal about slavery in the British Caribbean, and he also wrote about slavery as if its effects were the same throughout the hemisphere – but the world the slaveholders made in the West Indies and Latin American differed from that created in the U.S. (Genovese, 1969).

The United States and South Africa

The peculiarity of the race problem in America was due mainly to the peculiarity of the South, which rejected outright an intensive regime of capital accumulation based on wage labor in favor of an extensive regime of accumulation based on black slavery (Wilson, 2000a). In antebellum Alabama, wage-earners represented only 0.6 percent and 0.8 percent of Alabama’s population in 1850 and 1860, respectively (U.S. Bureau of the Census, 1858, 1865). As late as 1900, wage earners still comprised less than 3 percent of the population (Dodd and Dodd, 1973). Black slavery entailed a mode of regulation that took the South down a route to industrial capitalism different from the agroindustrial production complex of the Midwest, which fed the development of a manufacturing belt extending from New England across the Great Lakes to Chicago (Page and Walker, 1991). The North made

a smoother transition to an intensive regime of accumulation based on free wage labor than did the South.

While the recognition and preservation of race-connected practices kept blacks in their place in the U.S., the American South stopped short of enforcing an apartheid racial system that, in South Africa's version, permitted a more direct coercion of the black population. Apartheid provided additional security for South Africa's white population, which was smaller in number relative to blacks than was the case in the American South (Fredrickson, 1981, 240). In 1700, there were approximately one million indigenous Africans in what is now South Africa, Botswana, Lesotho, and Swaziland, but only a few thousand white settlers, called Boers. Less than 20 percent of the U.S. population in 1790 was black. By the time of the Great Trek – the mass exodus of Boers (*voortrekkers*) to the north and northeast – in 1836, about 40,000 non-Africans lived in South Africa, compared with 13,000,000 whites in the U.S. Whites never amounted to more than about 20 percent of South Africa's population. And, unlike their white counterparts in the U.S. – who trekked westward, decimating the Native American population – the *voortrekkers* of South Africa remained, by and large, cut off, and never really decimated the indigenous Africans, who proved to be more flexible than Native Americans (Hoagland, 1972, 22-23). The philosophical intent of apartheid was to provide for a secure white nation in a predominantly black South Africa.

While the southern U.S. stopped short of enforcing an apartheid racial system, many members of its bourgeois class were deeply rooted in the antebellum plantation order, which had dire consequences for blacks in the postbellum South. Following the abolition of slavery, a landed elite, to which Wright ({1941} 1988, 12) referred to as "Lords of the Land," insisted upon a racial repressive labor system. In the U.S. Compromise of 1877, industrial capitalists of the North gave these landed elites a free hand over Southern blacks in return for trade and commerce between the two regions. One geographical consequence of the compromise was the Mississippi Delta, which, according to Rupert Vance (1935, 266), became the core of the South, "cotton-obsessed, Negro-obsessed, ... the deepest South, the heart of Dixie, America's superplantation belt."³ Another geographical consequence of the compromise was Birmingham, Alabama, where key industrialists with close ties to the class of landed elites built an industrial labor system based on the institution of slavery (Wilson, 2000a).

Similarly, the South African compromise of 1909 wedded British industrial capital to Afrikaner landed capitalism for the purpose of exploiting the labor of

³ Clyde Wood's recent (1998) critical analysis of this region tells us why, and in doing so analyzes the blues as a black musical form that arose out of this obsession in the Delta.

Africans. The more moderate English stance on South Africa's racial problems had begun to erode immediately after the English victory in the 1899 Boer War. Shortly afterward, the Afrikaners were given self-governing status, and in 1910 the Union of South Africa came into being. London appointed Louis Botha, an Afrikaner, as the Union's first Prime Minister. Taking advantage of decolonization occurring throughout Africa, the Afrikaners, along with the English-speaking section of the population, voted against staying in the British Commonwealth. In 1961, the Union became the Republic of South Africa. English-speaking South Africans no longer viewed themselves as "British," accepting increasingly Afrikaner attitudes on politics and race.

Under the Union of South Africa, white South Africans, like their 1877 white counterparts in the American South, saw the chance to remake the cultural landscape in their political and racial image, producing their own space. In the case of America, this landscape was capsulized in the rural landscape of the Mississippi Delta and in the urban landscape of Birmingham, and in the case of South Africa, in the urban landscape of Johannesburg. According to W. David Lewis (1994, 83), Birmingham produced

a particularly severe form of exploitation and social problems of enormous long-range consequence. Only in South Africa, where black workers burrowed for gold in the Main Reef, Johannesburg's equivalent of (Birmingham's) Red Mountain, and the Warrior coal beds, did a similar situation come about. Pictures taken in the 1880s of Birmingham and the faraway city on the Witwatersrand have an uncanny likeness.

Birmingham and Johannesburg

On the Rand, as on Birmingham's Red Mountain and in the Warrior coalfields, black men left the rural areas to work in the mines. Laws were passed that gave employers in both places greater control over black labor than would normally have occurred in a free labor market. That the industrial economies of both Birmingham and Johannesburg grew while racial segregation and separation intensified tell us a great deal about the relationship between industrial capitalism and race-connected practices. Speaking of apartheid South Africa, Hoagland (1972, 187) noted that "(t)he interrelationship of politics, economics, and race is so closely and delicately attuned that one does not know whether to speak of the politics of racial economy, or the economics of political racism." The same could be said of Birmingham, "America's Johannesburg."

No city had as notorious a reputation for its racial practices as did Birmingham—except perhaps Johannesburg (Wilson, 2000a). Given these practices, both cities became epicenters of the struggle for racial equality. The 1976 Soweto uprising just outside of Johannesburg reminded one of the fire hoses, dogs, and police turned on

black school-children in a Birmingham park by Eugene “Bull” Connor, the city’s Commissioner of Public Safety, thirteen years earlier.

Conclusion

In the post-civil rights, post-apartheid era, *overt* race-connected practices no longer characterize either the United States or South Africa. Global capitalism is the major structural and institutional force affecting black communities. Both W. E. B. Du Bois and Richard Wright realized the need for large narrative and analytic frameworks that are not monolithic and destructive of the black experience, yet are sufficient to engage in analysis of large structures or institutions. According to Mostern (2000, 78), Du Bois saw no inherent “contradiction between a broad Marxian framework of analysis and insistence on a carefully defined, identitarian, practical intellectual politics.”

To incorporate black identity politics into a Marxian framework of analysis, we must begin from the standpoint of race-connected practices in the lives of people, the particularity of the person, the body, how these concrete practices produced and reproduced themselves over time and space – how they, in fact, shaped and reshaped the world of both black and white bodies in actual praxes. We need to put the flesh of black experience on the skeleton of society at every geographical scale. When we do, we will find that blacks in the U.S. and South Africa may be more similar than different. We will not find, as Wright (1983, 63-64) put it, “Be like us and we will like you, maybe.” Instead, we will find: “If you possess enough courage to speak out (for) what you are, you will find that you are not alone.”

If we situate race-connected practices within the concrete historical and geographical conditions under which they unfold, we can find out who we are, the particularity of us. As Harvey (2000, 49) noted, “the universality of a class struggle originates with the particularity of the person and ... class politics must translate back to that person (and place) in meaningful ways.” Only through a critical analysis of race-connected practices can we find out what we share with others within and across geographical scales.

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Part III

People and Environments



Open-cast coal mine, near Leipzig, Germany, 2007. Photo and © by Jonas Bylund.

Pollution, genetically modified organisms, global warming, extreme weather, quality of life, environmental crisis. These are just a few of the many environment-related issues that loom large in the public sphere and popular press, at least in Europe and North America since the late 1960s. Despite the long-standing centrality of human-environment interactions in geography (see Chapter 2), critical geography arrived relatively late to this debate, only by the end of the 1970s, as Ben Wisner laments in Chapter 21. The chapters in Part III illustrate how environmental problems are inextricable from issues of social justice.

In contrast to conventional views blaming environmental problems on population growth or local resource mismanagement, critical geographers have striven to understand the social conditions that cause people to treat environments in increasingly destructive ways (see Neumann, 2005; Robbins, 2004). Early forays into analyzing environmental problems critically came from Marxist geographers. They saw the environmental crisis, such as famines, not as the result of ‘natural’ forces but as product of the “free market” principle of capitalism. These early investigations are represented in the chapters by Ben Wisner, Richard A. Walker, and Michael Watts (see also Harvey, 1974).

In more recent times, an increasing number of studies have connected people’s social situations to how they perceive and treat the environment. Gender plays an important role in this respect (see Chapter 15; Rocheleau et al., 1996; Schroeder, 1999). The chapter by Judith Carney, for example, illustrates how environmental impact on ecosystems and wetlands, such as in The Gambia in West-Africa, is linked to gender roles. However, the causes of environmental degradation are not limited to local circumstances; they involve international pressures to change local agricultural practices. In an effort to address social relations at the world scale, Joni Seager has paid special attention to the global environmental problems that result from patriarchal institutions and ideologies that are global in reach.

Critical geographers have further explored how taken-for-granted social relations, such as patriarchy, class structure and global inequality, guide and reinforce the ways in which people think about and act towards the physical world. Soil erosion, for instance, may not be considered a problem until it threatens profitability or groups that possess the power to define it as a problem. Locals may not think of soil erosion as problematic and may deal with it in an ecologically sustainable manner, and yet they may have to face limitations on land use that are dictated by national governments, international environmental agencies and other forces from outside of their area (Blaikie, 1985; see also Castree, 1997). Such problematic social and spatial relations are addressed in the chapter by Melissa Leach and Robin Mearns, who expose how neo-colonial institutions and national governments have used mythologies about African environments to expropriate resources and dictate environmental policies.

Even the very idea of Nature is deeply embroiled in sustaining prevailing capitalist and colonial ideologies and practices. Neil Smith’s chapter, for example, shows how Nature is produced socially and, under capitalism, reduced to a series of marketable commodities (see also Heynen and Robbins, 2005; Castree, 2005). Kay Anderson, in her chapter on animal domestication, has further elaborated on the Eurocentric cultural trappings of conceptions of Nature (see also Braun, 1997). The very notion of domestication could be used in the nineteenth century not only used to treat humans as separate from animals but also to justify the racism and sexism of the time. Jennifer Wolch and Jody Emel support a related point in their chapter: Nonhuman animals are treated as objects that can be used and abused at will, like any commodity; yet, depending on the species, they can become cherished life

companions, similar to blood relatives. Humans can experience ironic twists when they attempt to put ideology into practice, especially when other organisms respond to human action in an unexpected manner (see also Fitzsimmons, 1989). Paul Robbins, for example, shows in his chapter how attempts to impose an ideologically ordered “modern” landscape in Rajasthan, India, have actually achieved almost the opposite and created unexpected and undesirable vegetation patterns.

Critical geographers have not limited themselves to understanding the social basis of environmental degradation. They have also concentrated on socially uneven effects of environmental degradation (see also Chapter 32 on the effects of warfare). Environmental problems and so-called natural hazards are not experienced by all people to the same extent or in the same way (Hewitt, 1983; Wisner et al., 2004). The severity and expansion of famine, as Michael Watts shows in his chapter, has a lot to do with the integration of affected places into a capitalist world economy, not just the occurrence of drought. Social status and residential location make a substantial difference to the exposure of environmental risk. The chapter by Laura Pulido illustrates how practices associated with white privilege and racism (see Chapter 20) expose communities unevenly to human-made toxic hazards.

As the chapters in Part III attest, critical perspectives on people and environments require an in-depth understanding of both human practices and biophysical processes. Research that focuses only on the biophysical world, without a critical understanding of how this world is shaped by humans and ideologically constructed by the human subject, risks following Geography’s long path of serving political agendas of domination (see Chapter 13). Since the 1980s, physical geographers – best positioned to investigate and understand biophysical processes – have increasingly recognized this risk and developed critical perspectives on environments and people (see, for instance, London Group of the Union of Socialist Geographers, 1983; O’Keefe et al., 1976; Zimmerer and Bassett, 2003).

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Does Radical Geography Lack an Approach to Environmental Relations?

Ben Wisner

1978. *Antipode* 10(1), 84-95.¹

As radical Anglophone geography approached the close of its first decade it began to show signs of introspection. Several authors sketched out and pondered its development (Akatiff, 1974; Anderson, 1977; Peet, 1977, Santos, 1975; Wisner, 1977a). In particular, Peet (1977, 26) focuses our attention on an alleged dichotomous development of the spatial and environmental sides of radical geography:

Within radical geography, the theoretical base is increasingly strong in one of the traditional areas of geographic interests (spatial relations) and conspicuously weak in another area (environmental relations). The Marxist theory of spatial relations is becoming more and more sophisticated, especially in the area of underdevelopment processes. In that area a coherent body of theory, developed outside geography, already existed; in addition, there is a condition of crisis in spatial relations between the center and the periphery of capitalism, marked by a series of successful wars of Third World liberation, which has spurred on theoretical inquiry. But there is also an *environmental* crisis of monumental proportions, and the materialistic approach of Marxist geography can easily be applied to environment-man relations; yet this area of geography remains largely untouched by radical geographers.

I share Peet's concern; however, I believe the situation is not as stark as his words imply. Certainly as a Marxist geographer setting out to participate in the creation of

¹ Reprinted with permission from Ben Wisner and Richard Peet.

socialist environmental relations in Mozambique [...], I would hate to believe that the theoretical base of the environmental side of geography is so impoverished.

In this brief paper, I will argue that some theoretical foundation already exists, but in a more scattered and less systematic form. I will begin with a few comments on the schema of development of radical geography employed by Peet. I will then comment on the meaning of “environmental crisis”. Finally, I will try to sketch out some alternative approaches to theory-building for the study of environmental relations, political ecology, or, as I would prefer to term the side of Marxist geography emphasizing environmental relations, a socialist human ecology.²

The Development of an Environmental Relations School in Radical Geography

If I am to parallel Peet’s description of the development of the spatial school, I mustn’t be tempted into reviewing the history of “radical ecology”. The welter of paper and activity loosely labeled the “ecology movement” has produced some ideas concerning the relations between capitalism and pollution (e.g., Enzensberger, 1974; Sherman and Hunt, 1972). The middle class generally, and hence a wide range of professionals including biologists, economists, and even some geographers, have been caught up in the collective outrage at what a group of German radicals call “Profitschmutz” [profit-pollution]. However, “radical ecology” as a literature does not stand in the same relation to a Marxist science of environment as “radical urban sociology” [...] to Marxist spatial science. There are three reasons: first, “radical ecology” has produced no coherent theory of environmental relations to inspire geographers in the first place. Some useful superficial historical (Ridgeway, 1971) and global (Weinberg, 1971) overviews have been produced with a broadly “left” perspective, but they can neither be termed Marxist nor theoretical.³ Second, in following Peet’s method, one must focus more narrowly on what radicals with such classic geographical interests as “resource use”, “rural land use”, and “environmental perception” have been doing and thinking over the last ten years. These people are by no means identical with the “ecology movement”, which brings me to the third reason. In my own experience, a large number of the contributors to a radical analysis of environmental relations within geography have not been closely associated with the “ecology movement” in the first place. This is clearly true of the British and French workers whose writing and practice will be cited later. But it is also true of a

² Schmidt-Renner (1972, 1973a, 1973b, 1974) has been developing the concept of “Sozialistische Ökologie des Menschen” in a highly industrialized context. I borrow the term from him, but as will be seen below, the *practice* of revolutionary land use, public health, etc. in the wake of Third World revolutions gives the term a somewhat different content.

³ The historian Malcolm Caldwell (1978) [...] published a work that links imperialism with energy consumption patterns and mode of production in a way that begins to fill this gap.

significant number of American geographers, who saw – as I did – early “ecology movement” activities, such as earth Day, as a diversion of energy from the anti-imperialist struggle then, focusing on Vietnam and who left North America – as I did – in the early 1970s to develop a practice in the Third World or in Europe. If I concentrate on the work of these last-mentioned it is because of my limited acquaintance with the more recently developed foci of radical geography in North America, especially Canada. Also, these remarks do not hold for Danish and some German geographers who experienced a more militant ecology movement with a more developed Marxist content.

Peet recognizes four stages in the development of radical geography. First there were those who tried to find a more socially “relevant” use for techniques and models developed by the new “geographies” of quantification and perception as well as such conventional tools as cartography and “exploration” in general. I know this period well as it was during this time that my closest involvement with *Antipode* began and ended. Geographer-liberals interested in environmental relations were less numerous than the “spatialists” in common search for relevance but were nonetheless in evidence. For instance, a minority of young geographers involved in “natural hazards” research began to question its focus and relevance in meetings which culminated in an ad hoc session on “social hazards” as the 1972 I.G.U. [International Geographical Union] Man and the Environment Meetings in Calgary.

The second of Peet’s stages is critique of the ideology underlying the conventional and new geographic models and techniques. No longer satisfied with seeking “relevant” applications of the existing toolkit, one turns to look at the ways in which these tools are both the product of a particular socio-economic system and tend, by their use, to reproduce that economic socio-system. Here too geographers have not been slow to critique the ideological function of several sets of ideas about the environmental relations that lie at the heart of bourgeois geography as defender of empire. For instance, Buchanon (1973) and Harvey (1974) attack the notion of “over-population.” O’Keefe (1974), Johnson (1977c), and Wisner (1977b) expose class struggle underlying the definition of a “resource” and the process of underdevelopment of the peasant’s forces of production (i.e. they became “resourceless,” proletarianized or marginalized by capitalism). Olwig (1976) has similarly attacked the class basis of the ideology of “wildlife conservation,” Tachannerl (1976) the idea of “integrated water resource development,” and Wisner and Mbithi (1973) the class basis for “transfer of technology for drought-risk reduction.” This work of debunking and ideological exposé has much in common with that underway at the same time concerning such ideas basic to “development geography,” “development sociology,” etc. as “modernization,” “growth,” and “rationality.” Blaut (1977, 1973, 1970) has had a pivotal position since much of his work overlapped both a critique of the “world image” congenial to imperialism and a valorization of the “world image” (including “environmental/resource knowledge”) of oppressed classes. This latter influence helped many of us see the relationship between class consciousness and

“ethnoscience” (e.g. Johnson, 1977a). Paralleling Blaut’s attack on the racist ethnographic content of geographic models, Reiser (1973), Baird et al. (1975), and O’Keefe and Wisner (1975) attack the mystifying and controlling function of bourgeois psychological “perception” and “decision” models in geography.

Peet sees the “liberal” and the “critical” stages as having set the stage for the development of a rigorous Marxist analysis of spatial relations. Having demonstrated the existence of a similar liberal and critical practice in the field of environmental relations, I will not surprise the reader by asserting that the stage is set for the parallel development of environmental dialectics – with the key Marxist concept of “mode of production” playing perhaps the same pivotal role in such a theory as has been played by the concept of “rent” in spatial dialectics. However, before I turn to some more detailed notes on the shape of the coming environmental theory, several important issues must be dealt with: why has this environmental theory lagged behind the development of Marxist spatial theory? How far is it safe to push the apparent symmetry between the spatial and environmental sides of radical (at this point I should begin to call it “socialist”) geography? Is it not desirable to think in terms of *one* unified Marxist geography? Indeed is not Marxist geography not simply *political economy* whose interest is highly focused on certain spatial/environmental aspects of contradictions? Finally, has Peet adequately characterized the “crisis” of “crises” between centre and periphery in the world capitalist system? Is it helpful to differentiate a “crisis in spatial relations” from an “environmental crisis?”

Environmental Dialectics Lack Theory but Not a Theoretical Base

Peet’s third and fourth stages involve first the extraction from classic Marxism of elements necessary for a theory of spatial relations which seem to fit contemporary reality, presumably aiding us not only to understand but also to change that reality. Then one moves on to the stage of making original contributions, additions, to the body of Marxist theory. I lump these stages together as indeed in practice they must be if one is to avoid the most arid scholasticism.

Radical environmental theory is presently in the awkward position of beginning to contribute to evolving Marxist theory (e.g. theory of class consciousness, theory of articulation of modes of production, theory of the relation between forces of production and social relations of production, etc.) without having systematically combed the classics and/or consolidated these findings as has the spatial school over the past few years in the pages of *Antipode* and *Espaces at Sociétés*. Isolated and partial contributions in this direction have been made (e.g. Galois, 1976; Slater, 1977; Dattoo, 1977), but for the moment Peet is clearly correct in pointing out a “conspicuous” weakness.

But why this very serious gap? Are those of us interested in the environmental aspects lazy, faint hearted, more eclectic than the spatialists, less rigorous, infantile

running ultra left-wing dogs of the neo-crypto establishment? The answer is probably simple, even monosyllabic: work. That is, for many of us our practice – especially in the Third World – has meant a later politicization than that of the spatialists and often a qualitatively different one.

Speaking for myself and perhaps half a dozen others who come immediately to mind, our politicization was late – post-civil rights movement. It came in the anti-imperialist struggle over Vietnam and Cambodia and later crystallized as Marxism in the day to day practice of field work in such places as Sudan, Kenya, Tanzania, Nigeria, Niger, Senegal, India, Indonesia, Bolivia, and Mexico (again thinking simply of my own practice and that of my closest colleague-comrades). During the mid-1970s when the spatialists were busy reading the Marxist classics, many of us were busy “reading” neo-classical practice: those of us in Tanzania, for instance, tried to study (and to get our reluctant bourgeois students to study) environmental relations in China (e.g. *Fanshen, Away with all Pests*, etc.), Vietnam (in the pages of *Vietnamese Studies*), Cuba, North Korea, and the liberated zones of Angola, Guinea-Bissau, and Mozambique. My experience is possibly similar to others’ in that my former anti-imperialist practice found a new outlet: support work (material medical aid) for FRELIMO⁴. Out of the tension between growing enthusiasm for what I understood to be environmental relations in the liberated zones of northern Mozambique and growing disillusion with environmental relations in neo-colonial Tanzania eventually sprang “Health and Geography of Wholeness” (Wisner, 1976). For many of us working and teaching in geography, public health, planning, resource assessment, development studies such tension was the *axis mundi* [lynchpin] running through our practice. (Read tension between enthusiasm for China/Cuba, disillusion with India/Mexico in place of my own Mozambique/Tanzania tension.) We learned from our own practice (mostly an experience of failures, e.g. Wisner, 1975a) and from revolutionary practice (e.g. Wisner, 1975b, describing FRELIMO’s politicized and politicizing form of “famine relief” at a time when throughout African’s Sudan and Sahel savannah countries “famine relief” was synonymous with corruption and inefficiency.) Some of us found time for the “critical” function described above. Some found time for tentative explorations of the classics (Wisner and Mbithi, 1973, end with a sketch of a theory of peasant land use implicit in the writings of Che Guevara and Mao Tse Tung; Johnson [1975] pulls together Marx’s ideas about culture and evolution). But for the most part systematic reading of the classics was deferred until later.

I think such a practice and study of practice provides a base for theory, and it is a particularly strong one in at least one important respect. Coming late to the “classics”

⁴ Editors’ note: FRELIMO, or Frente da Libertação de Moçambique, is the former governing party of Mozambique.

from such a practice it is virtually impossible to relegate *class struggle* to a concluding paragraph or footnote as I'm afraid some in the spatial school have a tendency to do. Indeed this became a major issue at a recent meeting in Amsterdam of Marxist geographers⁵. If there is a danger that minute exegesis of *Capital* could become more for some geographers merely an intellectual challenge, like the rotating of matrices and calculation of eigen values was once for a slightly older group of "bright boys," it is not likely that those of us with a Third World practice (in the dual sense that either working there and/or having primarily an anti-imperialist/anti-fascist/anti-racist practice in Europe or North America) are likely to fall for it. Let me hasten to emphasize that I'm writing of *tendencies*, the tendency to drain Marxism of class struggle, reducing it merely to *Kapitalslogik* [the logic of capitalism]. I'm not meaning to imply criticism. I'm trying to build bridges with these notes, not start a polemic, which is another enervating tendency we should avoid!

How far can we push the apparent symmetry between the development of spatial and environmental theories? In my opinion a long way. The only limit is set by individual and class consciousness. If in most ways a set of "transformation functions" (Harvey, 1973) are possible for "mapping" environmental relations into spatial relations (but not vice versa??) and for "mapping" both environmental and spatial relations into more fundamental social relations (Anderson, 1977, 39; Peet, 1977, 23), it remains a fact that for the individual, as well as for class consciousness, environment (= place) has *content* that spatial relations *can* have but do not necessarily have. Environmental relations *necessarily* have content, meaning. This is the only limit to symmetrical treatment I can think of; however it is a large limit, and one I should return to later as it involves the most difficult question of the relation between Marxism and phenomenology.

The problem of consciousness notwithstanding, I believe it is probably worthwhile to try and think in terms of *one* unified Marxist geography. I agree with Peet that we have inherited the space/environment dichotomy from bourgeois geography – and a lot more baggage as well! On the other hand as tempting intellectually as is the "withering away" of geography altogether into a universal political economy with this or that specialized focus, I must resist. At the moment in Mozambique (and I'm sure elsewhere) Marxists are needed who can make maps, dig soil pits, and talk about erosion with peasants. We mustn't lose such skills, nor is it necessary.

⁵ "Zone Werkkongres: imperialisme en het ruimtelijk onderzoek van het perifeer kapitalisme" (Imperialism and the Spatial Organization of Peripheral Capitalism), Amsterdam, 11-13 May, 1977.

The “Crisis”: Where and Whose?

Peet gets us off on the wrong foot by seeming to juxtapose a “crisis in spatial relations” and an “environmental crisis.” If a Marxist theory of environmental relations is called for at this conjuncture it is not because there is this kind of crisis or that kind of crisis, or even because there is cyclically recurring crisis, but because there is a continually growing contradiction between the level of production forces and the form of social labor. Preliminary and as of yet unsystematized observations from Asia (Cannon, 1977), Africa (O’Keefe, 1974; Wisner, 1977c), and Latin America (Johnson, 1977a) suggest that this fundamental contradiction produces a chronic disruption of peasant environmental relations quite distinct from the, not surprising, peaks of disruption which enter bourgeois consciousness from time to time as “food crisis,” “drought crisis,” or – more generally – “environmental crisis.” Thus I believe a focus on “crisis” is neither necessary for providing Marxist environmental theory with a problematic, nor is it particularly useful, except as it focuses attention on crisis in the narrow sense of the periodic crisis of overproduction characteristic of capital development. This narrow sense of crisis is useful in explaining certain current contradictions between growing and declining regions and the decline in industrial-urban environmental quality (Anderson, 1977).

The articulation of capitalist and non-capitalist (peasant) modes of production in the Third World is producing continually growing tensions between forces of production and social relations of production. In highland Kenya, the result has been erosion and proletarianization (Baird et al., 1977). In lowland Kenya, the result has been desertification and marginalization, where proletarianization is not possible (Hunt, 1975; Wisner, 1977c, 1977d, 1977e). In India, rapid development of productive forces – the so-called Green Revolution – in a social formation where peasant relations of production are frozen in articulated form with private capitalist, state capitalist, and residual feudal production relations, has meant correspondingly rapid sub-proletarianization of the peasantry. In Mexico, Johnson (1977b) describes a similar process:

The revolution and agrarian reform created a peasant sector – peasant communities – ill-equipped with the means for survival. In the meantime, the state provided ample institutional support for the development of large-holder capitalist agriculture. This support has intensified in the past twenty-five years. It is now clear that agrarian reform has been a key factor in enabling the large-scale development of capitalism in Mexican agriculture. ... This process has had a disintegrating effect on both peasant production and peasant communities. By destroying the relations of production underpinning the hacienda system, and at the same time by withholding institutional support that would ensure the survival of the peasant economy within an overall capitalist system, the Mexican agrarian reform has left the door

open to the only other strong contender in the field: large-scale capitalist agriculture.

Such contradiction between peasant and capitalist modes of production and between forces and social relations of production give rise to “environmental problems” in South Asia (Cannon, 1977; Wisner, 1977f) and in Mexico (Johnson, 1977c) just as they give rise to them in highland and lowland Kenya. The details of distinct sub-processes differentiated by population density and by the tendency for displaced peasants to become proletarians or sub-proletarians (marginals), etc., need to be systematically worked through. However, classic descriptions exist for Indonesia (Geertz, 1966) and northeast Brazil (deCastro, 1969), and many examples are building up from African field work (Bondestam, 1975; Bugincourt, 1976; Copans, 1976; Habermeier, 1977; Kjekhus, 1976; Rey, 1975). Marxist environmental theory will arise from detailed study of such contradictions, not from a narrow focus on peaks in such processes which one terms “crisis”.

Approaches to Environmental Theory Building

We are few, marginally or intermittently employed, and often dispersed; the task is large. Therefore I would encourage simultaneous work on as many fronts as possible. The following are three complimentary approaches:

The Classic Texts

I have already cited limited beginnings and some work in progress in this area. Although some studies of Marx’s concept of nature exist (Mészáros, 1970; Schmidt, 1971), it would surely be useful for a group of geographers with an environmental practice to produce a commentary. Such an approach assumes that once one is clear about the Marxist concept of nature, then it is possible to move on without loss of clarity to the concept of environmental relations. A major problem with this approach is that, except for the early Marx and some Engels, most “statements” on nature must be extrapolated from some indirect references. This is certainly true of Lenin, Stalin, and Trotsky. One has better luck with Mao, but again, among “neoclassical” revolutionary authors Guevara and Amílcar Cabral have some important things to say, but need interpreting. The heroes and heroines of intellectual labor will find similar difficulties with secondary classical authors such as Bukharin, Luxemburg, Bebel, Kautsky, Gramsci, and Lukács – and possibly also diminishing returns since apart for the fundamental notion of the mutually-causing, dialectical relation between nature (as external physical reality, object of labor, and instrument of labor) and the human species (as socially laboring, self-conscious animal), any further detailed “statement” about environmental relations in classic texts is likely to be less important for our present-day theoretical needs than the general political economy, theories of

imperialism, development, and consciousness contained in them. For that matter no classical author has all that much to say directly, explicitly about space! It is the application of theories of value, rent, surplus value, accumulation, circulation, and reproduction which has provided the framework for Marxist spatial theory building. The same basic framework is probably adequate for environmental dialectics, possibly with a different set of emphases (e.g. “reproduction” would be an important category in environmental theory – Wisner, 1977a).

The Contemporary Marxist Development and Planning Literature

A complementary basis for building up environmental theory may be the (predominantly Francophone) Marxist development planning literature utilizable either by working through some of the larger texts (e.g. Bettelheim, 1975) with an environmental perspective and/or by comparing the perspectives of authors who have begun to address environmental relations directly in shorter works (Amin, 1974; Sow, 1975). A major problem with this approach is that since these works are economic, development goals and planning frameworks are often taken as given – the very point where environmental dialectics would want to begin to pose questions. Also, there is a tendency for some of these authors to preserve uncritical residues of bourgeois environmental ideology in their assumptions, for instance, about the fertility of tropical soils. A useful non-economist discussion of basic needs is Blanc (1975).

“Mode of Production” as Approach to Environmental Theory

For Marx, the analysis of all human reality begins with production, and production “is a process of collective struggle between man and nature. One could conceive of it as a double relationship: between man and nature, and, at the same time, between man and man” (Dowidar, 1973-4, 37). In *Capital* (1970, Volume I, 177-8), Marx captures the primacy of production and the dialectical relation between people and nature as follows:

He [man] opposes himself to Nature as one of her own forces, setting in motion arms, legs, head and hands, and natural forces of his body in order to appropriate Nature’s productions in a form adapted to his own wants. By thus acting on the external world and changing it, he at the same time changes his own nature.

One can ask the basic question *how* through collective struggle (i.e. social labor) people enter into this fundamental relationship with each other and with the external world – a relationship which both changes the world and themselves, a

relationship that no representatives of the human species has ever been able to avoid. The answer to this question *how* is a description of *mode of production*.

It is easy to be mystified by the term “mode of production,” although the German word *Weise* in the original term *Produktionsweise* has the simple and original meaning of manner, way to do something (Balibar, 1970, 209-10). Hence it is possible to define mode of production broadly as the manner in which a society produces, appropriates, and distributes its means of subsistence (Johnson, 1975).

If we enquire further into the relations to nature and relations among people which are organized into historically concrete labor processes, we find, on the one hand, *forces of production* (which Marx, 1970, Volume I, 178, defines as the “personal activity of man, i.e. work itself, the subject of that work, and its instruments”) and, on the other hand, the *social relations of production* which organize labor, control access to instruments of work (also called “objects of labor” – e.g. the soil) and access to instruments of work (also called “instruments of labor” – e.g. hoes, ploughs, knowledge of soils), and control the appropriation and distribution of the result of human labor. Taken together, the objects and instruments of labor are sometimes referred to as the “means of production” which, together with human labor constitute the forces of production during any given historical period. Hindess and Hirst (1975, 9-10) summarize these definitions as follows:

A mode of production is an articulated combination of relations and forces of production structured by the dominance of the relations of production. The relations of production define a specific mode of appropriation of surplus-labor and the specific forms of social distribution of the means of production corresponding to that mode of appropriation of surplus-labor {where “surplus-labor” can be defined as “production above that necessary to provide for the needs of the producing class” (Conference of Socialist Economists, 1976, 36)}.

Hindess and Hirst (1975, 13) also note that each particular mode of production defines certain economic, ideological, or political conditions that are necessary for the existence of that structure of economic relations. These political, ideological, juridical conditions are (analytically) situated in the *superstructure*, which, in articulated combination with one or more modes of production⁶ (called “*infrastructure*” in contradistinction) constitutes a given *social formation*. Johnson (1977) refers to social formation as “the Marxian category of societal whole ... that is, the total structure incorporating all of society’s economic, political, and ideological relations.”

⁶ Especially in the Third World one finds cases where the capitalist mode of production is combined with other modes such as “tribute paying” (Amin, 1977) or various peasant modes of production. This fact is vital to a theory of environmental relations and is returned to below.

[...]

Environmental relations – as conventionally defined in such disciplines as biogeography, agricultural geography, resource management, applied synecology, etc. as the totality of human relations with the biogeochemical “surround” or more narrowly defined as human “habitat” relations (Moss, 1969; Odum, 1971) – are clearly instances of *production* in the Marxist schema. The dialectical to-and-fro by which the human species creates nature, is created by nature, shapes tools, and is shaped by tools and by tool-making cannot be studied as a universal process, fixed for all time, but in its historically concrete forms and their development and change. Thus the bourgeois term “resource” can be translated as “object of labor.” If we make this translation and then study the concrete historical forms in which these particular “objects of labor” are combined with labor and instruments of labor, we find, as Slater observes (1977, 68)

... history reveals that the pace, pattern, form and social nature of resource utilization all vary with the relative levels of socio-economic development and, in particular, with changes in the relative sophistication of the instruments of labor ... these changes being inseparately linked to changes in the social organization of production and distribution.

Slater continues in a way that suggests a way of approaching at least one sort of environmental relation (“resource utilization”) with Marxist analysis:

The whole complex of relationships among the existence of the objects of labor, the level of development of the instruments of labor, the nature of the social relations of production, the existence of a state of central social authority exerting control over the exploitation and utilization of objects of labor, the characteristics of a given culture and ideology, the size, density and demographic structure of the population, can only be effectively approached, analytically, in terms of an historically concrete method of investigation. That is the complex of relationships will fundamentally vary according to: (1) what kind of economic system we are studying, i.e., feudal, slave, developed capitalist, underdeveloped capitalist, post-capitalist, etc. and (2) the time and space context of the study.

This certainly constitutes a reasonable start. Other sorts of environmental relations can be dealt with in a similar way. For instance the relation “resource conservation” yields to analysis by the Marxian category of “reproduction.” Every society needs to replenish its stock of means of production as well as its supply of human labor power. However, in Marxian analysis, reproduction is also taken to refer to the necessity of the social formation to recreate itself, to ensure its continuity through a complex of political and ideological institutions. In this light “resource

conservation” can be seen also to serve an ideological function insofar as the ideology of conservation is often used to justify a particular class structure of access to certain objects of labor (e.g. banning peasant charcoal burners and hunters from forest reserves).

Development of a theory of environmental relations must also take into account that nature can also occur in the labor process as *instrument of labor* as well as object of labor. For instance Meillassoux (1972, 98-9) notes how “land” can be considered *both* object of labor (he uses the synonym “subject of labor”) and instrument of labor:

At a low stage of development of the productive forces, when human energy is the only form of energy available and when tool-making requires comparatively little labor investment, the use of land as *subject of labor* amounts solely to the extraction of the necessities of life from it, as it is the case with hunting or collecting. At a higher stage of the development of productive forces, as in agriculture, man, with the expectation of a later return, invests his labor into the land, which becomes therefore an *instrument of labor*.

As a final example of the ability of Marxian analysis to deal with environmental relations conventionally of interest to geographers one might consider the relation “resource extinction” or “environmental degradation.” Elsewhere (Wisner, 1977a, 1977d) I have described in detail how erosion, overgrazing, and deforestation in Kenya are the result of an articulation of the capitalist and peasant modes of production. First of all this articulation has produced severe landlessness in the highlands, resulting in overexploitation of the land. Landlessness has also demographic effects as streams of migrants seek land in lowlands. One chief articulation of the capitalist and peasant modes of production is the provision to the former of cheap labor power by the latter. This is achieved because male migrants working in the capitalist highlands leave behind a wife or wives whose domestic labor within the peasant mode of production helps to cover – indeed often fully covers – the cost of reproducing labor, allowing the capitalist to pay a wage which only covers the cost of the migrant’s labor, not that of reproducing his family. Such an arrangement cuts deeply into the heart of the peasant mode of production, distorting it, but not destroying it. By siphoning off labor the forces of production are distorted. Also social relations of production are affected as mutual aid labor becomes more difficult. The combined effect of these and many other distortions is that the *spatial and temporal flexibility* of peasant environmental relations is reduced. In a highly variable environment (spatially and temporally) such as lowland Eastern Kenya, this means greater subsistence risk, more pressure for non-farm income to support declining yields, hence over-exploitation of grazing and forest resources as peasants turn more and more to smaller livestock (goats and sheep) and charcoal-burning. Thus the environmental relation “degradation” is situated in the societal whole, the social formation. Tracing the links between underdeveloped capitalist production in Kenya and capitalist accumulation on a world scale, one makes

the final step to the global system, which presumably even bourgeois geographers have desired to do since at least the time of von Humboldt's *Kosmos*.

One could continue to give examples of the way in which the historical materialist concept of mode of production, the conflict among modes of production, [...] and the uneven development of forces of production and social relations of production allows one to re-think environmental relations. For instance "resource assessment" immediately becomes not the absolute which seminars on the use of satellite imagery try to convince domestic (and alas foreign) students it is, but a human activity relative to a particular mode of production – e.g. the peasant mode to the Mezquital Valley of Mexico or the capitalist mode of production penetrating the same area through state irrigation development (Johnson, 1977c). What I have begun to sketch out for the relations "resource conservation," "environmental degradation," and "resource assessment" can be done for such relations as "environmental hazard," "carrying capacity," or "land use."

The whole analysis becomes theory when the set of different sorts of environmental relation is set in an historical panorama displaying the interrelations among such environmental relations during different periods in the development of class society from slave-owning to socialist. Parts of this panorama already exist in the work of such geographers as Suret-Canale (1973).

Of course, care must be taken to derive the set of environmental relations to be interrelated from the material reality of the humans concerned. This caveat has two aspects. First, clearly, some bourgeois categories of environmental relations would simply not be translated because they do not correspond to any material reality but only serve as ideological function within the capitalist economies of the industrial West. For instance "*overpopulation*" and "*natural* disaster" would not appear in Marxist theory either as such or in equivalent terms. Second, the *subjective aspect* of environmental relations must be included in the Marxist theory. Environmental relations not only have an objective existence as forms of production characteristic of a mode of production, they also have *meaning* for individuals and for groups. Johnson (1977a) has explored the role of environmental relations in the class consciousness of peasants in central México. As "resource knowledge" consciousness has an objective existence among the other forces of production whether or not it is recorded or embodied in material culture as technology. What I'm suggesting now is something related, but different. Whether we term it "topophilia" (Tuan, 1974) or something else, the fact remains that peasant resistance against seizure of land or disturbance of their relations with the environment is more than simply the defense of their economic interests. It is also a defense of "home," or of "place." Much more thinking is required on this subject, although Johnson has made an impressive start. Although there is controversy concerning the relationship between phenomenology and Marxism (Kruks, 1977; Lukács, 1948, 1971; Tran-Duc-Thao, 1971), I believe Marxist geographers should take up earlier urgings to explore phenomenology (Amaral and Wisner, 1970;

Wisner, 1970) – although for different reasons than it was originally urged. If environmental relations have a significant role in the development of class consciousness and revolutionary consciousness, geography becomes an adjunct to revolutionary pedagogy and the pedagogy of the oppressed (Freire, 1971).

Toward a Socialist Human Ecology

So far, in outlining complementary approaches to Marxist environmental theory building, I have dwelt on scholarly activities: careful readings of Marxist classics for views of nature, selective borrowing from contemporary Marxist economic planners, detailed historical overview of the place of environmental relations in the evolution of modes of production. I would conclude these preliminary thoughts by returning to the theme of *practice*. Elsewhere I have argued that despite the fact that the term “human ecology” has been captured by an often fascist socio-biology, a socialist human ecology is not only possible but desirable, especially in Third World countries attempting a transition to socialism (Wisner, 1977a). The results of such a practice would find their place with the other sources of environmental theory. Especially as “ideas do not fall from the heavens”, the parallel and overlapping development of a socialist human ecological practice and Marxist environmental theory are interdependent.

At the risk of repeating another similar catalog of research priorities (O’Keefe and Wisner, 1977), some of the chief overlapping research foci of human ecology and political economy are listed below.

Human Ecology

- (1) Environmental histories – utilizing oral history and contemporary inquiry, these studies would overview environmental variability and human response. Such studies would inquire into the role of women in shaping the landscape, the fate of nutritional systems and folk ecologies under the pressure of capital penetration. Impact studies of such ecological interventions as person-made lakes, large irrigation schemes, swamp drainage, sedentarization and other settlement schemas, exclusion and game park creation, etc. should all be conducted in the context of environmental history.
- (2) Human adjustments – studying even the most radical changes in accessible means of production (e.g. pastoralists turning to fishing in Kenya) beginning with the assumption that these are rational survival strategies from the point of view of hard pressed groups. “Adjustments” would include turning to non-farm activities as discussed above.

- (3) System stability – asking a range of urgent, specific questions concerning the long-term consequences of the apparently decreasing diversity of crops, craft skills, etc. among peasant and pastoral peoples. For instance, of serious concern is the disappearance of many local legume varieties in lowland Kenya and the impoverishment of livestock gene-pools.
- (4) The fate of folk ecologies in cooperative and other large-scale structures – studying the applicability of ethnoscientific knowledge of land use and food system problems introduced by large-scale settlement, e.g. crop protection problems in Tanzania *ujamaa* villages (Sandberg, 1973; Wisner et al., 1978). Do folk ecologies disappear when people settle far from their homes? Can neighbors from different backgrounds share folk ecologies? Can ethnoscientific knowledge be integrated into education and literacy programs? Does the disappearance of folk ecology mean reduced adaptability to stress? Does folk ecology still have a useful function where socialist industrialization revolutionizes the productive forces in the rural areas of a country?

Political Economy

- (1) Forms of extraction of surplus – focusing on the way in which changes in environmental relations influence the rate of extraction of surplus – especially from peasants involved in petty commodity production – and its realization as value through market relations. For instance, such a change in land use as satellite sugar production, in western Kenya, or the reemergence after a decade, in Tanzania, of cotton block farming should be studied from this point of view.
- (2) Forms of struggle – asking whether class struggle and active resistance to unwanted impositions on environmental relations are the normal condition of the peasantry (Blaut et al., 1977). These studies would embrace the role of environmental relations (e.g. land use) in a continuum of forms of struggle which spans struggle and resistance embedded in cultural forms to wars of national liberation. Specific forms include sabotage of material infrastructure (e.g. terraces, irrigation works), the defense of land, the defense of production systems by non-adoption of innovations, flight from labor conscription, the withholding of produce and labor power, etc.
- (3) Forms of accumulation, circulation and reproduction – focusing on the role of changing environmental relations in capital accumulation, its circulation and rural class formation. Study is also required of the crucial role played by women who assume, in the peasant household, a major responsibility in the sphere of reproduction.

- (4) Radical alternatives – following the creation of new social formations, such as after the independence of Mozambique, which challenge one to consider the implications of rapid transformation of peasant and plantation land use into transitional socialist forms such as the communal village (*aldeia communal*) and state farm (Wisner, 1977g). For instance, do radical new relations between people, party, and state release energies capable of resolving centuries-old environmental problems such as erosion in the Cape Verde Islands (Davidson, 1977)?

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Human-Environment Relations. Editor's Introduction

Richard A. Walker

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The subject of natural resources and environmental under capitalism² is distinguished by its absence from the list of time-honored topics of inquiry on the left. I know of only a handful of academic contributions in recent years as part of a revival of Marxist and related radical scholarship (see e.g. Bluestone and England, 1971; DiNoria, 1974; Edel, 1973; Enzenberger, 1974; Greer, 1974; Harvey, 1974; Hunt and Sherman, 1972; Mumy, 1974; Perelman, 1974; Schmidt, 1971; Williams, 1972, 1976; and others cited below).³ Within geography, Peet (1977) has remarked that radicals have barely touched the subject of man (sic) – environment relations, even though it

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² The qualifier “under capitalism” is essential here, and I mean to exclude thereby all historical, anthropological, regional and underdevelopment studies concerned with pre-capitalist modes of production from my review. However, this simplification is misleading in that the study of capitalism on a world scale necessarily includes the articulation of this dominant mode of production with pre-capitalist modes and the ongoing processes of “primitive accumulation” [expropriation of resources to create conditions for profit-making by the few]. It allows me to pass over much of the literature and interests of those occupied with resource and environment questions in the Third World, a rather serious omission, indeed. My perspective here is admittedly from the center, and it is easy to see the resultant differences between me and Ben Wisner’s approach to the same topic, although we agree on most of the essentials (Wisner, 1978).

³ Some less scholarly, general presentations of the pollution problem from the left which are not so helpful now but were useful political tracts when published in the early 1970s are: Bookchin (1971); Coates (1972); Ridgeway (1971); Rothman (1972); Weisberg (1971).

occupies, alongside “space,” an essential place in the discipline.⁴ Most of the critical work in the environmental field has come from journalists, activists, natural scientists, and lawyers. While their contributions have provided an invaluable source of information and trenchant criticism, they have been limited by a lack of well-developed theoretical position. In other words, a great deal of intellectual work remains to be done.

On the other hand, what does conventional social science have to offer on the issue of natural resources and environment? In the following pages I will give a quick sketch of some principle currents in orthodox thought and my dissatisfaction with them. The discussion will be organized under three headings: parks, pollution, and natural resources. After that, I will set out what I regard as the essentials of a Marxist approach to the field.⁵

Parks: Nature for Personal Consumption

Under the terse heading “parks” I include wilderness and, indeed, all landscape preservation for purposes of recreational consumption outside of the mainstream of productive uses of nature.⁶ Among our three [geographic] subfields, these topics have probably received the least exposure to scientific inquiry, even by conventional standards. In much of the literature uncritical advocacy reigns: parks and wilderness

⁴ See, however, Wisner’s (1978) thoughtful and enlightening response to Peet. He also provides a (necessarily thin) bibliography of left geographic contributions which I will not repeat here. It omits, however, Overton (1976) and Regan and Walsh (1976).

⁵ An essential caveat regarding our topic is in order from the outset. One necessarily makes concessions to convention in setting out on the path to defining, organizing and critiquing orthodox literature, and this means that certain conventional categories have to be adopted, though modified to fit new ones. The categories employed here for our title and three subfields are useful because they are short, familiar, and help organize current lines of thought. They are not meant to be enshrined or taken as Marxist categories. As will be seen, however, I mean considerably more by the heading “parks, pollution and natural resources” than may appear at first glance; I try to be more specific below. I have tried to be relatively consistent between the first and second parts of this essay. It will also become clear, in the concluding section, that our actual field of inquiry is no less than the *human appropriation of nature* under capitalism, principally the relation of *capital* and nature. This is not a topic readily confined to our three categorical boxes. I chose the title “natural resource and environment” [...] because it is more familiar to most people and has a less pretentious, philosophical ring about it [...]. The same objection weighs against the use of the titles “man-environment” or “human-environment relations,” in addition to the sexist nature of the former and the infelicitous ring of the latter.

⁶ Although in the modern age of what Abbey (1968) calls “industrial tourism,” the line between recreation and industry becomes rather blurred. The distinction remains, however, in that the worker is engaged in individual consumption and reproduction of his/her faculties for re-entry into the workplace [...].

are seen as good, *per se*. The only question then is how best to preserve, design or manage such places. The most popular academic effort at an historical assessment of wilderness preservation, by Roderick Nash (1967), is a good example of where the uncritical view leads (see also Huth, 1957; Ise, 1961). It is less history than teleology – a story of how the truth of wilderness preservation was revealed over time, ending with the present high state of enlightenment among environmentalists. Nash ascribes the love of wilderness chiefly to rising affluence, which, as Mumy (1979) points out [...], is hardly a sufficient structural analysis of the origin of preferences.⁷ Variants on this apologetic sort of analysis are that Americans have a heritage of contact with wilderness, that people naturally want to be near “nature,” and so forth. [...]

[...] Jim Overton (1979) and the Olwigs (1979) are the best academic treatments of the ideology and social context of national (“wilderness”) parks that I know of.⁸ [...] No doubt these three [scholars], coming out of geography, have benefitted from exposure to traditional work within the discipline on landscape perception, the history of ideas about man (sic) and nature, and cross-cultural studies of landscape use. Geographers such as Clarence Glacken (1967), Linda Graber (1976), David Lowenthal (1961, 1962), and Yi Fu Tuan (1971) come readily to mind, and the list could easily be extended. These people have alerted us to the importance of perception, cultural differences, and changing ideas in the way we see, define and shape nature. Unfortunately, they remain strongly idealist in persuasion and therefore unable or unwilling to come to grips with the way social practice gives rise to certain tendencies of thought, or of the contradictions between ideology and practice.⁹

Outside of the geographic tradition a new area known as leisure research has been burgeoning. Part of the field is occupied by the denizens of revealed preference, occupying themselves busily in metaphysical calculations of “willingness to pay” for

⁷ Indeed, it is false on its face, as evidenced by the number of affluent people who show no interest whatsoever in wilderness, particularly the ruling classes outside of the United States.

⁸ [On] the topic of urban parks [...] I recommend the work of Thomas Bender (1975), Galen Cranz (1975), and Peter Schmitt (1968). See Walker (1977; 1978) for my views on the matter.

⁹ Reference to the geographic tradition of environmental perception or evaluation of nature raises a problem. I do not agree with Wisner (1978) in continuing to hold this as a separate field of study, although the role of consciousness/ideology in human practice is unquestionably a vital part of all Marxist analysis (see text below, concluding section). Nonetheless, I prefer to see it included within the compass of each subfield of practice. This division is reasonable, given the tenet of historical materialism as to the close relation of consciousness formation and practical experience. Certainly it is true that capitalist ideology and practice divide the realm of production/reproduction of capital from (individual) consumption/reproduction of labor power, and along with it the perception of nature as object of individual versus productive consumption (see again text below, concluding section). Similarly, there is a (lesser) schism between the calculating view of capital toward nature as “natural resources” and the profligate view of the same natural environment as repository for the wastes of production and consumption.

parks, an unending quest for a surrogate for the market,¹⁰ or in survey research of park users, of interest chiefly to government managers (see Overton's 1979 trenchant criticism of the latter). Another branch of leisure research is considerably more sophisticated and insightful, concerning itself with the social definition of leisure, varying class practices in leisure activities, and the relation between work and leisure (e.g., DeGrazia, 1962; Kando, 1975; Kando and Summers, 1971). Some of this work approaches closely the questions Marxists raise about leisure (cf., Harvey, 1978; Le Fabvre, 1971; Overton, 1979; Walker, 1977, 1978).

Pollution: Adverse Impacts of the Transformation of Nature

For me the subject of "pollution" encompasses most of the physical impacts of social activity – of production, circulation and consumption – including ecological changes, impacts on human health, and physical alteration of the land, air and water.¹¹ The emphasis is, naturally, on *adverse* impacts, though it is a necessary part of the inquiry to ask why an impact is to be regarded as adverse; otherwise we assume the same naïve position [of using] the term "environmental disruption", as if there were some natural ideal from which human practice has diverged. The definition of pollution is itself a product of social practice and class struggle.

Although geographers have taken a very real interest in pollution and pollution control (Detwyler, 1971), particularly with respect to comparison between the United States, the Soviet Union and China (Matley, 1966; Murphey, 1967; Pryde, 1972; Zimbrunnen, 1972),¹² the business of generating a suitable explanatory framework has by and large been passed to the economists. Marginalist economics has given us the popular theory of externalities and market failure, along with various strategies to reincorporate pollution into the market calculus through effluent charges, option demand, and so forth. The basic flaw in such models, as Mumy (1979) points out, is parallel to that of the market system on which the economists' model rests: just as residuals are emitted from a factory for reasons of capitalist convenience, all the difficult analytical problems which lie outside the scope of the "market" – concerning pollution's physical impact, its social effects (especially on consciousness), the role of the state, etc. – are treated as residual to the analysis, to be dealt with by other

¹⁰ The progenitors of this sort of research are, I believe, Clawson and Knetsch (1966). See the criticisms of such metaphysical exercises in Mumy (1974) and Walker (1973).

¹¹ "Pollution" deals with *outputs* (products and by-products) of the commodity production process as a whole, while "natural resources" deals with *inputs* (see below, next section).

¹² [...] For more radical views on China, see Buchanan (1970), Kapp (1974) and Orleans and Stuttmeier (1970).

disciplines. Property rights divide up the environment and the social sciences with equal facility, it seems.

Moreover, within the scope of “economics,” narrowly defined, we see very little attention given to production. Characteristically, orthodox models treat the problem of pollution primarily in terms of exchange – i.e., the role of markets, prices, marginal cost and consumer preferences. Precisely because it is more “materialist” and directly concerned with the physical processes of production, the best conventional work on pollution is the one concerned with “materials balance” developed by the group around Allen Kneese at Resources for the Future (e.g., Kneese et al. 1970). Shorn of ideological niceties about what is not within the compass of the market, and how externalities may be converted into “internalities,” their analysis points to the actual definitions of “waste” and “output” which emerge from the labor process and the techniques employed in it. The aggravating aspect of their work, however, is that it easily degenerates into vulgar materialism, a sort of “industrial determinism” that gives little weight to the impact of social relations on the organization of the labor process and choice of techniques (they have not read Sraffa, 1960, let alone Marx). This stands in contradiction to their major contribution to the theory of pollution control: providing intellectual verification of the actual flexibility of industrial processes and the potential for pollution reduction (e.g., Kneese and Bower, 1968; Kneese and Luf, 1968).

Given the lack of attention to problems of production in orthodox economics, it should not be surprising that amongst all the interest in pollution of the air, soil, and water, the physical abuse of workers’ health from workplace exposure to hazardous substances has been almost wholly absent from academic discussion.¹³ Nonetheless, the occupational safety and public health issue has become the leading edge of pollution control activism in the 1970s (e.g., Commoner, 1973). No doubt the failure of both conventional environmental groups and academicians to shift from problems of aesthetics and ecosystems to problems of the labor process has much to do with class position, as well as ideological blindness to the priority of production. Moreover, given the prevailing explanation of pollution in terms of externalities (effects outside the market calculus and outside the factory), how does one deal with pollution that is *internal* to the production process? Particularly, how does one maintain that fiction of equal exchange relationships in the face of the terrible health and safety experience of workers [in factories]? As Gersh et al. (1979) illustrate, it is more to the point to speak of what is internal and external to *capital* rather than to the market.

One must also mention, in passing, the popular nonsense which passes for “cultural” analysis of the origin of pollution that is usually associated with the name

¹³ An exception to this rule is the somewhat eclectic, but nonetheless useful critique by Kapp (1950), who remains an obscure pioneer of radical economics in the field of pollution (see, however, Marx’s somewhat earlier treatment of factory pollution and the abuse of workers in *Capital*, Volume I, Chapter 10).

Lynn White, Jr. (1967), to wit, that the Judeo-Christian ethic of domination of nature is responsible for our abusive practices. Even a non-materialist reading of Western intellectual history, such as that provided for us by the eminent geographer Clarence Glacken (1967), shows this view to be unsupportable. Fortunately, one hears less of this notion than one once did. Unfortunately, the same cannot be said of the economists' explanation for pollution.

The subject of environmental regulation – the chief product of anti-pollution mobilization in capitalist society – has typically been seen as an “external” question by the economists and hence to be relegated to study by lawyers and political scientists. One has to go to the copious outpourings of the law journals for any serious discussion of what has actually happened to environmental regulations, but since the lawyers are our practitioners-without-theory, *par excellence*, one has to look far and long for an explanation of what has taken place, outside of virtually tautological justifications in terms of the law itself. The [low] level of critical analysis of the state, social formation and capital found in these treatises is not inspiring.¹⁴

Mainstream political science has advanced beyond description of participants and emphasis on “the political process.” While recognition of the process of law and regulation is essential, it makes all the difference in the world how one sees the workings of that process (see Gersh et al., 1979). The standard framework consists of interest groups, pluralism, Congressional organizations, budgeting, and bureaucratic behavior. Not by accident, the political scientists have reversed the proprietary achievement of the economists by making economics and other social consideration exogenous to their chosen object of study: the state and politics. In another parallel to economics, the orthodox theory of interest group pluralism offers a hidden-hand model of governmental decision-making analogous of Adam Smith's idealized vision of the market, in which the good of all is achieved by means of the opposition of conflicting (but equal) private interests.

Given such an ideology, how can regulatory failure, which is manifestly not in the best interests of all society, be explained? It must be jerry-rigged into the system. Failure of regulation – e.g., through agency capture by special interests – is typically introduced on the side as a nasty business which sullies the beauty of the system but does not undermine its basic tenets. Nonetheless, following Mummy's (1979) admonition to develop a “structural” analysis, we need to incorporate the role of the state as it operated within the actual “pressures and limits” of an economy and society in which it is embedded. This mode of analysis is suggested [...] by Gersh et al. (1979) and it is also taken up with respect to reclamation policy by Phil LeVeen (1979) and with respect to parks creation by Jim Overton (1979), in a somewhat more instrumentalist fashion. The point, of course, is to see regulatory success or failure as

¹⁴ Nonetheless, some good articles can be found, e.g., Greenstone (1975), Kramer (1976), [...] Greer (1973), Mummy (1974) [...].

part of the same system that produces the pollution in the first place; and while the one way may overcome the other, this is by no means given. This is quite the same as trying to understand parks as part of a unified society, not in their form of appearance as “nature” apart from human activity. An exemplary model for regulatory analysis is, somewhat surprisingly, Marx himself, who set out a subtle and amusing history of the “regulatory process” under the Factory Act in Volume I of *Capital* (Marx, 1967, Chap. 10, §6)

Geographers will probably protest the omission here of any treatment of what they might call “landscape change” and environmental transformation, and the abuses which can be catalogued under these headings.¹⁵ This is a somewhat different topic from the waste problems (chiefly chemical) which the term “pollution” ordinarily conjures up. But again we are dealing principally with the products and by-products of production, circulation of consumption, particularly those connected with natural resource extraction (discussed below) and construction of the built-environment.¹⁶

The subject of urban expansion and its impact on the landscape requires a different analysis than chemical pollution but not a different basic approach. It has not, however, been readily adapted to the standard externalities argument, probably because the interrelationships of land use are so obviously impossible to internalize into private property relations. Furthermore, the questions of urban growth, open space, and suburban sprawl which dominate the American discussion of landscape change are usually the province of planners and architects. Such spatial questions have not interested economists much. As a consequence, aesthetics and a different form of idealism have held sway, directing criticism toward divergence from the beautiful rather than from *pareto optimality* [when reallocation of a good benefits one individual, but not at the expense of another individual]. This gets us no closer to a dissection of the real and how to get there. When a little science enters the debate, it comes in the form of another idealism – objective instead of subjective. I am referring, of course, to the extremely influential *Design with Nature* by Ian McHarg (1969), which repeated the achievement of the economists and the political scientists in yet another realm: a vision of harmony through natural law, in which all parties may gain by following the “hidden hand” of nature. Of how landscapes are actually made – or ruined – and how the social process of city-building might be changed, we learn nothing beyond the obvious admonition to pay attention to natural conditions in

¹⁵ It is interesting how, in the American context, working agricultural areas or historical significant urban and industrial landscapes are treated as something quite apart from (and lower than) “real” parklands, which must have a certain imagined wilderness value or be picturesque.

¹⁶ There are good reasons, however, to discuss landscape change and abuse in relation to parks and landscape preservation or to resource conservation. As might be expected, our topics run into each other – in this case, owing to the adverse impact of production-as-a-whole on recreational consumption of nature and natural resources extraction.

making plans. This could only seem profound in a society in which the drive to accumulate so blindly overrides even this minimal consideration.

Natural Resources: Nature as Input to Production

The third and traditionally most important area of resources and environmental field is the constellation of topics surrounding “natural resources” production, consumption, and availability (scarcity) – i.e., the role of nature as direct input into the production process.¹⁷ Within this field there tends to be a schism between those working on mineral, timber and fisheries resources and those attending to agriculture proper. This is, as Marx insists, a mistake (see Perelman, 1979). However, we certainly want to be aware of differences between primary production based on organic processes and that based on inorganic materials; between the role of food and that of industrial raw materials; between extraction that is essentially mining nature and that which reinvests social labor and the social product to sustain or increase yields; and, finally, between extraction based on fully capitalist relations and that based on simply commodity or other pre-capitalist forms of production; these and other differences frequently mark off agriculture from the rest as a special topic of inquiry.

There is also a demonstrable split between the study of the actual mechanics of the extractive industries and the treatment of conservation of natural resources as a special problem, particularly with respect to agriculture. This division is not entirely without logic, since one side is concerned with primary production and the other with the reproduction of the natural resource base, as Wisner (1978) suggests. The former is in many ways simply a distinctive branch of industrial studies. Given this, and since I am not in a position to discuss the literature on agriculture and other extractive industries here, I will focus on the two issues that have occupied the traditional center of attention under the heading “natural resources”: conservation and resource scarcity.

Although the conservation tradition has a rich literature of criticism, reaching back to George Perkins Marsh’s (1864) *Man and Nature* and beyond, most of the formal academic presentations of conservation have been rather sterile. They have focused, among economists especially, on discussions of the optimal time distribution of output of raw materials or, more recently, on the need to cope with external effects in extraction (see Ciriacy-Wantrup, 1952; Gray, 1913; McDonald, 1971). The actual experience with natural resources under the capitalist form of development is considerably more shocking than these scholastic accounts would ever lead one to

¹⁷ “Natural resources” means chiefly “raw materials.” Strictly speaking, Marx defined raw materials as natural resources that have already undergone a labor process, i.e., been extracted from the earth (Marx, 1967, Volume I, 178-9). Hence the mining industry has no raw materials. I am using the term “natural resources” to include all the substances of nature which enter as production inputs [...].

believe.¹⁸ Indeed, shock and political struggle against the predatory tendencies of capital were what forged the classic conservationist movement in the first place, just as it has galvanized a new generation of environmentalists in the present day.¹⁹

Natural scientists have played an important role in past and present conservation movements owing to their appreciation of certain realities of natural systems, but have not been too helpful in furthering an understanding of why nature is so poorly used by timber companies, fisheries, or farmers. Most have concentrated their efforts on urging the use of “scientific management” – particularly on the idea of sustained yield. The assumption here is that the misuse of natural resources is a problem of ignorance and that good science will produce good policy; most scientists remain painfully oblivious to the social relations governing the exploitation of nature – and of science. Economists have successfully pointed out the futility of managing the fish scientifically without similar attention to the [unregulated competition] of fishermen. In addition, some ecologists have taken issue with their brethren for an undue idealization of ecological “stability” and “climax” behind the common conception of scientific management and sustained yield (see Walker, 1973, 1974, and references therein).

As new horizons of world expansion opened up to American capital[ists] after World War II, concern with wise management of domestic resources gave way to an interest in assessing the availability of global raw materials (Dean, 1971). The Paley Commission was established in 1951 to look into the matter and, in 1952, at William Paley’s behest, a permanent research institute on the lines of Brookings was established by the Ford Foundation to carry the work of assessment and policy formation. This was *Resources for the Future* [RFF]. It has proven enormously successful as a source of ideas to guide social science and public policy (Alpert and Markusen, 1977; Alpert and Zabel, 1977).

As the controversies associated with the contemporary environmental movement burst one after another into the public arena in the 1960’s and 1970’s – e.g., wilderness preservation, water policy, land use control, pollution control, energy – RFF was always there, generating research and pronouncements which made it the center of liberal thought on all these matters. The achievement is remarkable, and, I might add, the failure of geographers to [get involved] in the RFF circle, for whatever reasons, has no doubt contributed to their absence from the main stage of natural resources and environmental policy debate. Any critique of the conventional wisdom must begin by grappling with RFF contributions.

¹⁸ See Petulla (1977), for a good overview, and Nash (1976), for original accounts and a good bibliography.

¹⁹ The best history of the Progressive conservation movement is by Hays (1959), who provides valuable insights into the genesis of scientific management in resource affairs. [...]

One of the ironies of the history of ideas about natural resources is that in contrast to the fear of resource scarcity of the late 1940's which prompted the formation of the Paley Commission, the prodigal son, RFF, produced the modern, neo-classical gospel of anti-Malthusian thought, Barnett and Morse's (1963) *Scarcity and Growth*.²⁰ Caught up in the euphoria of the time concerning limitless capitalist expansion, Barnett and Morse argued that factor substitution, technical progress and foreign trade had more than compensated for any exhaustion of natural resources in the American economy, resulting in long-term declining prices for raw materials (cf., Olson, 1971). [... T]heir argument (which included an extensive reconsideration of the positions of Malthus, Ricardo and the progressive conservationists on scarcity) had the merit of pointing out the enormous flexibility of capital and its powers to overcome scarcity[. However], it overlooked certain salient aspects of capitalist practice: (1) that short-run scarcities (price rise and supply bottlenecks) of certain materials inevitably plague capital accumulation; that is, the adjustment/innovation process which produces a long-run downward price trend is by no means smooth or crisis-free; (2) that irrational and/or unbalanced resource use and production by capital helps to generate such scarcities; and (3) that there are contradictions to certain capitalist solutions to natural resource scarcity: for instance, what Barnett and Morse euphemistically call "trade" is typically imperialism; technical change frequently has unpleasant consequences such as the toxic substances associated with synthetics manufacture; and that substitution of inputs is all too often the abandonment of one depleted piece of land, whether eroded soil or clear-cut stumpage, for another without any rationalization of production whatsoever.

The circumstances of the 1970s certainly gave the lie to Barnett and Morse's [optimistic] view, as fuel prices soared, the devastation of modern timbering practices generated widespread erosion and public opposition, toxic substances and environmental cancer were recognized as major health threats, nuclear power staggered under the blows of critics and the weight of its own preposterous economics, and so forth.²¹ Not only were the contradictions of natural resource production and consumption apparent to a new and active generation, those contradictions were also visited in a dramatic fashion, either directly through the market or indirectly through the state, on capital. Hence they could not be ignored.

It is obvious with respect to oil prices or nuclear power that capital accumulation has been jeopardized, but how many of us are familiar with the crisis in water policy? As Phil LeVeen (1979) shows, the combination of fiscal crisis in the

²⁰ Only a historical materialist inquiry can unravel the origins of such changing currents of thought regarding natural resources and scarcity (see, e.g., LeVeen, 1979; Perelman, 1979).

²¹ Some recommended reading in these areas: on the energy crisis, see Blair (1976); Tanzer (1974); Commoner (1976); on timbering, see Coats (1976); on toxics and cancer, see Berman (1978) and Epstein (1978); on nuclear power, see Pector (1978).

reclamation program, environmental opposition to further development, and competition between agribusiness and other sectors of capital has western water development in turmoil, and requires a major shift in federal policy. It is significant that, in contrast with this analysis, conventional treatments of water resources programs have never been able to go beyond description of projects and criticism of illogical benefit-cost and repayment practices. Unfortunately for the latter, the problem was never one of logic, but of practical political economy (Hanke and Walker, 1974). Because neo-classical economics has no concept of *material* contradictions and no way of grasping the social context of state policy, it simply views the use of power to shape an illogical rationale of water development as an aberration to be corrected by hefty injections of its own brand of economic theory. This sort of “theory” to explain water policy practices has proved useful as a political tool – legitimizing and supporting environmental and budgetary opponents of reclamation – but it can hardly be called social science.

Resource Scarcity and Malthusianism – An Essential Digression

Beset by problems of flagging accumulation, apparent natural resource scarcity and political attacks, the bourgeoisie ultimately takes refuge in Malthusianism (see Harvey, 1974; Perelman, 1979). Natural resources are said to be running out owing to their limited natural supply. This supposedly accounts for the scarcities which people experience in their daily lives as higher heating bills, unemployment or water rationing. In place of the parson, however, we have today the Club of Rome group, Garrett Hardin, Paul Ehrlich and their ilk. It is sad to see so many reputable scholars leading the Malthusian charge, but there is some satisfaction in noting that they are usually natural scientists and mathematical technicians making a pretense of understanding social phenomena. Yet despite the crudity of their arguments, their opinions prevail by virtue of their timeliness, as Perelman notes with respect to Malthus. Malthusian doctrine diverts attention from social causes of scarcity and shifts the blame onto nature’s broad back. Moreover, it is a council of despair, for it says that nature is actually in the saddle, riding humanity, and that human progress is necessarily limited. The power of humanity to transform nature – and even society – in order to overcome scarcity is denied. This ideology is wholly a form of “capital fetishism,” which means, following Marx, that human creative powers are projected onto (and experienced as) the powers of capital.²² Given this inversion in practice and in

²² Most Marxists refer to this as “commodity fetishism,” after Marx’s discussion of the phenomenon in Chapter 1, section 4 of *Capital*, Volume 1. Nevertheless, the fetishism of commodities is just the beginning step in the fetishism of capital. Marx’s analysis must be understood as only the starting point for the study of capital (see Marx, 1967, Volume 1, 71-84; then, on the fetishism of money, see Volume 1, 92-93; on capital, see Volume 1, 310, 621, Volume 3, 25, 34-39, 42-48; also, cf., Gurley, 1975).

consciousness, it is a short step to the conclusion that if capital cannot solve certain problems of scarcity then these must be a fixture of the human condition (cf., Marx, 1967, Volume 3, 242).

A variant of capital fetishism is implicit in the conventional view, as exemplified by Barnett and Morse, that a disembodied force called “technological progress” is the source of our power to overcome natural scarcity. While it is certainly true that the developing forces of production serve this end, the conventional formulation begs the question of the origins of technical progress and gives us only the dry bones of the real flesh-and-blood process of evolving human creativity and social labor. Furthermore, the possibility of altering the social relations of production, distribution, and consumption, as a means of developing the forces of production, lowering resource demand, etc., is not considered. Political solutions to resource scarcity are quite unimaginable to those in the grasp of capital fetishism.

Obliviousness to the role of social relations in generating resource scarcity leads to an intellectual confusion on several fronts. In the first place, a simple equation of individual consumer wants with the natural supply of certain materials is meaningless because the consumer’s relations to nature is mediated by layers and layers of social fabric – a network of real production processes, transportation systems, social roles, behavioral and ideological socialization, and so forth.²³ Geographers, at least, have long recognized the irreducible social element in natural resource use; as Carl Sauer put it, resources are a “cultural appraisal of nature.” It is clear enough from cross-cultural studies that one cannot universalize about the social use and evaluation of nature, nor can one find any common tendency for societies, however primitive their forces of production, to press against the natural limits of their environments. But the insights of cultural geographers and anthropologists on the relations of people and nature have not been readily transferred to the study of modern economies, which the amorphous and idealist concept of “culture” does little to explain.²⁴

Given the layers of mediation, what we actually live on are the products of social production, distributed, evaluated, and consumed according complex social practices.²⁵ That is, our principle *personal* relation is to *social* resources, such as housing, food, heating oil, etc. That lack has little to do with the state of nature and is, in fact, experienced all the time by those at the lower end of the class structure, by

²³ Even what appears to be a relatively “direct” consumption of nature, visits to parks, proves on closer inspection to be a thoroughly social and socially-mediated act, as Verton (1979) and the Olwigs (1979) demonstrate.

²⁴ See Slater (1977) for a discussion of the Marxist approach to natural resources, using the concept of mode of production.

²⁵ And these are, as Wisner (1978) and others have pointed out, subjects of class struggle.

virtue of their inability to command access to the most crucial social resource of all, the means of production/means of employment.

Therefore, the study of social scarcity is by no means the same thing as the study of natural resource scarcity, although this basic confusion of apples and oranges has been a hallmark of bourgeois ideology since Malthus. The same should be said of the topic of population dynamics and relative overpopulation. The causes of population change are exceedingly complex and rooted in the social fabric, not in natural drives; hence they comprise a whole separate object of scientific study which touches but infrequently on the subject of natural resources. When I teach a course called "natural resources and population," inherited from a predecessor, I am, in one sense, giving two courses in one. The two halves do, however, prove to be linked by one overriding theme: the common relation of natural resources and population to social structure, in particular to the capitalist mode of production and the dynamics of capital accumulation. These hold sway over both human reproduction and the use of natural materials.

Undoubtedly there are other topics which might be placed under the heading of "natural resources and environment under capitalism," which I have not touched on here. Two things not included deserve comment. First, many geographers would protest the absence of "natural hazards research," a specialty to which our discipline lays claim. Nonetheless, I am not convinced that this can legitimately be called a field of scientific study. Large natural events and their impact on human beings may indeed be an object of study, but "natural hazards" as conventionally defined are not, since their hazardous character does not exist apart from social practice (see Wisner, 1978). Insofar as the field deals with the perception of hazards it falls under "environmental perception" and the study of consciousness in general. Insofar as its practitioners pretend to deal with the material conditions that lead to exposure to hazards and their impact on people, they are engaged in the study of natural resource and environmental use in general. Both aspects call for a sophisticated analysis of political economy, particularly of development and underdevelopment, which is painfully absent from the existing literature.

The subject of land use and land use change is another likely candidate for inclusion here, but I find the term "land use" to be a much abused misnomer for other things. The greater part of what is studied under this heading refers to the spatial pattern of urbanization, agriculture, or back-country activities. In that case, it belongs to the great tradition of spatial inquiry in geography, lying outside one's purview here. What remains are questions of non-spatial impacts and utilization of the physical environment, which I have already included under the headings pollution (and

landscape change) and natural resources as raw materials. In other words, the field of land use does not really exist in its own right.²⁶

Toward a Marxist Analysis

It is odd that Marxists have for so long ignored questions of natural resources and environment under capitalism, since they appear so frequently in Marx's own writing (see Perelman, 1975, 1979). Why the interest shown by Marx in the relation of human beings to nature? To begin with, the role of human labor – practical activity – is the cornerstone of the materialist conception of history. Hence, Marx approached the analysis of history in terms of modes of production and his study of capitalist society centers on the social relations and social practice of capitalist production. In Volume I, Chapter 7, of *Capital*, Marx lays out clearly his idea of the significance of the labor-process and its basic constituent elements:

Labor is, in the first place, a process in which both man and nature participate, and in which man of his own accord starts, regulates, and controls the material reactions between himself and Nature. He opposes himself to Nature as one of her own forces, setting in motion arms and legs, head and hands, the natural forces of his body, in order too appropriate Nature's productions in a form adapted to his own wants (Marx, 1967, Volume 1, 177).

The labor-process, resolved as above into its simple elementary factors, is human action with a view to the production of use-values, appropriation of natural substances to human requirements; it is the necessary condition for effecting exchange of matter between man and Nature; it is the everlasting Nature-imposed condition of human existence, and therefore is independent of every social phase of that existence, or rather, is common to every such phase (Marx, 1967, Volume 1, 183-4).

He goes on to state that the "elementary factors of the labor-process are 1) the personal activity of man, i.e., work itself; 2) the subject of that work; and 3) its instruments" (Marx, 1967, Volume 1, 178). The "universal subject of labor" is nature (Marx, 1967, Volume 1, 178) and it also provides certain instruments of labor (Marx, 1967, Volume 1, 179, 180, 183) and the environmental conditions under which labor takes place

²⁶ Of course, in both this area and natural hazards research a "field" *does* exist simply by virtue of the fact that a number of people are writing about it. This literature must be addressed and criticized. Also, a whole area of "land use controls" has grown up as the common name for the set of regulatory practice having to do with the allocation of land to different use and site selection, and, to a lesser extent, with the actual physical use of the land. This is a more legitimate field of study than the amorphous topic "land use," and one that has hardly been touched by Marxists and other scholars on the left (see Gersh et al., 1979).

(Marx, 1967, Volume 1, 180, 512-3). Finally, material substances are, in their original or a transformed state, the objects of individual consumption (use-values) as well as of productive consumption (the labor-process) (Marx, 1967, Volume 1, 183). From all the above, it follows that the study of *all* social appropriation of nature is fundamental to the Marxian project.

Of course, the labor process in the abstract is not the same as the labor process under the conditions of capitalism, as Marx pointed out clearly (1967, Volume 1, 184-6). Hence the bulk of Volume 1 of *Capital* is devoted to two tasks: (1) unveiling the social conditions under which the labor process takes place in the capitalist mode of production, i.e., class relations of control over the means of production, command over the labor process and product of labor, the appropriation of surplus labor as surplus value; and (2) detailing the implications of these relations for the evolution of the social labor process, particularly the changes brought about by the pursuit of surplus value in its absolute and relative forms (longer hours of work and greater productivity, respectively).

Because Marx was a consummate student of the labor process and of the technical development of production, he fully realized the centrality of practical issues surrounding the physical use of nature (including the person of the worker) in production. It is in the chapters on the capitalist development of the labor process (Volume 1, Chapters 10-15) that his most frequent remarks on the use of raw materials, the work environment and the character of the product are to be found. His critical observations read, as Perelman puts it, “like some of the best modern literature of the environmental movement” on occupational health, food additives and soil depletion. Whenever Marx returns to the immediate issues of production, throughout *Capital*, he has insightful comments to make on the use and abuse of natural resources and the environment: in Volume 2 he discusses natural processes as a necessary part of the labor process, while distinguishing the “working period” from the total “production period” (Marx, 1967, Volume 2, Chapter 12 and 13); in Volume 3 he demonstrates a perfectly good understanding of materials balance and the production of waste products (Marx, 1967, Volume 3, 79-81); later, he notes the implications of landed property and rent on resource extraction (Marx, Volume 3, 617, 776, 780-1, 807, 812-3).

The point of Marx’s arguments is to show how the social relations of production shape the ways the labor process is carried on, i.e., how they mould the fundamental relation to nature. Of particular importance, once the class nature of capitalist production relations is established, are the implications of the pursuit of surplus value and the accumulation of capital as the principal aims of capital – a characteristic which distinguishes capitalism from all earlier class systems. It is not enough to state that exploitation of labor takes place and leave it on the plane of moral judgment. The question is how the extraction of surplus value and the capitalist use of labor-power under competitive conditions drive social production and reproduction, and consequently determine the social appropriation of nature. The logic of capital is

“production for production’s sake, accumulation for accumulation’s sake” (Marx, 1867, Volume 1, 595) and Marx was fascinated by the implications of this logic for the organization of human use-values.

Because Marx’s main purpose in *Capital* was to reveal the structural role of the production and reproduction of capital-as-surplus-value in the metabolism of capitalist society, it is perhaps understandable that so many Marxists have grasped this idea only to forget the concrete *use-value* side of things. Nonetheless, Marx’s method was constantly to play off the two sides of capitalist production against each other, from the moment he introduced the dialectic of use-value and exchange-value in Chapter 1’s discussion of the commodity. Unfortunately, since most issues of natural resources and environment are concrete, physical problems arising on the use-value side of things, they have been given short-shrift among Marx’s followers.²⁷

Marx’s main revolutionary purpose in writing *Capital* was to try to uncover the principle contradiction within capitalist reproduction, including those inherent in the use-value/value dialectic. That is, how did the pursuit of surplus value shape (and distort) the labor-process, as a means of producing use-values or as the distribution and consumption of use-values? One of the most important contradictions brought out is the way capital’s thirst for absolute surplus value leads to terrible abuse of labor-power and ultimately generates intense class struggle over the length of the working day. The appalling *physical* toll on the worker is an integral part, extensively documented, of Marx’s discussion (Marx, 1967, Volume 1, Chapter 10, 240-64 especially). Again, Marx’s followers have tended to focus on the necessity of class struggle owing to the (value) exploitation of workers and to slight analysis of the concrete (use-value) conditions in which it is bred. Moreover, the tendency to abuse labor-power is paralleled by a tendency to misuse the forces of nature and thereby undermine the productivity of labor, as in the case of soil exhaustion (see Perelman, 1979). Indeed, Marx explicitly juxtaposes these two cases of the use-value effects of capital accumulation, in reference to the Factory Acts:

Apart from the working-class movement that grew more threatening, the limiting of factory labor was dictated by the same necessity which spread *guano* [fertilizer] over the English fields. The same blind eagerness for plunder that in the one case exhausted the soil, had, in the other, torn up by the roots the living force of the nation (Marx, 1967, Volume 1, 239).

Capital does three things simultaneously: it unveils the structure and tendencies of the capitalist mode of production, it critiques bourgeois ideology for its fetishistic explanations for the phenomena of political economy, and it probes for the inherent

²⁷ The distinction between value and use-value relations, and the primacy of the concrete phenomena of the latter, is also central to an analysis of space.

contradictions of capital which generate accumulation crisis and class (social) struggle against the rule of capital. A fundamental advance Marx made in writing *Capital* is given by its title: that is, that the fundamental structuring relation, or network of internal relations, under the present mode of production, is to *capital*.²⁸ Thus, if we are to understand the use of nature in today's world economy, we must continually investigate the central relation between nature and capital, not people and nature in the abstract.

That investigation requires the use and development of the method of *Capital*. *First*, we must analyze the way capitalist production as a whole structures the human labor process, and, as a use-value or technical question, how it regulates the input of raw materials and output of waste products as production develops in pursuit of absolute and relative surplus value (Volume 1, Chapters 7-15). Complementary to this, but only suggested by Marx, would be to study the vital circuit of reproduction of labor-power, including problems from the physical abuse of people's bodies to the social consumption of nature in recreational landscapes (Volume 1, Chapters 10-15, 25). Similarly, the movement of natural resources through production and consumption can best be seen, like the reproduction of labor or of capital, as a distinct *circuit*, consisting of physical substances whose principal end product is the reproduction of natural systems themselves, until nature encounters capital. In this opposition of circuits lies the source of contradictions, as it does in the opposition between the circuits of capital (M-C-M) and labor-power (C-M-C).²⁹

To expand the analysis of capital, one must next take up the problem of the flow of production, transportation, exchange between sectors, fixed capital and turnover time, and all of this in a spatially-specific and geographically expanding context (Harvey, 1975; Marx, 1967, Volume 2). Finally, issues surrounding the distribution of the means of production and of the social surplus product must be discussed for their impact on the movements of capital – encompassing such topics as rent, the rate of profit, and the credit system (Volume 3). Finally, these issues must be put into the context of a capitalist-dominated world market which subsumes non-capitalist modes of production and which embraces nation-states, not to mention

²⁸ My understanding is that the secret of surplus value, in its essentials, was discovered by Marx much earlier, and that the basic tenets of historical materialism were established by Marx and Engels earlier still, although both were sharpened in the writing of *Capital*. Among other advances, Marx went beyond the scope of his original plan for a "critique of political economy" and developed greater insight into the labor process and the class struggle emerging from that process.

²⁹ [Editors' note: M-C-M and C-M-C denote the purchase and selling of C, commodities, through M, money, or the transformations of capital from and to commodity and money forms, which enable wealth to be accumulated in a capitalist system] Marx indicates quite clearly in several places that labor-power has a different logic in its utilization of capitalist commodities, one which emphasizes use-values (cf., Harvey, 1978), and also that nature has laws regulating its metabolism which operate quite independently of the laws of capitalist production (see Schmidt, 1971).

diverse physical environments. And, of course, since the analysis of *Capital* is concerned chiefly with the production, circulation and distribution of capital as value, we must undertake quite separate studies of the “circuit of labor-power” and the “circuit of nature” as they interact with the circuit of capital, and are impacted by things such as property rights in land and extraction of rent.

Second, we must develop a critique of the ideology of “man (sic) and nature,” as Marx critiqued the categories of political economy. This means not only a strenuous combat with Malthusian and other fetishistic concepts which have nature determining social relations and social activity – a combat which Perelman shows Marx to have engaged in – but more specific investigations of how people’s real experience within capitalist-dominated social systems generates certain culturally distinct perceptions of nature and consumptive uses of nature, as the Olwigs (1979) and Overton (1979) have begun to do in their work on parks.³⁰ A fundamental starting point here is the practical separation of production and consumption (work and leisure, factory and residence, city and back-country) which shapes the common view of nature as “landscape,” wilderness, a thing apart from the sullied world of society (Harvey, 1978, Walker, 1978). Parks may not seem at first glance to be a subject of much importance or general interest, but it may be our best way of getting a handle on the whole ideology of a relation to nature that lies wholly outside production. On the other hand, Marxists must also confront the ideology of the productive consumption of nature under capitalism, which regards nature in an instrumentalist fashion as objects to be manipulated as natural resources, private property, or abused as waste dumps, without regard either to the reproduction of natural systems or their significance to people for reasons other than the accumulation of capital (Leiss, 1974; Marx, 1967, Volume 1, 513; Schmidt, 1971).

In general, the language of nature-images, which is a basic element of any ideological system, reveals more about society than it does about nature – conceptions of how society works (e.g., natural law), what kind of society people would like (especially whether they prefer change or the status quo) and what they feel is wrong with society. Nature provides a vast dappled mirror of our own social face.

Third, it is necessary to probe the contradictions of the capitalist relationship to, and use of, nature – as raw materials, as waste-dump, as parks. This does not mean coming up with idealist contradictions between “irrational” and “rational” uses of nature, although this can be useful for political work, but unraveling the material contradictions within capitalist society which jeopardize the reproduction of capital, the reproduction of labor-power and the reproduction of natural systems. As Perelman

³⁰ This investigation must frequently focus on contradictions *between* modes of production as capitalism expands; this sort of problem arises in the two cases studied by Overton (1979) and the Olwigs (1979).

(1979) notes, Marx was always looking for the weak spots in capital's armor which might be exploited by the opposition.

Irrationality in the use of nature is not a logical problem or a deviation from some ideal norm. How could it be when our knowledge continues to change and grow, and hence we can never know what is truly rational? *Material* irrationality, on the other hand, is measured with respect to the ability of society to reproduce itself, or, more precisely, to the ability of classes to reproduce themselves and of capital to reproduce itself on an ever-expanding scale; in other words, it is tied to definite class and societal interests. It is this kind of irrationality, and the historical movement to which it gives rise which matters, as Mumy (1979) argues in his critique of metaphysical puzzles about "environmental efficiency" posed by neo-classical analysis.

Phil LeVeen (1979), for example, does a good job of stating the dilemmas that western water development has encountered after a period of great success – in terms of the class of landowners-farmers. The consequent "crisis of reclamation policy" reveals the irrationalities, or contradictions, of past policy and demands a counteracting rationalization of the state and of irrigated agriculture. A "rationalized" future is likely to look quite different from the immediate past, and [is] also likely to generate its own irrationalities, eventually. Of course, both the irrationality and the rationalization of water development are measured principally in terms of capital's ability to expand. But there is always an active social struggle over whose definition of "rationality" will prevail.

The crisis of reclamation policy is not one that you and I necessarily feel. Our personal crisis may be experienced as the disappointment of seeing a stretch of white water flooded by another dam. Water, like other natural resources is misused in any number of ways all the time, but the experience of crisis (or scarcity) requires a concrete encounter with an altered nature. When do these experiences count? Historically they have no meaning unless they propel people into action, i.e., initiate political struggle. As Mumy (1979) points out, we want to analyze precisely why people are or are not so moved, and what this has to do with their experience and consciousness. Even then, action only begins to matter in this society when it starts to impact capital. When the accumulation of capital is jeopardized through a falling rate of profit, political obstruction, or otherwise, then we feel the earth move.

In conclusion, one is tempted to elevate contradictions of the relation to nature, i.e., adverse effects on social reproduction of the social use of nature, to a fundamental place in Marxist analysis, beneath only competition and class struggle as sources of capital's instability and eventual transcendent demise.³¹ "Contradictions of nature"

³¹ A fundamental but difficult question for Marxist analysis with respect to raw materials supply is whether this can be a source of general accumulation crisis or whether difficulties in raw materials supply are subordinate to, or actually caused by, other contradictions in accumulation of a more social

figure rather differently from fully social contradiction, however. Nature is not the subject of history; it does not care how it is used and cannot mobilize in pursuit of its own interests. But people do and can. Insofar as changes and failures of the circuit of physical processes impact capital accumulation and the daily life of various classes, it will generate crisis, struggle, and historical change.

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nature. For example, how important are the oil price hikes in the economic malaise of capitalism in the 1970s? Obviously they contribute considerably, although my feeling is that they are a secondary cause in a major structural crisis. Nonetheless, a determination of the role of natural resources in such a crisis can not be made *a priori*. It requires an open-minded scientific study of the situation. Such a study includes consideration of the Marxist theory of crisis, of course. While Marx evidently thought that the primary source of crisis was to be found in the rising organic composition of capital (the inverse of capital's tendency to increase the productivity of labor through mechanization), he did not have the mono-causal view of the origin of the crisis that many of his followers have attributed to him (see Harvey, 1975; Lebowitz, 1976; Mandel, 1975). It follows from an appreciation of the way Marx constantly probed capital for its contradictions in his analysis that natural resource problems cannot be shunted aside as unfit for Marxist inquiry or taken to be merely the foolish preoccupation of "petty bourgeois environmentalists."

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Hazards and Crisis: A Political Economy of Drought and Famine in Northern Nigeria

Michael Watts

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Introduction

During the early 1970s much of the Sahel and northern Sudanic savannas of West Africa was gripped by a devastating famine which had its origins in a run of drought years in the late 1960s. Prior to the exposure of widespread starvation and human suffering throughout Sahelia, both the academic and popular presses paid scant attention to the Sahel's existence. Since 1974, however, the arid and semi-arid lands have assumed [some] popularity, if not notoriety, including an appearance on the cover of *Time* magazine under the dubious title of "creeping deserts." In fact, the Sahel famine in particular has gained a sort of textbook notoriety and is usually invoked as an archetypical example of poor land use, desertification, local or global climatic change, [...] population pressure, or life boat ethics in practice. The Sahel has even entered the heady realms of high culture for John Updike's witty novel, *The Coup*, based on the demise of the Kingdom of Kush – "land of delectable, delicate emptiness" – [and] clearly modeled after the Sahelian states. In addition there has been the commitment of a massive amount of foreign aid (\$10 billion by the Club du Sahel); and political pressure from the Sahelian States themselves prompted the United Nations General Assembly to confront the global problem of desertification, from which emerged an International Conference convened in Nairobi during 1977. Yet, despite the resultant proliferation of Sahelian and Arid Lands Institutes, the profusion of rather ephemeral research organizations, multi-volume studies by USAID on long-

¹ Reprinted with permission from Richard Peet [Editors' note: references are missing in the latter half of the original paper].

term development strategies for the Sahel (in which geographers have been heavily involved), and even a pledge from Henry Kissinger to “roll back the desert,” all is not well. During the summer of 1978, the French Minister of Cooperation, Mr. Galley, claimed that a calamity of the magnitude of 1972-74 throughout much of the desert edge could only be averted through the astronomical amount of 750,000 tons of immediate food relief. The Director of FAO, in a more sanguine mood, put the figure at 450,000 tons (Harriss, 1978; Watts, 1978). Furthermore, virtually every harvest period brings a new spate of food aid requests and morbid projection of [thickened] gloom.

Not unrelated has been the emergence of a substantial literature which deals with the consequences of the famine on the social fabric of Sudano-Sahelian societies (Berg, 1975; Faulkingham, 1974; Horowitz, 1976; Mortimore, 1973; Sawadago, 1975; Seiffer, 1974). Perhaps inevitably, in view of [...] pastoral modes of livelihood and the mystique of the Tuareg blue-men, much of this research effort has concentrated on the deterioration and demise of traditional institutions and cultural practices associated with the pastoral economy. While the disruption of the livestock sector was unquestionably profound – although not new – there is a strong implication in much of the recent work that the drought undermined the institutional base of these historic societies (Lofchie, 1975). This preoccupation with pastoralism, and with what has been seen by some as “savage anthropology,” has been accompanied by a lack of attention to the agricultural economy of the semi-arid zones, to the human ecology of peasant farming communities. Indeed, there has been a tacit assumption that Sahelian agriculture showed much more resiliency than the pastoral sector; as Dyson put it, “it may be easy for the farmers to rebuild their lives” (Dyson-Hudson, 1978, 136). In view of the slight empirical work on farming communities generally in the northern savannas, and particularly under drought-famine conditions, this sort of surmise must remain highly speculative.

In spite of enormous post-famine expenditure on “reconstruction” and “development” throughout the semi-arid lands of West-Africa, it is clear that the peasant economy, if intact, is far from healthy. This “morbidity” is lent a measure of urgency by the current structural crisis in many of West African food economies. The stagnation of food production in Nigeria is particularly apposite in this respect, although in this case Nigeria has fortunately benefited from a massive increase in oil revenues in the wake of a spiraling food import bill. Prior to the oil boom, Nigeria’s traditional agricultural exports – cocoa, groundnuts and palm produce – accounted for the overwhelming proportion of foreign exchange earnings. By 1977 they accounted for less than 10% of Nigeria’s non-domestic revenues and only cocoa has managed to survive as a viable economic export. Furthermore, the devastation of the export crop economy has been mirrored by an uninviting climate for the domestic foodstuffs

producer. An overvalued Naira² permitted low domestic prices for imported consumer goods and foodstuffs. For commodities such as rice, this has meant the under-pricing of locally grown varieties by foreign imports. White bread, constituted almost entirely from cheap imported wheat, is rapidly becoming a staple of the urban poor, displacing the traditional sorghums and millets. The import of staples rose dramatically from ₦32 million in 1974 to ₦1.5 billion during 1980. Domestic food prices rose from a base of 100 in 1970 to 490 in 1977 (see Freund, 1978). Projected food deficits are equally bleak.

The general problem of food and hunger in drought-prone northern Nigeria is the subject of this paper. The emphasis on food production and drought is a particularly legitimate realm for geographic research, relating to work on [People]-Environment relations, and to natural hazards and cultural ecological research. [...]

In the process of examining the changing character of food production, and environmental risk in northern Nigeria, however, I will emphasize that both hazards research and cultural ecology are sadly lacking and need to be placed in the wider context of the political economy of social systems and specifically the manner in which social formations reproduce themselves. These geographic approaches have suffered from, on the one hand, a profound ahistoricism and, on the other, an inability to relate “adaptive behavior” to the wider socio-economic context in which it is grounded. [...] [T]hese weaknesses [...] are [...] pernicious in human ecology where change is often treated as “disturbance;” in this respect it is parallel to ecology in its preoccupation, until very recently, with stasis and equilibria. It is as though the environment is assumed to somehow determine the rules of behavior such that once a production system is adopted the intellectual problem simply becomes one of “adaptive” response to environmental signals. But humans clearly live not only in an environment constituted by natural processes, but also in one of their own making, constituted by human practice, and subject to ongoing change and historical transformation.

Recently attempts have been made to overcome these shortcomings; Brookfield and Kirkby (1974, 4) have emphasized the importance of *time* and *changes of scale* in the process by which low risk, autarkic communities are subsumed by larger economic system, which they call system capture and enlargement³. Clarke has also examined what he calls “the changing structure of permanence,” that is the loss of autonomy by local systems as they become part of a coherent and highly integrated global networks:

² Naira (₦) is the official Nigerian currency. ₦1 = [US]\$0.85. [Editors’ Note: In 2008 ₦1 is worth less than one US cent].

³ The same point has been made by a number of scholars, but particularly Bennet (1976).

As society and economy are enlarged in the course of development, as communities trade autarky for access to a wider range of goods and services, new and coarser patterns of resource valuation and selection replace old, finer patterns. Specialization replaces diversity; economic risk is added to natural risk (Clarke, 1977, 374).

Grossman's (1979) recent work on coffee and cattle in the Papua New Guinea Highlands is one of the first attempts to examine empirically this changing structure of permanence. He explores the impact of cash-earning activities on the natural environment, the subsistence system, and the structure of social relationships through an uneasy marriage between cultural ecology and economic development. While this genre of work, including that of Nietschmann (1973) among the Miskito Indians, is in some respects akin to what I call political economy, it often fails to specify the structure of the entire productive system. This is true both of the self-sufficient internally regulated systems on the one hand, and of the externally dependent and controlled monetary market systems on the other. The use of ambiguous terms as "subsistence system" and "cash economy" is indicative of the lack of specificity. In sum, in this genre of work there has been firstly an overemphasis on *exchange* and its role in the linkage of two apparently contradictory productive systems; cash figures prominently in these discussions although money per se conveys nothing of the logic of the economic system itself. And secondly, while considerable attention has been given to production, the priority has been on the operational attribute of productive systems, particularly subsistence, which can be measured as inputs (labor input, caloric expenditure) and outputs (production expressed in monetary or calorific units).

Of course this type of work has yielded some excellent and valuable information, not least on the implications of economic change on local regulatory autonomy and processes of ecological degradation. What is lacking, however, in an analysis of the qualitative aspects of the entire mode of production. As a consequence, the "external" system is never adequately specified and the contrast between the subsistence and cash economies appears idealized, if not Rousseauian; co-operation versus individualism, sufficiency versus profit, and so on. This seems to have reached its apotheosis in Clarke's populism which banishes the ogre to place of "development" forever and apparently wishes to place Melanesian communities in some sort of historical deep freeze. A political economic analysis at least broadens our horizon; as Cook puts it:

Nevertheless, it is important not to allow an empiricist concern for operationalization to eliminate a consideration of fundamental issues of political economic analysis. From this latter perspective, the production focus dovetails directly with problems of access to and/or control over means of production in a given society is allocated among various groups within its population. With this exception of certain simple bands or tribal societies, this kind of inquiry inevitably leads to a study of the

political power structure and social ranking or stratification (Cook, 1975, 41).

The overriding concern with production in its entirety is central to political economy, for production provides the processual link between economy and environment (the appropriation of nature) and between economy and the sociocultural system as a whole. It is here that Marx's contribution is indispensable for what Grossman calls the "cultural ecology of development"; this particular synthesis of economy and ecology, is nothing less than an analysis of the transformation of modes of production.

... traditional social structures are breaking down everywhere under the impact of the new economy and traditional precapitalist values are slowly disappearing ... All over the world, finally, we see the disappearance of integrative mechanisms based on kinship, locality and primary relations and the rise of the new social mechanisms of integration, based on the market ... (Stavenhagen, 1975, 67).

I shall argue in fact that the concept of mode of production is central to an understanding of the changing structure of permanence of which Clarke speaks. In the case of northern Nigeria, I shall endeavor to show that the integration of pre-capitalist forms of production into a global capitalist system, largely under the aegis of the colonial state, explains the changing character of peasant production and in particular the current vulnerability of rural producers to environmental hazards for which they are conceptually prepared. It is precisely the inability of some peasants to respond – and hence to reproduce themselves – under conditions of environmental risk that characterizes the transformation of pre-capitalist systems of production in Hausaland and the emergence of new patterns of socio-economic differentiation. In this sense one can legitimately talk of structural maladaptation in a society of petty commodity producers in northern Nigeria.

A political economic approach does not deny the validity of orthodox cultural ecological enquiry. It is obviously legitimate to study [hu]man/land/pig ratios in Melanesia, or labor productivity in peasant differentiation, the genesis of value and so on. *Environmental relations are, then, instances of the productive process.* In other words, adaptive strategies or coping responses are grounded in the social relations of production in the concrete historical circumstances of the underdeveloped world. As Walker explains:

{Natural hazards research} deals with material conditions which leads to exposure to hazards ... {and hence} is engaged in the study of natural resources and environment use in general {and} calls for a sophisticated analysis of political economy, particularly of development and underdevelopment (Walker, 1979, 7).

From a Marxist viewpoint, adaptive behaviors are elements of what Friedman (1975) calls systems of social reproduction (see also Wisner, 1978).

From a political-economic perspective, then, an environmental crisis not only probes the darkest corners of environmental relations, but throws into sharp relief the organization and structure of social systems at large. The impact of a drought on human communities affords the social scientist a particular optic through which to view the functioning of the social formation; indeed it was Marc Bloch who observed that:

Just as the progress of a disease shows a doctor the secret life of a body, so to the historian the progress of a great calamity yields valuable information about the nature of the society so stricken (Bloch, cited in Geertz, 1967, i).

In this manner, natural hazards are not really natural for though a drought may be a catalyst or trigger mechanism in the sequence of events which leads to famine conditions, the crisis itself is more a reflection of the ability of the socio-economic system to cope with the unusual harshness of ecological conditions and their effects. To neglect this fact is to resort to a fatalism which sees disasters as metaphysical, as acts of God in which the responsibility is shouldered by Nature; in the process, of course, this misses a major political point. In Nigerian Hausaland, which provides the geographical context of this study, the social, political and economic attributes of food crisis are captured in the paradox that during the famines of the past 70 years it has been the men and women who work the land who have perished for lack of food. Those who died were those who produced.

The crisis created by a famine reveals the workings of the economic and social system and affords an insight into that structural violence which has the effect of denying the poorest ... the right to feed themselves ... The fact that ... the town dwellers can still get something to eat while that country people starve ... is a sign of the power relation between urban and rural populations (Spitz, 1977, 3).

This, I suspect, is what E. P. Thompson (1978) means when he refers to the “crisis of subsistence” as an historical category. [...]

To appropriate the fact that hazards and risk is mediated by the relations of production of the societies affected is simultaneously to recognize that “modernization” or “development” has not necessarily solved the age-old problems of subsistence crisis or vulnerability to environmental threats, and in some cases has actually aggravated them. Indeed an enormous body of literature would suggest that the living conditions of the Third World rural poor have been deteriorated, that colonialism and the expansion of petty commodity production have amplified the riskiness of peasant livelihood. The precariousness of food production systems is reflected in chronic food deficits throughout much of the underdeveloped world, the almost constant threat of famine across vast areas of Africa, and the increasing dependency of underdeveloped countries on food staples imported from the West, particularly the United States.

In Northern Nigeria, I will argue, food production systems and the socio-economic context of climatic risk have changed dramatically since the pre-colonial period. These changes were not effected by the evolution of large European estates.⁴ In contrast to the speculations of Marx and Kautsky, the peasantry did not disappear with colonial penetration but, rather, capital changed their conditions of production while maintaining some pre-capitalist characteristics intact. This process of conservation and dissolution, as Bettelheim calls it, was integral to the general process of underdevelopment in Nigeria; as Kay says “Capital created underdevelopment because it did not exploit it enough” (Kay, 1975, x). Subsistence security in Northern Nigeria has been undermined nonetheless and the circuits of food production and exchange altered.

Nigerian Hausaland

The dynamics and pattern of Nigerian rainfall depend very largely on the movements of two major air masses: the tropical Maritime (mT) and the tropical Continental (cT). The dry north-east trades of the latter emerge from the Saharan massif, while the south-west monsoons of the former are characteristically moisture laden and the harbinger of the rainy season. The broad pattern of precipitation reflects the conjunction of these two air masses, that is, the movement of the intertropical discontinuity (ITD). The ITD is in fact a “quasi-stationary moisture boundary,” which Oguntinyinbo and Richards describe as follows:

The surface location of the ITD is often identifies by the surface wind direction and humidity as indicated by the dewpoint. In the moist equatorial air mass the wind has a southerly component ... The drier (cT) ... has a northerly or easterly component and a dewpoint less than 14°C. The depth of the moisture layer is of the order of 1500-3000 meters during the rainy season ... and under 1500 meters in the dry season (Oguntinyinbo and Richards, 1977, 114).

The advance and retreat of the ITD has a profound influence on the onset and termination of the rains. As its northern apex, the location of ITD is approximately Lat. 20°N which it usually attains in August, the southern limit; conversely, in January and February, [it] is approximately 7°N Lat.

Like the entire Sudano-Sahelian zone, northern Nigeria experiences a markedly seasonal climatic and ecological regime. A 7-8 month dry period (*rani*) between October and May, is followed by a short but intense wet season (*damana*) into which most agricultural activity is concentrated. Precipitation is unimodal in distribution,

⁴ For a discussion of such changes elsewhere in Africa see Cowen (1976) and Wisner (1978).

peaking during the months of July and August. The mean annual rainfall for the Katsina station over the 1922-1969 period is 29.6 inches [751.8 mm] (standard deviation 4.9 inches [120.1 mm]). The pattern of precipitation is marked by enormous spatio-temporal variation in the onset, distribution and termination of the rains. Since temperatures rarely fall below 42°F [5.6°C], the critical threshold for plant growth, the growing season is contingent upon the distribution of annual rainfall. The predominant aeolian [wind-borne sediment], highly permeable soils carry a large water deficit at the onset of the growing season and cereals are, therefore, dependent on rainfall alone. Distribution and variability of precipitation is thus as important as absolute quantity for Hausa agronomy.

Drought, Risk and Political Economy in the Pre-Colonial Period⁵

The basic unit of production in the nineteenth century was the household, perhaps embracing sons, clients, and slaves in an extended domestic structure in which the householder organized production and distribution and paid taxation. Households were often subsumed in communities controlled through the agency of village heads whose responsibility extended to land sales and village adjudication. A proportion of the peasant surplus was expropriated by a ruling class in the form of [...] labor, grains, or cash. The office holders had tenure over “fiefs” given by the Emir, though they usually resided on private estates worked by slave, client and hired labor; they could also demand corvée labor from villages within their territorial jurisdiction. Slave labor, although crucial to the functioning of the large estates operated by the ruling class, was not a dominant characteristic of the productive system. Craft production and petty commodity production generally, emanating from within the household structure, was conversely a widespread phenomenon through Hausaland. The State controlled the means of coercion, provided protection for the peasantry and traveling merchants, organized large-scale labor projects and acted as a guarantor in times of needs. Within this tributary formation, subsistence risk is historically specific since, as I will show, peasant reproduction in the face of hazardous climatic environment was secured through the network of horizontal and vertical relationships and reciprocities which were embedded in the social relations of production. In this regard the Sokoto Caliphate – the entire state structure which subsumed Hausaland – was hardly a “natural economy”; it possessed its own class contradictions, methods of surplus extraction and ideological hegemony, while commodity production existed in some form. Nevertheless, it was the production of use-value that predominated.

It is perhaps worth reiterating that contrary to prevailing opinion during the Sahelian famine of 1970-74, drought and famine are not new phenomena to the desert edge. Rather they are recursive and the historical landscape of northern Nigeria is

⁵ This section draws on Hill (1977), Usman (1974), and Freund and Shenton (1978, 8-10).

littered with references to the great famines (*babban yunwa*) of the past. The dialectic of “feast and famine” is a recurrent motif in Hausa history and the intense hungers of the precolonial period, which often embraced the vast tracts throughout the savannas, were usually named and imbued with a sort of environmental personality. The recursivity of drought and food shortage is reflected in the cognitive characteristics of both phenomena in the Hausa world view. Not only is there a complex and subtle terminology, a lexicon of sorts, associated with rainfall variability and oscillations in food supply, but drought-famine is embodied in the most significant cultural and artistic forms such as praise epithets (*kirarai*), folktales (*tsatsunyoyi*), fables (*almara*) and anecdotes (*labarunda*). The cognitive position of famine is, in an oblique way, not unlike the Great Depression in the West for those who lived through it.

Table 1. Subsistence Security and Adaptive Structure in the Pre Colonial Period

Subsistence Security Response Level	Safety-First	Norm of Reciprocity	Moral Economy
Agronomic/ Domestic	<ul style="list-style-type: none"> • Agronomic risk aversion, intercropping • Crop rotation, moisture preservation • Crop experimentation • Exploitation of local environment • Secondary resources • Domestic support 		
Community		<ul style="list-style-type: none"> • Inter-family risk sharing • Extended kin groups • Reciprocity • Redistribution to the poor • Storage, ritual sanction • Anti-famine institutions • Patron-client relations • Communal work groups 	
Regional/State			<ul style="list-style-type: none"> • Regional, ecological interdependence between desert edge and savannas • Local, regional trade in foodstuffs • Role of the State (central granaries, tax policy)

In light of the recursiveness of rainfall and harvest variability, it is to be expected that rural communities were geared to environmental risk, and possessed adaptive flexibility and adjustment capability with respect to drought and oscillations in the availability of food. Scott has suggested that this adaptive flexibility, the capacity to cope in a risky environment, is intrinsic to peasant communities generally and that pre-capitalist societies were to a large degree organized around the problem of risk and the guarantee of a minimal subsistence, a margin of security (Popkin, 1979; Scott, 1976). Scott calls this margin a subsistence ethic which can be decomposed into three dimensions: a general proclivity toward risk aversion in agriculture (“safety first”), a tendency toward mutual support (“the norm of reciprocity”), and an expectation of minimal State support (“the moral economy”). These dimensions correspond to three levels of response which I have identified for nineteenth century Hausaland; that is, three systemic levels of adaptive capability which could, to a greater or lesser degree, accommodate the stresses imposed by drought and/or food shortage. A composite picture of these levels in conjunction with Scott’s subsistence ethic is given in Table 1. A measure of the collective welfare which was presupposed by the moral economy of the Hausa peasantry can be estimated from the following outlines of the pre-colonial adaptations to drought and food shortage.

Response to Drought

The existence of a precarious environment has given rise in many peasant societies to a subsistence ethic predicated upon a safety-first or risk aversion principle. In practice this might involve a plethora of locally adapted cereal varieties, a preference for the consumable versus the marketable, or reliance on historically established planting and intercropping strategies. Throughout much of nineteenth century Hausaland, the production conformed in large measure to this rough archetype. The basic agronomic strategy consisted of the intercropping of sorghums and millets, each characterized by contrasting moisture requirements. This complementarity was supported, in some locations at least, by a complex orchestration of microenvironments involving variations in spacing, moisture availability, and soil type, all of which were conjoined through complicated sequential patterns of decision-making dependent upon the onset, character, and duration of the rains. Such adaptive programs could be supplemented by other drought resistant crops, like cassava, or the resort to foraging, collecting and hunting. In this way, agricultural diversity and agronomic variation bred a systematic stability.

Response to Food Shortage

The subsistence ethic was also expressed through social activities and institutions which functioned, among other things, as guarantors of a minimal food supply. Shortage was, of course, fundamental to the preservation of a measure of self-

sufficiency. This permitted the long term constitution of reserves sufficient to cover seed requirements and grain during the period of pre-harvest hunger. The closure of household granaries during the post harvest period often corresponded with the departure of adult males on dry season migration frequently as *corvée* labor on State sponsored (defense) projects. During the wet season itself, when seasonal food shortages peaked, hardship could be partially alleviated by participation in communal work parties and short-distance migration, making use of the variation in the onset of the rains (and hence in the timing of planting, weeding, and harvest). Central to the subsistence ethic, however, and to the moral economy in general, was the “logic of gift”; the reciprocal and redistributive qualities which bind the peasant social fabrics, and by which the possibility of accumulation finds an institutional obligation to redistribute.

The inflated emphasis on the role of kinship and descent grouping generally is one way in which risks are diffused and collective security instituted. Among the non-Muslim Hausa, the descent group referred to as the clan segment functions to this end:

{The segment} has but one function: when the grain stores of one household are exhausted, its head may borrow grain from another {segment} household and repay the grain at harvest without interest (Faulkingham, 1971, 123).

At an ideological level, the redistributive ethic was reiterated through Muslim dogma in which gift-giving is obligatory for the rich and office-holders. At another level, other formal institutional mechanisms incumbent upon the ruling elite served to free resources from the rich to go to the peasantry. The communal work group was a case in point – foodstuffs being released during the critical pre-harvest period (Raulin, 1964, 71). A more elaborate instance was the institution of *sarkin noma* (literally, king of farming), elected by virtue of his capacity to produce an excess of 1,000 bundles of grain (Nicolas, 1966). In essence, this is an attenuated variant of the North American “potlatch” in which prestige is accrued through the ceremonial distribution of resources. The office of *Sarkin noma* entails on the one hand a redistribution of foodstuffs through the harvest festival and on the other it is: “The ultimate defense against famine: when the grain in any *gida* is exhausted, the residents may obtain an interest free loan of grain from the *S. noma*’s bins, to be repaid at harvest” (Faulkingham, 1971, 81).

In a society predicated upon an absolute hierarchal segmentation between rulers and ruled, it is hardly surprising that the upper echelon of political authority in nineteenth century Hausaland were expected to act as the ultimate buffers for the village level redistributive operations. The responsibilities and obligation of the village heads were quite clear in this respect and when their capabilities were over-ridden in cases of extreme seasonal hardship, the next level of the hierarchy (the fief holder) was activated. In Katsina Emirate, for example, the district heads often kept grain at several centers throughout their district and frequently in villages where they may have acted as patron to a number of clients. These graduated responses terminated with the State

structure itself which used the grain tithe for central granaries for organized redistribution during famine periods.

In this fashion, responses to food shortages were graduated with respect to time and depth of commitment. The early responses tended to be shallow and reversible – perhaps the sale of livestock or familial loans – and the later ones less flexible, perhaps culminating in widespread dislocation through permanent out migration or even death. All this is not to suggest a [...] pre-capitalist bliss, a glorified peasant life somehow optimally adapted and ultra-stable. This, it seems to me, is a major weakness of the work of Chasin and Franke and Kjekshus [...]. In these works it is easy to forget the obvious limits of pre-capitalist technology, of class relations and surplus extraction, and of extensive slavery. Rather, I suggest that various individual and collective practices, some of which are still extant, permitted a margin of security and dealt with normal agricultural risks. This pantheon of adaptive strategies was, moreover, firmly grounded in the social and economic architecture of the Sokoto Caliphate. Peasant security, and by extension the hazardousness of place, was intricately bound up with the nexus of horizontal and vertical ties which were coterminous with the social relations of production. I shall argue that it was precisely the effect of colonialism and expanded commodity production to sever households from these reciprocal ties for renewal of the means of production and subsistence and hence to magnify their vulnerability to environmental hazards.

Peasant Security, Commodity Production and the Colonial State (1903-1960)

Colonialism in northern Nigeria was a process of incorporation in which the pre-capitalist forms of production were integrated into a global division of labor. This articulation was principally effected through the colonial triad of taxation, export commodity production, and monetization. Although the colonial leviathan [political state] left peasant producers in the dominant role of merchant capital in Nigeria[, this articulation] progressively transformed the social relations of production. To the extent that pre-capitalist elements in northern Nigeria were eroded by colonial integration, the adaptive capability of Hausa communities and the margin of subsistence security accordingly changed. In the process, peasant producers – particularly the rural poor – became less capable of responding to, and coping with, drought and food shortage. Traditional mechanisms and adjustments disappeared, the extension of cash cropping undermined self sufficiency in foodstuffs, a dependence on volatile world commodity prices (for cotton and groundnuts) amplified an already high tax burden and households became increasingly vulnerable to environmental perturbations such as drought or harvest shortfalls. This vulnerability and marginality is highlighted by four major famines which occurred during the colonial period in 1914, 1927, 1942, and 1951. I cannot do justice to the complexity of the process of colonial integration in northern Nigeria, nor its effects on the structure of peasant production, both of which are treated at great length elsewhere. Rather I will sketch some of the pertinent aspects of the changing conditions of food production – particularly the extraction of surplus

value and the denouement of the moral economy – and draw some tentative links to the increasing hazardousness of peasant livelihood.

The new colonial administration sought through taxation to divert as much of the surplus formerly extracted by the ruling elite to their own coffers. Taxes were reorganized. For the most part taxes remained at the same level, but in some cases revealed sharp increases to compensate for the declining revenue of the elite. More traumatic, however, was the move to collect tax in cash not grain; effected by 1910, not only did this undermine the *zakkat* based grain reserve but determined the penetration of a generalized modern currency into indigenous economic systems. Furthermore, taxation had profound and direct implications for hunger itself. First, unlike the indigenous Hausa fiscal system, colonial taxes were regular, reasonably predictable and *rigid*. The inflexibility accordingly took no account of the realities of Hausa life; late rains, poor harvests, seasonal hunger, and a precarious environment subject to perturbations such as locust invasion or epidemics. The severity of colonial taxation contrasted sharply with an indigenous system which, though far from innocent of extortion, made an attempt to graduate taxes according to existential circumstances. Second, the *timing* of tax collection assumed a colossal importance. This was especially the case throughout the principal cotton-growing areas, where annual taxes were gathered prior to the cotton harvest, leaving a rural cultivator little choice but the sale of grains when prices were the lowest or, alternatively, the moneylender. And third, the taxation system was inseparable from the colonial policy of the extension of commodity production and cash cropping into the countryside. In northern Hausaland groundnuts were the principal tax-paying crop which goes a long way in explaining the apparently “irrational” behavior of a peasantry which produced more groundnuts when the commodity price fell. More generally, the “groundnut revolution,” particularly in the close-settled zoned, meant a decrease in the area devoted to foodstuffs, increasing subjection to the vagaries of the world commodity market and the ever present threat of indebtedness at the hands of middlemen. It is precisely in this way that the nature of seasonal hunger changes both in terms of its dynamics and the predicament of those who find themselves suffering from its effects. The net result tended to be that seasonal hunger developed into full-fledged famine, precipitated by a drought-induced harvest shortfall, as in 1913-14.

Despite the commercial setback of the 1913-14 famine, the groundnut revolution picked up momentum and became emblematic of the subsequent expansion in the produce trade. Through this process of commoditization, in which money acquired an increasingly important role, it is hardly surprising that new forms of indebtedness arose, especially through the *'yan baranda* system. The *'yan baranda* constituted the lower orders of the export crop buying hierarchy, receiving cash advances from European firms via their buying agents. These sums were in turn lent directly to the producer who pledged his crop to the agent. The interest on such loans was frequently in the order of 100% and for the producer at least was the initial step into a cyclical debt trap. Urban and merchant capital penetrated the countryside in this

way. This also illuminates how a domestic unit is drawn into an external merchant network. [...]

The deepening involvement with commodity production and cash crops naturally impinged upon the social organization of agricultural production itself. [...] in the groundnut zone of Niger, this has taken the form of the disillusion of traditional estates, an escalation in land sales and the generalization of hired farm labor. Changes in the sociology of production were coupled with the profusion of imported commodities especially cloth which articulated with the cycle of rapidly inflation prices for ceremonial exchanges on the one hand, and the chain of indebtedness on the other. Stresses consequently were imposed upon the corporateness of the rural world; the old responsibilities and obligation became less binding, communal work groups largely disappeared and the extended family became less embracing and hence increasingly incapable of buffering individuals in crisis. In the densely settled areas, the extreme food shortages heralded larger food deficits and heightened vulnerability to seasonality. The household showed the first signs of fission and collective security had lost its original meaning; the old universe no longer possessed its intrinsic reality; social and familial solidarity appeared to be dissolving and the gift lost its original significance. [...] Reciprocity and solidarity and hence the nature of inequality itself had changed.

The general point is that post-1903, the margin of security for the Hausa peasantry came under siege. The Colonial Administration, only too aware of the dangers of over concentration on cash crop commodities, [...] overestimated the resiliency of the peasantry. The outcome was, in contrast to the previous century, that Hausaland suffered three major famines in 1913-14, 1927 (1931 in much of Niger) and 1942. Climatic variability became less crucial in the actual genesis of food shortage. This reached its apotheosis during the early 1940s with a famine whose structural properties bore a striking resemblance to the Bengal famine of 1943.

Hopefully, I have managed to convey the dynamics and historically contingent character of disasters such as famines, and hence how fallacious it would be to assume that hunger is simply an outcome of [population growth] or of a malevolent environment. The genesis of hunger and the etiology of peasant vulnerability in Hausaland [are] indeed complex. But the point is that merchant capital and the colonial state broke the cycle of reproduction of peasant households. The reproduction of the Hausa farming family became contingent upon the continued production of export commodities [...]. The need for cash ensured a greater devotion to cash crops on the part of the rural poor in the merchant-credit system. Falling export prices were experienced by households as a deterioration in the terms of exchange which meant either a reduction in levels of consumption or an intensification of commodity production or both. This has been referred to as “the simple reproduction squeeze” and is one facet of what Scott (1976) called the “margin of subsistence security.” As even larger areas were devoted to cash crop production at the expense of foodstuffs (this was especially pernicious for the rural poor cultivating small holdings and

experiencing severe labor constraints) the reproduction squeeze deepened and both hunger and indebtedness assumed increasing importance. [...] Hausa peasant producers thus became increasingly vulnerable to even small variations in income; the margin of subsistence security had been eroded. Indeed, the rural poor were vulnerable to any sort of perturbation and, under conditions of agricultural stagnation characteristic of the colonial period, Northern Nigerian producers were particularly susceptible to the usual environmental variability typical of the northern savannas. The rural poor were hyper-vulnerable for they succumbed to relatively slight oscillations in harvest quality; a light harvest could herald a subsistence crisis of famine proportions particularly if prevailing crop prices tended to be unfavorable. As one district officer noted, the Hausa peasantry lived constantly in the shadow of famine.

Conclusion

The fundamental material contradiction about which much resistance centered was the simple reproduction squeeze. In the cycle of household economy this was given effect as the struggle to secure simple reproduction under deteriorating conditions of production or exchange. The historical engagement of state and peasantry, in other words, hinged on the conditions of their reproduction. For rural producers, colonial incorporation ruptured the household cycle in which commodity production subsequently became “internalized.” Commoditization actually proceeded along three fronts, the conversion of the products of surplus peasant labor into commodities, the conversion of the means of production into commodities, and the transformation of labor itself into a commodity. But the unevenness of capitalist penetration meant that these processes expanded differentially; not all households adopted export crops, not all males migrated to the mines, and only some profited from commerce. The result was a highly heterogeneous matrix of rural labor situations predicated on different commoditization. Distilling this heterogeneity to manageable proportions reveals that the expansion of commodity production was undertaken by a broad stratum of a middle peasantry, for whom more and more of household labor time was directed to commodity production. If they avoided the hardships of labor migration, the middle peasants were irregularly dependent on the market for subsistence. In addition, a phalanx of the rural poor secured simple reproduction only through the sale of their labor power, in the dry season of their wealthier brethren. Some eked a living from low-return crafts and petty trade. At any rate, among these quasi-proletarianized class a large proportion, perhaps 30-50 percent, of subsistence needs were met through purchase. And finally, a stratum of well-to-do farmer-traders developed, who probably devotes a greater proportion of their holdings to export commodities but still remained largely self-sufficient in food. They were deeply engaged in trade and, in a general sense, acted as agents of commodity relations. In all of this, monetization (which was a necessary corollary of generalized commodity production) provided a fertile ground for the proliferation of the credit mechanism that allowed merchant capital to exercise indirect control over production.

I have argued that commoditization had profound implications for food security and famine. In an aggregate sense, food production per capita declined and many rural producers confronted annual grain purchase to fulfill an irreducible domestic demand. These periods of grain shortage corresponded to those in which preseason loans were distributed. Further, harvest shortfall or price fluctuations were felt as household crisis, which can lead to an intensification of the cycle of indebtedness. As Marx observed, the mere death of a cow might render the small peasant incapable of renewing his production. The intensification of commodity production subjected the rural poor to “all the horrors of producing for an increasingly demanding market and none of the benefits of capitalism over the other modes of production.”⁶ At best, local shortage was an annual occurrence.

The changed conditions of peasant reproduction also peeled away the tissues of a moral economy. Commodity production and the participation in market relations had individuated household production, but the agency of the colonial state was also critical. New systems of administration, improved communications, and the bureaucratic question of a centralized state enhanced effective control over elites and peasant alike. [...] Taxes were seen by the peasantry (with good reason) as a loss of their rights. Even a low assessment by colonial reckoning far exceeded the flexible and customary exactions of the precolonial period. In short, incorporative process bred a sort of endemic vulnerability among a large segment of rural producers who, to use Marx’s phrase, has increasingly come to live a “vegetable existence.” [...]

The progressive incorporation of areas like northern Nigeria into a world economy altered the face of famine itself. It had the contradictory effect of rendering grain available in the marketplace but without sufficient means to produce it. Those who came to regularly depend on grain purchase were necessarily vulnerable to a volatile grain trade sustained by the regularity of regional and local deficits. More generally, the partial transformation of Hausa peasants made them vulnerable to capitalist market crisis, and also subject to the precapitalist limitations of the selective development of the means and forces of production. The intervention by the colonial state through relief, in a situation in large measure of its own making, was ineffective. In part this reflected the sheer magnitude of the problem, the mathematics of the gross numbers at risk; in part, it also presented a misconception of the etiology of the problem (peasant lethargy or overpopulation) and the bureaucratic incompetency of a sometimes comatose administration. But it was also not in the material interest of the state to regulate the merchant relationships upon which it was also dependent. Here lay the root of the contradiction between state and peasantry.

The political economy of colonialism in northern Nigeria was [...] a pre-industrial combination of indigenous smallholders and large European trading monopolies. As in all state systems in which a good deal of revenue came from the

⁶ Editors’ note: reference missing in original

land because the majority of people lived there, the maintenance of centralized political control in Nigeria was invariably problematic. The advent of modern transportation alleviated this somewhat, but such a decentralized system necessarily meant a good deal of local revenue leakage and difficulties of labor control. Up to a point, then, the peasant had an exit option. But I have shown that the deepening of commodity relations indeed limited the extent to which the peasant could either revert to subsistence production or lessen the effects of over-production of export commodities in the face of a volatile climate. The colonial state was instrumental in the proliferation of commodity production. Yet like all states, the colonial state in Nigeria confronted the possibility of fiscal and legitimation crisis. Ironically in its attempt to deepen commodity relations through taxation, monetization, and local merchant capital it often eroded its own fiscal and political stability. Famines in this regard were not only crisis of production but were equally seen as consumption crisis – in particular the market for European manufactures was reduced – and directed threats to political legitimacy. [...] I have argued conversely that the retarded form of capitalist development in Nigeria blocked any form of accumulation based on increased rural productivity and a transformation of the forces of production. Furthermore, commoditization weakened in a variety of ways the position of rural producers in the face of harvest variability. The colonial state was again critical in this process of siphoning peasant labor largely through absolute surplus extraction. Yet there were obvious limits to this system as the famines testify. Under these circumstances the state did indeed intervene with relief to regularize supply, but I have attempted to show the magnitude of the problem was far beyond the means of the colonial governments while the administrative incapacity of the state apparatus left rural producers with little but their poverty. [...] [T]here were no regularizing functions since expanded commodity production was achieved without raising peasant productivity and without a state capable of provisioning requisite food relief. As a result, the peasantry entirely shouldered the burden of famine. I would argue, however, that this can only be understood as a result of the contradiction between the stagnation of the productive forces and the development of productive relations, with the result that the form of production remains pre-capitalist while circuits of food – and social life in general – became increasingly commoditized.

What emerges then, is that social crisis can be grounded in historical circumstances and used in such a way that additional insight can be gained into the process of underdevelopment. For Marx, the importance of a crisis lay, on the one hand, in exposing the contradictions inherent in that formation. In opposition to other analysts Marx saw crisis not as an aberration, but rather as an integral and necessary part of a given formation. In the pre-capitalist context, Marx identified crisis with the underproduction of use values; a period in which basic biological requirements could not be fulfilled as a result of drought, disease, extended periods of warfare or other similar causes. Pre-capitalist societies were vulnerable to the vicissitudes of nature as a consequence of the low level of development of their forces of production. Equally important, this low level of technical development could, particularly in a field such as

transportation, severely limit the capacity of pre-capitalist societies to adequately overcome crisis resulting from natural calamities.

Conversely, in capitalist society Marx saw crisis as the result of an over-production of exchange values. It is the surfeit rather than the lack of the necessities of life, and the inability of capitalist society to realize the value of these products, which leads to the economic depressions characteristic of the capitalist social formation. In contrast to the pre-capitalist situation it is the limited development of the relations of production which is responsible for the onset of a crisis. It is clear that the social formation of the Third World have not been solely constituted by either capitalist or pre-capitalist modes of production. Following the analysis of [Samir] Amin, the social formations of the Third World are more readily comprehended by the term "peripheral capitalism." Perhaps the single most important aspect of the development of the social formations of the peripheral capitalist world has been the selective transformation of their forces and relations of production. Two points follow from this perspective. First, only those sectors of pre-capitalist society which facilitated the extraction of a surplus were transformed. Second, the subsistence economy, although reoriented to satisfy the requirements of the extractive sector, remained virtually unchanged in terms of its forces of production.

Crises in the Third World can only be fully comprehended when they are situated within the social formation of peripheral capitalism. In other words, crises must be understood in terms of the varying extent to which pre-capitalist modes of production were either maintained or transformed by the manner in which they were incorporated into the capitalist world. The consequences of this view are important to an analysis of both the causes of and responses to crises in peripheral capitalist society. While peripheral capitalist societies become vulnerable to capitalist crises by virtue of their incorporation in the capitalist world economy, it is also the case that their partial transformation allows them to remain vulnerable to crises usually associated with pre-capitalist society. This contradiction is replicated when we examine the ability of peripheral capitalism to cope with, and respond to, crises. For while it is true that most pre-capitalist coping mechanisms have been lost, peripheral capitalism has been unable to acquire those capabilities characteristic of capitalism for mitigating natural disasters. Thus, crises in peripheral capitalism both illuminate the dynamics of, and expose the contradictions inherent in, the functioning of capitalism in the Third World. A study of crises can be seen, therefore, as the starting point of an analysis of the peripheral capitalist formations as a whole.

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The Production of Nature

Neil Smith

1984/1990. *Uneven Development: Nature, Capital and the Production of Space*.
Oxford: Blackwell, pp. 34-65.¹

“Scientific truth”, Marx wrote in a famous statement, “is always paradox, if judged by everyday experience, which catches only the delusive appearance of things” (Marx, 1899, 54). The idea of the production of nature is indeed paradoxical, to the point of sounding absurd, if judged by the superficial appearance of nature even in capitalist society. Nature is generally seen as precisely that which cannot be produced; it is an antithesis of human productive activity. In its most immediate appearance, the natural landscape presents itself to us as the material substratum of daily life, the realm of use-values [usefulness of something] rather than exchange-values [the value derived from the market sale of something]. As such it is highly differentiated along any number of axes. But with the progress of capital accumulation and the expansion of economic development, this material substratum is more and more the product of social production, and the dominant axes of differentiation are increasingly societal in origin. In short, when this immediate appearance of nature is placed in historical context, the development of the material landscape presents itself as a process of the production of nature. [...]

Marx nowhere talked explicitly about the production of nature. But in his work there is implied an understanding of nature which leads firmly in this direction. In fact, Marx did not have a single, coherently elaborated concept of nature at all. Rather he used “nature” in a variety of ways. These different uses of the concept were not random, however, and a close reading of Marx’s work demonstrates a rational progression in his treatment of nature. In the end we are not at all left with a fully

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contrasted concept but do have a sketchy framework of the conception of nature by Marx's analysis and critique of the capitalist mode of production.

[...]

The first discussion of nature in *Capital* [...] simultaneously lays the foundation for a more concrete and more developed treatment of the relation with nature under capitalism. Thus in the later discussions of the division of labor, manufacturing and modern industry, Marx explicitly picks the theme up again in order to show precisely what becomes of nature under the actual conditions of capitalism. Elsewhere in *Capital*, for example in his discussion of rent, there are further vignettes of a more concrete, materialist conception of nature, but these tasks are nowhere pulled or even explicitly discussed. It is this task which will be attempted here. This involves not a compilation of references to nature and the attempt to force upon them an internal philosophical coherence, but rather a serious understanding of the direction and intent of Marx's work and an attempt to expand and expound the conception of nature which at least in part exemplifies this intent. [...]

In volume one of *Capital* Marx exemplifies his own dictum that "rising from the abstract to the concrete" is the scientifically correct method. Beginning with the concrete commodity, he derives a number of theoretical abstractions: exchange value, use value, value, surplus value, abstract labor, socially necessary labor time. As the analysis proceeds, these concepts are progressively developed until they accurately reproduce the concrete in thought. His treatment of the relation with nature follows this procedure. But integrated into this logical development in the text is a historical development; the logic of Marx's argument mirrors, however generally, the actual historical development that occurred (Marx, 1861/1973)². The development of the conception of nature therefore expresses this "logico-historical" methodology, even if it is nowhere laid out completely or succinctly, as is done for the analysis of money for example, but must be pieced together from fragmented discussions of nature. Thus in the first part of *The German Ideology*, in isolated passages of *Grundrisse*, and more systematically if less obviously in *Capital*, we get occasional glimpses of a logico-historical derivation of the societal relation with nature. The first major task has been to detect these clues; the second is to lay them out and complete the jigsaw puzzle. Marx has given us the four corners and most of the straight edges; he has also given us most of the common pieces necessary to complete the picture, but these pieces are presented in the context of wholly different analysis. What must be done in order to recognize their significance is to turn the pieces over, and, as it were, to reveal their nature-face.

² For an interesting elaboration of the logico-historical method in Ch. 1 of *Capital*, see Harry Cleaver (1979).

The place to begin is with production in general, since this is the most basic material relation between human beings and nature. “*Production in general* is an abstraction, but a rational abstraction in so far as it really brings out and fixes the common element” in all epochs of production. “Some determinations belong to all epochs, others only to a few. {Some} determinations will be shared by the most modern epoch and the most ancient.” Thus,

the elements which are not general and commons, must be separated out from the determinations valid for production as such, so that in their unity – which arises already from the identity of the subject, humanity, and of course the object, nature – their essential difference is not forgotten (Marx, 1861/1973, 85).³

With production for exchange, the general determinants of the relation between human societies and nature remain valid, but as we saw in the critique of Schmidt, the dialectic of use-value and exchange-value adds a new dimension to the relation with nature, a dimension which is specific to production for exchange rather than production in general. Finally, there have been many modes of production based on market exchange, but with the victory of capital over the world market, a wholly new set of very specific determinants enter the scene; the relation with nature is again revolutionized.

From production in general to production for exchange to capitalist production, the logical and historical arms of the argument imply and lead to the same concretely observable conclusion: the production of nature. In perhaps his clearest statement expressing the reality of production of nature, Marx wrote as part of a critique of Feuerbach’s idealism:

So much is this activity, this unceasing sensuous labor and creation, this production, the basis for the whole sensual world as it now exists, that were it interrupted for only a year, Feuerbach would not only find an enormous change in the natural world, but would very soon find that the whole world of men and his own perspective faculty, nay his own existence, were missing (Marx and Engels, 1845/1970, 63).

So completely do human societies now produce nature, that a cessation of productive labor would render enormous changes in nature, including the extinction of human nature.

³ Cf [compare to] Marx’s [1883/1967, Volume 1, 609n] statement that we “must first deal with human nature in general, and then with human nature as modified in each human epoch”.

Production in General

In his initial derivation of the abstract moments of the commodity, Marx depicts production as a process by which the form of nature is altered. The producer “can work only as nature does, that is by changing the form of matter. Nay more, in this work of changing the form he is constantly helped by natural forces.” By his or her industry, the producer

changes the forms of the materials furnished by nature, in such a way as to make them useful to him. The form of wood, for instance, is altered, by making a table out of it. Yet, for all that, the table continues to be that common, every-day thing, wood.

Insofar as labor produces useful things that fulfill human needs, “it is an external nature-imposed necessity, without which there can be no material exchanges between man and nature, and therefore no life” (Marx, 1883/1967, 42-3, 71).⁴ But labor effects more than just a simple change in the form of matter; it produces a simultaneous effect in the laborer.

Labor is, in the first place, a process in which both man and nature participate, and in which man on his own accord starts, regulates, and controls the material re-actions between himself and nature. He opposes himself to nature as one of her forces, setting in motion arms and legs, head and hands, the natural forces of his body, in order too appropriate nature’s productions in a form adapted to his own wants. By thus acting on the external world and changing it, he at the same time changes his own nature (Marx, 1883/1967, 177).

The metabolism of human beings with nature is the process whereby human beings appropriate the means to fulfill their needs and return other use-values to nature. At this abstract level, clearly, the relation with nature (the material exchange) is a use-value relation; as pure use-value does nature enter the relation with human being. This is the amplified and concretely developed version of Marx’s earlier, more abstract claim that “*Industry* is the *real* historical relationship of nature ... to man” (Marx, 1843-1844/1975, 355).

Human beings are born with certain natural needs – food, sex, warmth, social interaction – they are born into a world where nature provides, either directly or

⁴ In this translation of *Capital*, “nature” is sometimes capitalized, but in keeping with the other translations, and since the original in German is always capitalized as a noun rather than for any other significance, I have retained the lower case throughout when quoting. Also, Marx uses “man” and “men” when he means humanity or human beings [which is also a matter of translating the German term “Mensch” (i.e. human being) into the English “man” or “men”]. For sake of simplicity [...], I retain the original when quoting.

indirectly, the means for fulfilling these needs. Means of subsistence are those material necessities consumed directly from nature in order to fulfill natural needs. Where means of subsistence are not naturally available in the appropriate quality or quantity, means of production – the objects of production to be worked on and the instruments with which the work is accomplished – are appropriated from nature and employed by living labor in order to produce consumable products. By producing the means to satisfy their needs, human beings collectively produce their material life, and in the process produce new human needs whose satisfaction requires further productive activity. These needs and their mode of satisfaction are, at the most general level, the determinants of *human* nature, for in all this, people are natural beings; they bring to production their natural abilities (physical and mental) which are exercised on and through the objects and instruments of production. There is, therefore, an abstract identity of the human social being with nature:

Man is directly a natural being ... equipped with natural powers {and} has real, sensuous objects as the object of his being and of his vital expression. ... A being which does not have in its nature outside itself is not a natural being and plays no part in the system of nature (Marx, 1883/1967, 389-90).

The production of consciousness is an integral part of this general production of material life. At its most general, consciousness is simply the consciousness of human practice:

The production of ideas, of conceptions, of consciousness, is at first directly interwoven with the material activity and the material intercourse of men, the language of real life. Conceiving, thinking, the mental intercourse of men, appear at this stage as the direct efflux of their material behavior ... Men are the producers of their conceptions, ideas, etc. – real active men, as they are conditioned by a definite development of their productive forces and of the intercourse corresponding to these (Marx and Engels, 1845/1970, 47).

Consciousness of needs, of the means to satisfy these needs, and of the forces affecting both the needs themselves and the means to satisfy them (e.g. science, early natural religion, etc.) – these are central to the constitution of human consciousness. In this way, consciousness as such is the *natural* product of productive human activity, and of the social relations into which human being enter with one another in order to produce.

The picture drawn here suggests a general unity of nature with society. It is a unity of nature with society in which “the restricted relation of men to nature determines their {“men’s”} restricted relations to one another, and their restricted relation to one another determines men’s restricted relation to nature” (Marx, 1883/1967, 51). This is not the unity of nature which preoccupies the physicist, nor

that which is idolized by the “back to nature” wing of the ecological movement. For the physicist, the unity of nature is the product of wishful thinking. Both are ideal abstractions. The unity of nature implied in Marx’s work derives from the concrete activity of natural being, and is produced in practice through labor. The labor of natural being pulls in the different facets of nature binging them into a whole. Human beings survive and develop as social beings by working in co-operation with nature. But this unity of nature is not differentiated; it is a unity, not an abstract identity, and it is necessary to understand the role played by human productive activity in the differentiation of nature.

In the first place, there is a crucial distinction between human beings and animals, and here too labor plays a central role. As Marx pointed out, human beings “can be distinguished from animals by consciousness, by religion or anything you like. They themselves begin to distinguish themselves from animals as soon as they begin to *produce* their means of subsistence” (Marx, 1883/1967, 42). It is human productive activity, not as a general concept but as a concrete historical act designed to create means of subsistence, that differentiates human beings from animals [...] (Engels, 1896/1934). From the start, human nature was a human product, and this applies not simply to consciousness, but even to human physiology. The development of the hand, from a means of locomotion into a sophisticated limb for the manipulation of tools, is accomplished gradually by thousands of years of labor. Or as Donna Haraway (1978, 38) has written: “Humankind is self-made in the most literal sense. Our bodies are the product of the tool-using adaptation which pre-dates the genus *Homo*. We actively determined our design through tools that mediate the human exchange with nature” (see also Childe, 1939; Engels 1884/1972, 251-2; Woolfson, 1982).

In addition to human physiology, human consciousness and the material means of subsistence, the production and reproduction of material life entails the production of workers, that is, the reproduction of labor power. Some form of social relations is implied in this reproduction process, and the most basic is the division of labor between the sexes. This is the first truly social division of labor, but its origins lie in pre-human social organization. As it is inherited by human society it is therefore simultaneously natural and social, illustrating again the unity of nature. A biological differentiation in nature is reproduced as a social division of labor. This division of social labor is basic to the process of reproduction, but spills over to the sphere of production also. The sexual division of labor thus becomes general throughout society, and in this way, again through purposeful human activity, human nature itself begins to be differentiated. The division of labor produces a systematic division of social experiences upon which human nature is constantly shaped and reshaped.

Now this view of production in general offers some insights concerning nature, but is fairly limited. A number of assumptions are implied, particularly that of a harmonious ecological and social balance, at the center of which lies an exact, ongoing match between production and consumption of use-values. But year-to-year, there is the continual possibility that production and consumption do not match and that either

famine or social surplus will occur. At first this mismatch is entirely accidental and due to natural causes such as inclement weather or particularly fertile soils, but precisely to forestall the disastrous effects attendant upon a shortfall of production *vis-à-vis* consumption, every society grows “to provide a fund of social insurance against elementary disasters which may threaten the annual produce” (Luxemburg 1913/1968, 77). Where surplus was at first simply a natural possibility, it becomes a social necessity. The creation of this permanent social surplus allows not only the most basic survival of the society but also the further division of labor and even population growth (Mandel, 1975, 27-8); the surplus becomes necessary as a means to combat social crisis at its most basic level⁵.

The realization of a permanent social surplus, however, is not an automatic result of the possibility of surplus, but requires specific types of social and economic organization which are consistent with the individual’s production of more than simply the immediate means of subsistence. But the increased production, and the increased division of labor that accompanies it, in turn present new possibilities. In short, the permanent surplus becomes the basis of the division of society into classes. Again this appears first as a possibility whereby part of the society ceases to perform productive labor, in part or in whole, and obtains leisure at the expense of the remaining working population. “Something which is at first voluntary and intermittent later becomes obligatory and regular.” And according to Engels, this transformation to a society characterized by the appropriation of surplus is necessarily accompanied by the development of the state and slavery, and the solidification of the division between producers and consumers of surplus into a division of social classes:

the first great social division of labor was bound, in the general historical conditions prevailing, to bring slavery in its train. From the first great social division of labor arose the first great cleavage of society into two classes: masters and slaves, exploiters and exploited.

But this development too depends upon a “social revolution to break up egalitarian primitive society and give birth to a society divided into classes” (Engels, 1884/1972, 220; see also Mandel, 1975, 40, 44). Social development splits the harmonious balance of nature. In one form or another, this surplus is appropriated from nature and in order to expedite its regular production and distribution specific social institutions and forms of organization are required. This in turn alters the social relation with nature. No longer does the abstract natural individual (“man”) fit simply into an equally natural environment, since the relation with nature is mediated through the social institutions.

The production of a permanent social surplus therefore has a seemingly contradictory effect. It provides the means by which human beings can develop more

⁵ For a summary of the debate over the origin and function of surplus in the context of urban origins, see David Harvey (1973, 216-23).

control over their relation with nature, since they can regulate more effectively the necessary surplus of use-values for satisfying natural needs. In short, the production of a more permanent social surplus allows human society to begin the long process of emancipating itself from the constraints of nature. On the other hand, however, this increased control is necessarily social control, and although it assists the emancipation of human society as a whole from nature, it does so by developing the internal differentiations within society, and by enslaving a large part of the population. The precise form taken by this contradictory relation depends on the specific kind of society that develops, and it is to this more concrete examination that we must now turn. As Marx noted:

To the extent that the labor-process is solely a process between man and nature, its simple elements remain common to all social forms of development. But each specific historical form of this process further develops its material foundations and social forms. Whenever a certain stage of maturity has been reached, the specific historical form is discarded and makes way for a higher one (Marx, 1883/1967, 883).

Production for Exchange

The surplus may take many forms, depending partly on what natural conditions permit or encourage food reserves, population growth, unproductive occupations, etc. In some form [surplus] is useful, in others not. If it is a non-useful material form (e.g. a wheat supply over and above what can be consumed or usefully stored), the surplus product may be exchanged for other use-values. The production of a surplus is a necessary if not sufficient condition for the regular exchange of use-value to occur. With production for exchange, the relation with nature is no longer exclusively a use-value relation; use-values are not produced for direct use but for exchange. As specific use-values are exchanged against each other in specific quantities, they become socially transformed into commodities, existing simultaneously as exchange-values as well as use-values. The exchange-value of a commodity expresses the quantitative relation in which it can be exchanged for other commodities; with production for exchange, exchange-value not use-value is the immediate reason for production. Indeed, the commodity's direct use-value to its owner is that of being a depository of exchange-value. The production of material life is therefore not just a natural activity in which nature provides the subject, object and instrument of labor. In an exchange economy, the appropriation of nature is increasingly regulated by social forms and institutions, and in this way, human beings begin to produce more than just the immediate nature of their existence.

All this presupposes the development and extension of the division of labor; production for exchange can persist only incidentally where such a division of labor does not exist. In the first place, there is a division of labor between those activities

that are tied to the land and those that are not – a separation between agriculture and commerce. With the generalization of commodity production, various commercial activities and institutions are necessary to facilitate an exchange of products. The market function, insofar as it is separate from production, develops in order to simplify and centralize the complex exchange transactions that occur. To facilitate further this complex of exchanges, the money commodity is developed. Its use-value is precisely its ability to represent “pure exchange-value” (Marx, 1861/1973, 146). The creation of a market and of these other institutions is synonymous with the development of central places and ultimately towns, and numerous other ancillary activities also begin concentrating in towns, contributing to their development. In this way the division between agriculture and commerce implies the separation of town and country which is, in turn, “the foundation of every division of labor that is well developed, and brought about by the exchange of commodities” (Marx, 1883/1967, 352).

The production of a permanent surplus and the development of the division of labor provide the necessary economic foundation (if the broader social conditions are favorable) for the development of social classes. The fundamental difference here is between the class which performs the sum of social labor and the class or classes which perform no labor by nonetheless appropriate the social surplus. This class differentiation springs from the prior differentiation between productive and unproductive labor but does not necessarily remain synonymous with it. Many ruling classes perform no labor at all, while others may perform necessary social functions which are, nonetheless, unproductive of social value. The point is that with the development of social classes, access to nature is unequally distributed (both qualitatively and quantitatively) according to class. The ruling class, whether or not it directly controls the social means of production, certainly controls the surplus appropriated from nature through the human labor of others, while the laboring class works the means of production. With landed property, the unequal access to nature is readily apparent, and takes on a very visible, spatial dimension with the separation between town and country.

With the division of society into classes the state makes a historic appearance as the means of political control. As Engels puts it, at “a definite stage of economic development, which necessarily involved the cleavage of society into classes, the state becomes a necessity because of this cleavage” (Engels 1884/1972, 232; see also Krader, 1968; Service, 1975). The function of the state is to administer the class society in the interests of the ruling class, and this it does through its various military, legal, ideological, and economic arms. The state is also charged with regulating the oppression of women, for the division of labor between the sexes becomes a radically different social relation with the emergence of private property and production for exchange. It is not just class exploitation and private property which emerge together, but with them slavery and the oppression of women.

The division of labor within the family is subordinate to the broader social division of labor now thoroughly rooted in class structure and the production

process. What was at first only a “latent form of slavery” in the family develops into a full-blooded slavery where wife and child become the property of the husband/father. The abstract unity previously attributed to relations between the sexes develops into its opposite. In this realm where women had effective control over the production process, most notably agriculture, men take over. Where responsibility for social reproduction has been shared, women were increasingly forced to carry the full burden with the evolution of modes of production based on commodity exchange. Not that they ceased laboring. Just that while women were forced to accept responsibility for all the household tasks associated with child-rearing, as well as some commodity production, the male was specializing more and more exclusively in the production of commodities for exchange. The rationale for this development was closely linked with the origins of private property. The inheritance of private property could only be assured through patrilinear family relations, and it was the enforcement of this that wrote the final chapter of what Engels referred to as the world-historical defeat of the female sex.

The overthrow of mother right was the *world-historical defeat of the female sex*. The man took command of the house also; the woman was degraded and reduced to servitude; she became the slave of his lust and a mere instrument for the production of children (Engels 1884/1972, 120-1; see also Marx and Engels, 1845/1970, 52).

He goes on to demonstrate the way in which the privatized family developed in response to the developing social, political, and economic relations between men and women. He traces the movement from group marriage to pairing marriages to monogamy as the predominant forms of family, concluding that monogamy, which ever only applied to women in any case, is a finely tuned historical mechanism for the oppression of women.

Through the production of these social divisions on the basis first of sex and class, human societies provoke a further transformation in human nature. For, as Marx said in the sixth thesis on Feuerbach, “the human essence is no abstraction inherent in each single individual. In its reality it is the ensemble of the social relations” (Marx and Engels 1845/1970, 122). And as the ensemble of social relations changes, so too does human nature.

One of the divisions of labor which develops alongside production specifically for exchange is the division of manual and mental labor. This opens up profound new vistas for the human production of consciousness, since hereafter, certain aspects of nature are available to some classes only as conceptual abstraction, not as physical partner or opponent in the work process. Just as the process of exchange abstracts in practice from the use-value of the commodities being exchanged, so the human consciousness can abstract itself from the immediate material conditions of existence. This potential for abstract thought arises as a result of the abstraction in practice that accompanies the exchange process, a “direct efflux” of consciousness from material behavior which leads to its own negation. That is, as soon as abstract thought and

conceptualization develop, and are socially institutionalized with the division of mental from manual labor, it is no longer sufficient to view consciousness simply as “direct efflux” of material behavior. Now for the first time, consciousness can “really flatter itself that it is something other than consciousness of existing practice” (Marx and Engels, 1845/1970, 52).⁶ Of course, mental labor may remain tied to the task of finding new objects of labor, developing new instruments of labor, and reorganizing the work habits of the subjects of labor. But some forms of mental “labor” may cease to be labor at all, productive or unproductive, since at this stage nature appears accessible to some individuals, indeed to entire classes, without the performance of labor but through “pure contemplation”.

With production for exchange rather than direct use, there arises first the possibility and then the necessity for alienation of the individual. The production of surplus and the consequent increase in social wealth does not guarantee a more wealthy laboring class, given the emergence of class distinctions, and so there is a purely quantitative alienation of work. The surplus labor of the laboring class is appropriated by the ruling class. But qualitatively too, the relation of the laboring class with nature is altered, for though they relate to nature directly through the use of their labor power, they are alienated from their own product. The products owner, on the other hand, is alienated from any direct, practical relation with nature because he [or she] is deprived of his [or her] own labor. Now the worker’s alienation is not simply alienation for the product but, due to the increased specialization of labor, it is also alienation from one’s fellow workers and oneself. Yet predictably, this alienation calls up its opposite; increased competition and specialization in the work process (or even in control over the work process) conjures up the necessity of developing the natural powers of co-operation. While the detrimental effects of alienation fall uncompensated on the laboring class, the benefits of co-operation rarely accrue to them. They relinquish the quantitative gains of increased co-operation, in the form of surplus labor converted into exchange-value, and the material benefits of co-operation pertain mostly at the level of the productive forces rather than the level of the laboring individual. With the development of the production for exchange, in short, the human individual becomes a societal product:

This positing of prices and their circulation etc. appears as the surface process, beneath which, however, in the depths, entirely different processes go on, in which this apparent individual equality and liberty disappear. It is forgotten, on one side, that the *presupposition* of exchange value, as the objective basis of the whole of the system of production, already in itself implies compulsion over the individual,

⁶Marx is often quoted as saying that consciousness is the “direct efflux” of human practice, in order to paint him as a determinist, reductionist or some sort of “ist”. He is almost never quoted from five pages farther on where he explicitly refines this general and provisional statement. Those who misconstrue Marx in this way do not understand the logico-historical character of the argument.

since his immediate products is not product for him, but only *becomes* such in a social process, and since it *must* take on this general but nonetheless external form; and that the individual has an existence only as a producer of exchange value, hence that the whole negation of his natural existence is already implied; that he is therefore entirely determined by society; that this further presupposed a division of labor etc., in which the individual is already posited in relations other than that of mere *exchanger*, etc. That therefore this presupposition by no means arises either out of the individual's will or out of the immediate nature of the individual, but that it is, rather, *historical*, and posits the individual as already *determined* by society (Marx, 1861/1973, 247-8).

The alienation of the laborer implies, along with strictly material alienation, a certain alienation of consciousness. These develop together. While abstract thought originates as the privilege of the few, it quickly becomes the property of everyone. This emancipation of consciousness from immediate human practice is the event from which the possibility of ideological consciousness arises. Immediate self-consciousness can be constituted by social ideology. "The ruling ideas of each age have ever been the ideas of its ruling class" [...] (Marx and Engels, 1848/1955, 30). For the laboring class, in whatever mode of production, there is constant battle at the level of the individual as well as the class, between the spontaneous consciousness of the daily work experience and the ruling ideas disseminated by the ruling class which, however successful and however much they appear to be rooted in immediate experience, are always imbued as abstract ideology. The feudal peasant understood that three days a week she and he worked gratis for the Lord of the Manor, but they may also have understood this reality is a result of their just and proper place in God's world.

With production for exchange, the production of nature takes place on an extended scale. Human beings not only produced the immediate nature of their existence, but produce the entire societal nature of their existence. They develop a complex differentiation in the relation with nature, a societal nature differentiated according to sex and class, mental and manual activity, production and distribution activities, and so on. Within production, there is a further complex division of labor. But the unity that previously characterized the relation with nature does not simply degenerate into random chaos. The unity is reproduced in a more advanced form. For with the generalization of commodity production and exchange relations, previously isolated, localized groups of people are knitted together in a concrete social whole. They are united as a societal whole no longer through general unity of social individuals, but through the societal institutions that have necessarily developed to facilitate and regulate commodity exchange – the market and the state, money and class, private property and the family. Society as such, clearly distinguishable from nature, emerges. Through human agency, a cleavage is created between nature and society, between a first nature and a second nature. The latter comprises exactly those societal institutions which facilitate and regulate the exchange of commodities, both

directly and indirectly. Isolated local unity gives way to a more extensive societal unity. Second nature is produced out of first nature.

What precisely is meant by “second nature”? Not until exchange economies began to develop state institutions did the idea of second nature begin to emerge. Among the ancient Greeks, Plato was particularly aware of the way in which human activity had transformed the earth’s surface. Not until Cicero, however, does it seem that the concept of second nature was actually coined, and with him the second nature was clearly produced by human activity, in opposition to the inherited non-human nature. Writing in a tone that even 2,000 years later retains an almost modern ring, Cicero, in *De Natura Deorum*, has Balbus the Stoic make the following observation:

So we see how the evidence of our senses leads to the inventions of the mind which are then realized by the hand of the craftsmen, so as to satisfy our needs and keep us safely housed and clothed, to give us cities, halls, homes and temples. By our human skill of hand we find ourselves food in plenty and variety. The land offers many fruits to the searching hand, which can be eaten on the spot or preserved to be eaten later. We feed also on the creatures of the land and sea and air, which we catch or rear for the purpose. We can break in and ride our four-footed animals and make their speed and strength our own. On some we place yokes and others we use as beasts of burden. For our own purposes we exploit the keen sense of the elephant and the sagacity of the dog. From the depths of the earth we extract iron, so necessary for the tilling of the soil. We search out deeply buried veins of copper, silver, gold, for both use and ornament. We cut up trees and make use of all sorts of wild and cultivated plants, to make fires to warm our bodies and to cook our food, and also for building, so that we may have a roof over our heads to keep out the heat and cold. We use these materials also to build ships, which sail in all directions to bring us all the needs of life. We alone can tame and control the most violent forces of nature, the sea and the winds, through which our knowledge of navigation, and so we enjoy the benefits of all the riches of the sea. We have also taken possession of all the fruits of the earth. Ours to enjoy are the mountains and the plains. Ours are the rivers and the lakes. We sow corn and plant trees. We fertilize the soil by irrigation. We dam the rivers, to guide them where we will. One may say that we seek with our human hands to create a second nature in the natural world (Cicero, 45 BCE/1972, 184-5).

This conception of second nature carries down virtually intact to the eighteenth century. Thus Count Buffon, the famous French scientist whose chief concerns included the transformation of nature wrought by human beings, wrote that “a new nature can come forth from our hands.” This process he called “the seconding of nature” (quoted in Glacken, 1967, 655, 663-4; see 144-6 for Glacken’s discussion on Cicero). By the eighteenth century, however, it had become clear that it was not just

the material creations of human nature but also the institutions, the legal, economic and political rules according to which society operated, that comprised the second nature.

In the relation with nature, therefore, “exchange value ... plays ... an accompanying role to use-value” (Marx, 1861/1973, 252). It does so in two senses: first, the use of natural material is regulated by the quantity of exchange-value its employment will bring, and this applies as much in the labor market as the raw material market. But also, since the material aspects of the second nature were produced as commodities, nature has been produced with an exchange-value component. (In this case it is not abstract external nature which exercises an oppressive control over human beings but the weight of dead labor.) The use-value of nature remains important, of course; only with difficulty (and great expense) can the butcher do the job of the cobbler using the tools and materials of the carpenter. But it is no longer the abstract possibility or impossibility of production that dictates the use of nature. It is the relative cheapness or expense of using various use-values that counts. Use-value is transformed into exchange-value (in calculation as well as practice) in the production process. Hence, just as “use-value falls within the realm of political economy as soon as it becomes modified by the modern relations of production, or as it, in turn, intervenes to modify them,” (Marx, 1861/1973, 880) the same is true of exchange-value and nature. Exchange-value falls within the realm of nature as soon as a second nature, through the production of commodities, is produced out of the first. The relation with nature is mediated by exchange-value as well as use-value determinations.

Without admitting exchange-value into nature, the relation between first and second nature cannot be concretely understood. It would be difficult to move beyond the limited, ambiguous and potentially ideological claim that on the one hand nature is social while on the other society is natural. Equally limited and problematic is the claim that they are “interrelated” and “interact” with each other, for interaction is no substitute for the dialectic, the key to which is in the production process. Elements of the first nature, previously unaltered by human activity, are subjected to the labor process and re-emerge to be social matter of the second nature. Therefore, though their form has been altered by human activity, they do not cease to be natural in the sense that they are somehow now immune from non-human forces and processes – gravity, physical pressure, chemical transformation, biological interaction. But they also become subject to a new set of forces and processes that are social in origin. Thus the relation with nature develops along with the development of the social relations, and insofar as the latter are contradictory, so too is the relation with nature.

So long as surplus labor is manifested mainly in agricultural commodities, economic and political power is closely tied to land ownership. Agricultural labor produces for direct or nearly direct consumption; few intermediary processes intervene. But with the continued division of labor, an increasing number of processes come to intervene. A group of laborers and a group of merchants, neither of whom are immediately tied to the land, begin to distinguish themselves. The production of a

second labor has hastened the emancipation of society from first nature, and in the process has sharpened the contradiction, wholly internal to second nature, between a ruling class that is directly tied to the primitive second nature of agricultural land, and on the other side, a rising bourgeoisie whose political base is dependent on control of the market and the town. As this contradiction develops, it becomes necessary for the bourgeoisie to extend its control to cover not just the exchange process but also the production process. This is in order to ensure the continual supply of commodities for exchange. Through this combined control of production and distribution, they are better able to guarantee the continued production of social wealth; production for exchange, in general, gives way to capitalist production specifically. But unlike the initial development of production for exchange, this is not a gradual, inexorable, “natural” transformation. A product of second nature, it involves a political struggle, culminating in bourgeois revolution. That is, it involves the defeat of one ruling class and the ascent of another, and with this there comes a new, more specific relation with nature.

Capitalist Production

The contemporary relation with nature derives its specific character from the social relations of capitalism. Capitalism differs from other economies in this: it produces on the one side a class who possess the means of production for the whole society yet who do no labor, and on the other side a class who possess only their own labor power which they must sell to survive. “Nature does not produce on the one side owners of money or commodities,” Marx notes,

and on the other men possessing nothing but their own labor-power. This relation has no natural basis, neither is its social basis one that is common to all historical periods. It is clearly the result of a past historical development, the product of many economic revolutions, of the extinction of the whole series of older forms of social production (Marx, 1883/1967, 169).

The laboring class under capitalism is deprived not only of the commodities it produces, but of the very objects and instruments necessary for production. Only with the generalization of this wage-labor relation does exchange-value become a consistent expression of what underlies it – *value*. The value of a commodity, expressed in exchange as exchange-value, is a measure of the socially necessary labor time required for the commodity’s production. The commodity of labor power is no exception; the laborer’s wage is a measure of the labor time socially necessary for the reproduction of the laborer. Under capitalism therefore, the surplus product appears in the form of *surplus value*. The value of a laborer’s labor power represents only a certain fraction of the value produced during a day’s work. With the laborer’s historic freedom from the means of production, they are totally dependent upon selling their own labor power.

The capitalist on the other hand, freed from the need to labor, is totally dependent on reinvesting some portion of the surplus value in order to create more. Both the realization and the reinvestment of surplus value takes place under competitive conditions resulting from private ownership of the means of production, and this forces individual capitalists, if they are to reproduce themselves at all, to do so at an extended scale. The specific class structure of capitalism, therefore, makes capital accumulation the necessary condition for the reproduction of material life. For the first time, “accumulation for accumulation’s sake” is a socially imposed necessity. The process of accumulation is regulated by the law of value, which operates “only as an inner law, *vis-à-vis* the individual agents, as a blind law of nature” (Marx, 1883/1967, 880).

Derivative of the specific class relations of capitalism, this structure of economic relations is unique to capitalism, and implies a sharply different relation with nature. In that the relation with nature is socially mediated, capitalism is no different from any previous mode of production. But it differs markedly in the substance of this social mediation and in the complexity of the relation with nature. The logic of social mediation is not the simple rationale that springs immediately from need to produce and consume use values, nor even the rationale of production for exchange. Rather it is the abstract logic that attaches to the creation and accumulation of social value which determines the relation with nature under capitalism. Thus the movement from the abstract to the concrete is not simply a nice conceptual idea that Marx dreamed up, but is the perpetual translation actually achieved in the relation with nature under capitalism; abstract determinations at this level are continually translated into concrete social activity in the relation with nature. This makes for a unique but very complex determination of the relation with nature – nature as object of production, human nature, the reproduction process, human consciousness. As with production in general and production for exchange, we shall examine the relation with nature under capitalism through these general aspects of the relation with nature. We begin with nature as an object of production.

Under dictate with the accumulation process, capitalism as a mode of production must expand continuously if it is to survive. The reproduction of material life is wholly dependent on the production and reproduction of surplus value. To this end, capitalism stalks the earth in search of material resources; nature becomes a *universal means of production* in the sense that it not only provides the subjects, objects and instruments of production, but is also in its totality an appendage to the production process. Thus it “appears paradoxical to assert, that uncaught fish, for instance, are means of production in the fishing industry. But hereto no one has discovered the art of catching fish in waters that contain none” (Marx, 1883/1967, 180, 181n).

Under capitalism the appropriation of nature and its transformation into means of production occur for the first time at a world scale. The search for raw materials, the reproduction of labor power, and the wage-labor relation, the production of commodities and of bourgeois consciousness, are all generalized under the capitalist

mode of production. Under the banner of benevolent colonialism, capitalism sweeps before it all other modes of production, forcibly subordinating them to its logic. Geographically, under the banner of progress, capitalism attempts the urbanization of the countryside.

The history of classical antiquity is the history of cities, but of cities founded on landed prosperity and agriculture ... the Middle Ages (Germanic period) begins with the land as the seat of history, whose further development then moves forward in the contradiction between town and countryside; the modern {age} is the urbanization of the countryside, not ruralization of the city as its antiquity (Marx, 1861/1973, 470).

Integral in this expansion of capitalism, the capitalist state develops. Like all previous states, its central function is social control on the behalf of the ruling class, which means that in capitalist society it becomes manager of that which private capital is unwilling or unable to make. By repressive, ideological, economic and an array of other social means, the state attempts to manage the suppression of precapitalist societies abroad and the repression of the working class at home, and at the same time attempts to ensure the economic conditions necessary for accumulation. In short it expedites and arbitrates the stable expansion of capitalism.⁷ Thus the contradictory character of the relation with nature, along with its complexity, begins to emerge more concretely. Under capitalism, the second nature is increasingly wrenched from the first but this is achieved as part of a quite opposite but mutual process: the generalization of all capitalist relation with nature, and the practical unification of all nature in the production process.

The social division of nature and the advance of the productive forces develop apace – the second nature experiences continuous internal differentiation. Here scientific labor is of increasing importance and puts itself to the fore as a separate activity. Its main function is to facilitate the production of nature in the form of productive forces:

Nature builds no machines, locomotives, railways, electric telegraphs, self-acting mules, etc. These are products of human industry; natural material transformed into organs of the human will over nature, or of human participation in nature. They are *organs of the human brain, created by the human hand*; the power of knowledge, objectified.

⁷ On the complexities and debates surrounding the analysis of the state, see Barker (1978, 16-42); Holloway and Picciotto (1978); O'Connor (1973); de Brunhoff (1978). On the Miliband-Poulantzas debate which crystallized much of the discussion over the state, see Miliband (1969a, 1969b, 1973); Poulantzas (1969, 1976); Laclau (1975).

Thus the “fitting technical foundation” for capitalist industry was only established with the construction of “machines by machines” (Marx, 1861/1973, 706; 1883/1967, 384). The proliferation of different social divisions and subdivisions of labor necessitates the parallel growth of social cooperation between them if the mode of production is to function as a whole. For the purpose of ensuring social cooperation, entire specializations have emerged, most notably the myriad so-called service activities from banking to mass transit. The abstract cooperation with nature that characterizes human productive activity takes a quite concrete character under capitalism. It develops as an antidote to the “anarchy in the social division of labor”, an anarchy which is the logical outcome of competition based on private ownership of the means of production.

Along with the social division of labor there develops a technical division of labor within the work place, and it is here that we begin to see some of the basic elements of production of human nature under capitalism. The production of a single commodity is broken down into numerous detail operations so that the individual worker’s activity is increasingly restricted to only a few motor functions. This too necessitates extensive use of workers’ “natural powers of cooperation”, but under the control of capital this exercise of cooperation achieves not only the development of the individual’s natural powers but rather the exact opposite. Like the other natural constituents of the labor process, the laborer’s powers of cooperation are alienated, they confront [the laborer] as the powers of capital. This is precisely the case with fixed capital which represents not only a huge investment of scientific and manual abilities, but also represents an enormous exercise of cooperation among workers. Confronted with the capitalist’s machinery, “the laborer is brought face to face with the intellectual potencies of the material process of production” and the intellectual impotencies of his or her individual nature. Manual, intellectual and cooperative confronts the laborer “as the property of another and as a ruling power {...}. In order to make the collective laborer, and through him capital, rich in social productive power, each laborer must be made poor in individual productive powers.” As in the simple production of use-values for direct consumption, the individual realizes his or her nature in the labor process. But the conditions of contemporary labor are such that it converts the laborer not into the romantic, dignified self-made man of Hollywood fame, but, “By forcing his detail dexterity at the expense of the world of productive capabilities and instincts,” it converts him or her into a “crippled monstrosity”. As far as the worker is concerned, the mode of production based on development of capital makes a “specialty of the absence of all development”:

All means for the development of production transform themselves into means of domination over, and exploitation of, the producers; they mutilate the laborer into a fragment of a man, degrade him to the level of an appendage of a machine, destroy every remnant of charm in his work and turn it into a hateful toil; they estrange from him the intellectual potentialities of the labor-process in the same proportion as science is incorporated in it as an independent power; they distort the conditions under which he works, subject him during the labor process to a

despotism the more hateful for its meanness; they transform his life-time into working-time, and drag his wife and child beneath the wheels of the Juggernaut of capital (Marx, 1883/1967, 360-1, 350, 645).

This is the fate of human nature under capitalism.

Engels showed that with the development of commodity economies, “the single family” becomes the “economic unit of society” (Engels, 1884/1972, 223). With the victory of a specific capitalist form of private property, the family form is further revolutionized. In particular, while the family remains an economic unit, its economic function is very specialized and it is no longer *the* economic unit of society. Surplus value is produced not in the family but in the factory and in other work places. Engels stressed that the single family will only cease to be a fundamental economic unit of society with the “transfer of means of production into common ownership”, but capitalism itself begins with the process of breaking down the single family by pulling women into the labor force in larger and larger numbers, and by transferring surplus value production from the family to the factory and the public workplace (Smith, 1977).⁸

As wage labor is consigned to the realm of public activity outside the home, a number of functions connected with the reproduction of labor power are privatized in the nuclear family. The latter is made the domain of “women’s work”, although most working-class women also work outside of the home. The private-family mode of reproduction has a number of advantages for capitalism: the costs of reproduction are borne by the private family and the woman in particular, since she is not paid for her work of reproducing labor power; the private family socializes the next generation of workers to accept “natural” authority; and it requires privatized consumption, with all its ideological and economic consequences. But the class structure of capitalism pervades every aspect of social structure, and reproduction is no exception. The bourgeois family is different in many ways from the working-class family. Thus the bourgeois family probably purchases labor power (“maid,” “nanny”) to perform their housework while the working-class wife not only does her own family’s housework but may also sell her labor-power, like her husband, for a wage; hence the “double-burden” of working-class women. In all of this, although the family is privatized, reproduction is only partly so. The state is heavily involved in the organization of reproduction. It not only controls such crucial processes as education, but through the legal system, controls the form of the family itself; it manages the oppression of

⁸ For a survey and critique of different viewpoints on patriarchy and class, see Smith (1981). Marx’s and Engel’s conclusion that proletarianization could free women from oppression seems with the benefit of hindsight to have been a little optimistic.

women through marriage and divorce laws, abortion legislation, inheritance laws, and so on.⁹

The production of labor power, like any other commodity, is susceptible to the periodic fluctuations of the accumulation cycle. And as with the production of other commodities, attempts have been made to regulate the fluctuations through a wide array of technological innovations – contraceptives, medical technologies, genetic engineering. In this sphere too, the production of nature is an accomplished fact. The commodity produced is, in its very form, a social product. Commonly seen as the first step in the production of nature, test-tube babies are more correctly seen as the last stage. What began on the one side with the indeliberate production of the hand and on the other with the most primitive means for regulating pregnancy, has come together into a single process – the production of life itself.

With the generalization of the wage-labor relation, consciousness develops apace. Religious ideologies that emphasize one's rightful place in God's universe remained but were of limited use in justifying the wage-labor relation. Thus the rise of bourgeois society is complemented by the rise of the bourgeois consciousness based on relations of exchange rather than production. If production relations under capitalism are characterized by the exploitation of labor for the sake of extracting surplus value, the exchange relations under capitalism are based on the principles of equality and freedom. Freedom to exchange one's property and the exchange of equivalents are the principles that characterize exchange, and it is from them that bourgeois ideology is derived. Thus Marx notes sarcastically, referring to the sphere of exchange, "there alone rule Freedom, Equality, Property and Bentham" (Marx, 1883/1967, 176). The wage slavery, the inequalities and the class basis of property ownership that define the production process are dissolved in the market where buyer and seller confront each other as equals. Everyone is a consumer. With mass consumption, advertising, television, spectator sports and so on, bourgeois ideology marks the most successful separation of consciousness from the immediate production process. Where it is most successful, as in the United States, it leads to the conclusion that class differences no longer exist; virtually everyone has become middle class.

This homogenization of consciousness receives a boost from the development of the production system itself. In order to accumulate, capital must continuously develop the technical means of production and this implies the continuous advance of science. If science rises with the immediate task of developing the productive forces, it soon takes on an important ideological function, to the point where it operates almost as a secular religion. But this homogenization of consciousness is only ever tendential. It can occur only to the extent that consciousness is separated from the immediate work process, and while this is facilitated by the increased division of labor and by the

⁹ On the necessity of the family for capitalism, see Winslow (1979). For a different view, see Bruegel (1978).

abstractness of scientific thought, the capitalist mode of production remains based on the fundamental distinction between a working class and a class that owns capital. This leads in the opposite direction, toward a differentiation of cultures along class lines, and of course a further differentiation on the basis of gender and race. Consciousness is still a direct efflux of material practice, if one admits the function of ideology, but just as the society is differentiated, so too is the consciousness. The more focused the class struggle in practice, the more focused is the differentiation of consciousness. “The mode of production of material life conditions the general process of social, political and intellectual life. It is not the consciousness of men that determines their existence, but their social existence that determines their consciousness” (Marx, 1859/1971, 20-1).

In its ability to produce nature, capitalism is not unique. Production in general is the production of nature:

Animals and plants, which we are accustomed to consider as products of nature, are in their present form, not only products of, say last year’s labor, but the result of a gradual transformation, continued through many generations, under man’s superintendence, and by means of his labor {...}. In the great majority of cases, instruments of labor show even to the most superficial observer, traces of the labor of past ages (Marx, 1883/1967, 181).

Where capitalism is unique is that for the first time human beings produce nature at a world scale. Hence Marx’s brilliant observation, over 120 years ago, that “the nature that preceded human history ... today no longer exists anywhere (except perhaps on a few Australian coral-islands of recent origin)” (Marx and Engels, 1845/1970, 63). This insight is today, of course, conventional geographic wisdom, although it is not generally interpreted in terms of the production of nature.

The development of capitalism, however, involves not just a quantitative but qualitative development in the relation with nature. It is not merely a linear expansion of human control over nature, an enlargement of the domain of second nature at the expense of the first. With the production of nature at a world scale, nature is progressively produced from within and as part of a so-called second nature. The first nature is deprived of its fitness, its originality. The source of this qualitative change in the relation with nature lies in the altered relation between use-value and exchange-value. At “different stages of the development of economic relations, exchange value and use value were determined in different relations” (Marx, 1861/1973, 646). Under capitalism, then, the role of exchange-value is no longer merely one of accompanying use-value. With the development of capitalism at a world scale and the generalization of the wage-labor relation, the relation with nature is before anything else an exchange-value relation. The use-value of nature remains fundamental, of course, but with the advanced development of productive forces, specific needs can be fulfilled by an increasing range of use-values and specific commodities can be produced from a

growing array of raw materials. The transformation to an exchange-use relation is something achieved in practice by capitalism. Capitalist production (and the appropriation of nature) is accomplished not for the fulfillment of needs in general, but for the fulfillment of one particular need: profit. In search of profit, capital stalks the whole earth. It attaches a price tag to everything it sees and from then on it is this price tag which determines the fate of nature.

Once the relation with nature is determined by the logic of exchange value, and first nature is produced from within and as a part of second nature, first and second nature are themselves redefined. With production for exchange, the difference between first and second nature is simply the difference between non-human and the humanly created worlds. This distinction ceases to have real meaning once the first nature too is produced. Rather, the distinction is now between a first nature that is concrete and material, the nature of use values in general, and a second nature which is abstract, and derivative of the abstraction from use-value that is inherent in exchange-value. The earlier conception of human and non-human worlds remains strongly embedded today and indeed was unchallenged until into the nineteenth century. The new notion of second nature was furthest developed not in Count Buffon's France, where the old opposition remained in sway, but rather in Hegel's Germany, with its exceptional philosophical tradition. Hegel's was the idealist second nature. It was not simply the material world transformed and created by human action, but rather the manifestation of free will through a system of right as the economic and political institutions of modern society. It was not the built structures that occupied Hegel's second nature but the legal system, the laws of the market, and the ethical rules of modern society – "the realm of freedom made actual, the world of mind brought forth out of itself like a second nature" (Hegel, 1820/1967, 20).

The reality from which Hegel's idealist conception of nature was derived also threw up a material conception of second nature more advance than Cicero's and Buffon's, and more appropriate for the reality of emerging capitalism. The best description of this second nature is provided by Alfred Sohn-Rethel:

In Germany the world of 'use' is often called 'the first or primary nature', material in substance, while the sphere of exchange is termed a 'second, purely social, nature' entirely abstract in make-up ... {First nature is} concrete and material, comprising commodities as objects of use and our own activities as material, inter-exchange with nature; {second nature is} abstract and purely social, concerning commodities as objects of exchange and quantities of value (Sohn-Rethel, 1978, 28, 55-6).

The same piece of matter exists simultaneously in both natures; as physical commodity subject to the laws of gravity and physics it exists in the first nature, but as exchange-value subject to the laws of the market, it travels in the second nature. Human labor produces the first nature, human relations produces the second.

What is an abstract potential in the origins and fundamental character of human labor becomes a reality for the first time under capitalism, it is not just the immediate of the local nature of human existence that is produced under capitalism but nature as a totality. The mode of production based on capital strives toward the

universal appropriation of nature as well as of the social bond itself by the members of society. Hence the great civilizing influence of capital; its production of a stage in society in comparison to which all earlier ones appear as mere *local developments* of humanity and as *nature idolatry* (Marx, 1861/1973, 409-10).

Material nature is produced as a unity in the labor process, which is in turn guided by the needs, the logic, the quirks of second nature. No part of the earth's surface, the atmosphere, the oceans, the geologic substratum or the biological substratum are immune from transformation by capital. In the form of a price tag, every use-value is delivered an invitation to the labor process, and capital – by its nature the quintessential socialite – is driven to make good on every invitation.

This may appear to be the logic of Marx's argument, but did he not also make clear in *Capital* that the labor process still employs "many means of production, provided directly by nature, that do not represent any combination of natural substances with human labor" (Marx, 1883/1967, 183)? Does this not render dubious the notion that nature is produced? It is necessary to look at two kinds of cases here. First, it is quite possible that in political economic terms, the natural substance embodies no exchange-value but is nevertheless, in use-value terms, profoundly altered by human labor, either directly or indirectly. This can happen with, for example, agricultural land where improvements to the land have returned all of their value and therefore been completely devalorized, but where the fertility and physical structure of the soil is greatly altered.¹⁰ This can also be the case with more obvious products of labor such as buildings, which no longer have any economic trace of their origins in the production process, but certainly retain the physical characteristics of human artifice. More commonly, some aspects of nature may have been altered dramatically in their physical form by human activity, without this having been in any way an investment of socially necessary labor time. The production of toxic shock syndrome, cancer, and other humanly produced diseases are as much examples of this as the alteration of climate through human activity. As elements of first nature they are very much produced, though not commodities.

¹⁰ Marx (1883/1967, 337) writes, "land yields rent after capital is invested not because capital is invested, but because the invested capital makes this land more productive than it formerly was This rent too, which may be resolved into interest, becomes more differential rent as soon as the invested capital is amortized". David Harvey (1982, 337) also makes this point.

But there is a more stringent case, where, indeed, even the form of natural substance has not previously been altered by human activity. Substantial parts of the geologic substratum would probably count here, if one went deep enough. So too would the solar system, if one went far enough, that is beyond the moon and beyond some of the planets and beyond the assorted debris that has been jettisoned into space. But these rather extreme examples hardly testify to the falsity of the “production of nature” thesis, especially when one looks at more down-to-earth examples of supposedly unproduced nature, such as Yellowstone Park or Yosemite. These are produced environments in every conceivable fashion. From the management of wildlife to the alteration of the landscape by human occupancy, the material environment bears the stamp of human labor; from the beauty salons to the restaurants, and from the camper parks to the Yogi Bear postcards, Yosemite and Yellowstone are neatly packaged cultural experiences of environments on which substantial profits are recorded every year. The point here is not nostalgia for a pre-produced nature, whatever that might look like, but rather to demonstrate the extent to which nature has in fact been altered by human agency. Where nature does not survive pristine, miles below the surface of the earth or light years beyond it, it does so only because as yet it is inaccessible. If we must, we can let this inaccessible nature support our notions of nature as Edenic, but this is always an ideal, abstract nature of the imagination, one that we will never know in reality. Human beings have produced whatever nature became accessible to them.

The unity of nature toward which capitalism drives is certainly a materialist unity but it is not the physical or biological unity of the natural scientist. Rather it is a social unity centered on the production process. But this unity should not be taken as implying an undifferentiated nature. There is, as was seen above, a distinction between first and second nature. But in light of the production of nature by capitalism, and the drive to make this process universal, how relevant is this distinction in contrast with the unity of nature? Certainly the economic structure presents itself as a second nature: “the laws of economy in all unplanned and unorganized production confront men as objective laws, against which they are powerless, hence *in the form of natural laws*.” Thus Marx saw his task in *Capital* as one of laying bare “the economic law of motion of modern society.” His

standpoint, from which the evolution of the economic formation of society is viewed as a process of natural history, can less than any other make the individual responsible for relations whose creature he solely remains, however much he may subjectively raise himself above them.

Human beings certainly make their own history, but they do so not under conditions of their own choosing, rather under conditions given and transmitted from the past (Engels, 1877/1975, 425; see also Marx, 1883/1967, 10, and 1852/1963, 15).

But there is a potential problem with viewing the laws of economy and society in such a seemingly naturalistic fashion, for as Marx himself also said, in the famous

letter to Kugelmann of 11 July 1868: “No natural laws can be done away with. What can change, in changing historical circumstances, is the *form* in which these laws operate” (Marx and Engels, 1846-1895/1934, 246) [...] If the economic laws of capitalism are indeed natural laws, Marx would seem to be saying that they, and by implication capitalism, cannot be done away with. Yet this would make no sense coming from Marx, the committed revolutionary who devoted his life to the struggle for socialism. Nor was this just a slip on Marx’s part, a reversion to viewing nature as crudely outside society, since the reference to natural laws here was not a reference to gravity or the laws of physics, but to the distribution of social labor. [...]

The solution lies not in philosophical distinctions between categories but, as ever, in human practice, specifically in human history. For like gravity, the laws of the market can be obeyed or opposed, and in this way we can change the form in which they operate and in which they are experienced. But unlike gravity, there is nothing natural about the law of value; no society has lived without experiencing the operation of gravity, but many have lived without the law of value. However much it and other laws of the market are experienced in the form of natural laws, they are not equitable to gravity. This is precisely Marx’s point when he says that the defeat of capitalism makes possible the end of natural history of human beings and the beginning of true history, the end of societal laws experienced in the form of natural laws, and the beginning of truly social control over history. With its tremendous development of the productive forces, capitalism has put the question of the production of nature on the agenda. But it is a question that the capitalist mode of production itself is incapable of solving. It has unified nature for the future but cannot do it for the present.

The distinction between a first and second nature is therefore increasingly obsolete. As a philosophical distinction between abstractly or ontologically equivalent or even similar realities, it was obsolete as soon as it no longer referred to the division between human and non-human worlds. As a division between materiality and abstraction, the distinction between first and second nature certainly captured the complexity of societal organization and its distance from primal nature. But the ability of capital to produce the material world “in its own image” (Marx and Engels, 1848/1955, 14) rendered this distinction a victim of itself – and abstraction that had lost touch with a changing reality and the potential of human history. The production of first nature from within and as a second nature makes the production of nature, not first or second nature in themselves, the dominant reality. But there remains an important distinction to be made.

Engels hints at the distinction when he notes that our “mastery” of nature “consists in the fact that we have the advantage over all other creatures of being able to learn its laws and apply them correctly” (Engels, 1883/1954, 180). The production of nature is only possible given the identification and application of natural laws. But the identification of natural laws inevitable involves a clear knowledge of the limit of these laws, and thus the distinction between laws which are in reality natural and those which under a specific form of society are made to appear more natural. This is not a

philosophical distinction but a practical one. The difference between gravity and the law of value does not concern what can and cannot be produced, since the effect of gravity can quite easily be opposed and altered and quite opposite results obtained, simply by the identification and social application of other laws of nature. We do this every time we make an airplane fly, for example. The fundamental distinction that must be made is, rather, between what can and cannot be *destroyed*, to be replaced. This distinction is realized in the practical process of social history, not as a process of philosophical speculation. Looking backward in history, the indications are that while the law of gravity cannot be destroyed, however much it can be opposed or the actual form of its operation socially determined, the “law” of value can be destroyed. Looking forward in history, only by discovering and identifying natural laws will we be able finally to distinguish and reveal the natural laws that underlie human nature. This can be accomplished only in the process of destroying and overthrowing the social pyramids that present themselves as natural laws. Those in a society with the most accurate comprehension of human nature are not the high priests that preach the naturalness (meaning the inevitability) of so much of human and societal behavior. Rather it is those who have the most acute sense of what social monstrosities can be destroyed; it is they who best understand that human beings can create something more human.¹¹

In its uncontrollable drive for universality, capitalism creates new barriers to its own future. It creates a scarcity of needed resources, impoverishes the quality of those resources not yet devoured, breeds new diseases, develops a nuclear technology that threatens the future of all humanity, pollutes the entire environment that we must consume in order to reproduce, and in the daily work process it threatens the very existence of those who produce the vital social wealth. But in the same breath capitalism must develop as part of itself the very force that can reveal how unnatural and vulnerable this mode of production is, and how historically temporary it can be. It is not just the relative recency of capitalism that points to it being temporary, but the

¹¹ This obviously gives a crucial role to science, but a critical science, because relations appear natural, meaning inevitable. As Marx wrote, the formulae of political economy “appear to the bourgeois intellect to be as much a self-evident necessity imposed by nature as productive labour itself” (Marx, 1883/1967, 81). The distinction between natural and social science permits a fetishism of “nature” as the object of natural scientific investigation, and it permits social science to fashion itself after natural science, taking society as its natural object of investigation. There is but a single science, according to Marx and Engels, not separate sciences of nature and society. But the unity of science is a practical process, a unity to be created. Science must be revised “to the point where it can be presented dialectically”, as Marx wrote to Engels (Marx and Engels, 1846-1895/1934, 123). For the so-called “natural” sciences particularly, this involves retrieving a politics which rightfully belongs to science but which has been expropriated and excluded. If we are correct about the production of social creations, not as natural versus social science, but as science versus ideology. In this connection, see Valentino Gerratana’s (1973, 75) critique of post-Darwinian evolutionism: scientists concerned with evolution, “who more than denying and excluding the historical process in the very part of natural history that is human history”. This signaled a “methodological inversion” – a lapse “back into affirmation of historical laws of social development as eternal laws of nature.”

production of its own internal contradictions which guarantee that temporary character. The production of nature is the means by which these contradictions are made concrete. In early societies, the contradictory relation with nature was expressed in crisis of scarcity, and the effect was immediate. And as central as the production was, crisis of scarcity also represented the peripheral limits of society; natural scarcity determined the limits of social development. Under capitalism, social crisis still focus on the production process but now lie at the heart of a complex social system. The production of nature is universal but the internal contradictions in this process are made equally universal. Today crisis does not spring from the interface between society and an external nature but from the contradictions at the heart of the social production process itself. Insofar as social crisis are still attributed to natural scarcity today, this should be seen as a produced scarcity in nature.

Whether in the form of nuclear energy or in the revolt of the working class, the contradiction written into the production of nature emanates from the form of capitalism itself. Thus we should understand Marx not at all metaphorically when he writes that capitalism creates “barriers in its own nature,” the final one of which is the working class, which it differentiates from the rest of humanity as the wage slaves of capital. This “barrier of its own nature” will, “at a certain stage of its development, allow {capitalism} to be recognized as being itself the greatest barrier to {its own development}, and hence will drive toward its own suspension” (Marx, 1861/1973, 410). In the process of struggle against capital, it is the working class that will win the chance truly to define human nature. This is not at all to suggest that the working class today is somehow by definition more natural than the other classes. As a class alienated from control of the society that employs them, the working class are in every way unnatural and a product of capitalism. Nor is it meant to imply the inevitability of socialism. It *is* meant to suggest, however, the inevitability of revolt; it is a law of nature that the human animal, deprived of the means to fulfill its natural needs, will react to this deprivation, sometimes violently and sometimes also socially organized. The form of the revolt is governed by no natural law but is a social product. The victory of this revolt is governed by no natural law but is a social product. The victory of this revolt would bring with it the historically unique opportunity for human beings to become the willing social subjects not the natural subjects of their own history.

Conclusion

When he taught at Yale, the great imperial geographer Isaiah Bowman used to tell his classes “that one could build a city of a hundred thousand at the South Pole and provide electric lights and opera. Civilization could stand the cost.” This was at the time when the Peary expedition had just reached the Pole, in 1909. And while the notion of an urban South Pole probably represented a rather extreme corrective to his earlier attraction to environmental determinism, Bowman was undoubtedly correct. In the same vein he used to claim “that we could also build a mountain range in the

Sahara high enough to evoke rainfall.” And in more general terms, 20 years later, he noted more precisely that “man cannot move mountains” – not, that is, without first “floating a bond issue” (Bowman, 1934).

Predictable the production of nature has followed a path guided less by the extreme unthinkability of the physical event, more by the profitability of the economic event. Predictably too, it is in North America, which trail-blazed the expansion of world capitalism from 1918 until 1973, that we find some of the most accomplished examples of the production of nature. Thus in his iconoclastic analysis of *Megalopolis* Jean Gottmann offers the following:

The Promethean endeavors that had long been confined to the dreams of European people, resigned to a status quo in their homelands, broke out of old bounds in this wilderness {...}. While there was in time an end to the expanse of free land, the great cities of Megalopolis developed, through a finer division of labor, more exchange of services, more trade, and more accumulation of capital and people, a boundless vista of unlimited resources for an affluent society.

The expansion of Megalopolis could hardly have happened without such an extraordinary Promethean drive. As the frontier becomes more urban in nature, as the wilderness to be tamed shifts in obvious fashion from the woods and the prairies to the city streets and human crowds, the vultures that threatened Prometheus may be more difficult to keep away (Gottman, 1961, 79).

The potentially contradictory mix of opportunity and apocalypse in this vision is not wholly different from Marx’s treatment of nature. Marx and Engels traditionally viewed the substance of the relation with nature in terms of growing mastery or domination over nature, although not in a one-dimensional sense: “Mastery over nature began with the development of the hand, with labor, and widened man’s horizon at every new advance” (Engels, 1884/1972, 253). As the sun rose on capitalism, this progressive mastery of nature moved up a gear; for the first time historically, economic growth in the form of capital accumulation became an absolute social necessity, and the continual extension of domination of nature became equally necessary. But capital, and the bourgeois society that nurtures it, usher in not just a quantitative but a qualitative change in the relation with nature. Capitalism inherits a global world market – a system of commodity exchange and circulation – which it digests then regurgitates as the world capitalist system, a system of production. To achieve this, human labor power itself is converted into a commodity, produced like any other commodity according to specifically capitalist social relations. The production of nature at the global scale, not just an increased “mastery” over nature is the goal of capital.

This is the logical if unstated conclusion to Marx's conception of the relation to nature, and in part of Engel's work, although the idea of a "dialectic of nature" clearly led Engels along a quite different and I believe erroneous path. The question is why they retained the language and in part the conception of "mastery" and "domination" over nature. In practice, the relation with nature progressed beyond one of mastery and domination as soon as the distinction between a pre-human first nature (the mastered) and a human second nature (the master) was rendered obsolete. "Mastery" does not at all describe the relation between the new first and second natures, the distinction between materiality and abstraction which fell heir to the earlier, simpler distinction. Matter is not somehow dominated or mastered by a world of abstractions – this would lead quickly to idealism – but specific pieces of matter the world over are produced (that is, their form is changed) according to the abstract laws, needs, forces, and accidents of capitalist society. The reality of the production of nature is much more obvious today in the late twentieth century than it was in the middle of the nineteenth, and this more than anything else explains why Marx could cling to the obsolete notion of mastery. A further century of capitalist development whipped on by the inexorable pursuit of relative surplus value should have made the idea of the production of nature into a dreadful cliché. That it has not, that far from being a cliché it is a novel, still almost quixotic idea, is testimony to the power of the ideology of nature.

The production of nature should not be confused with *control* over nature. Although some control generally accompanies the production process, this is by no means assured. The production of nature is not somehow the completion of mastery over it, but somehow qualitatively quite different. Even Engels was careful to distinguish between mastery (which has far greater connotations of control than "production") and control: "Let us not ... flatter ourselves overmuch on account of our human victories over nature," he says, then gives a paragraph of examples illustrating the cost of these victories and the "revenge" of nature. At each step he concludes,

We are reminded that we by no means rule over nature like a conqueror over a foreign people, like someone standing outside of nature – but that we, with flesh, blood and brain, belong to nature, and exist in its midst, and that all our mastery of it consists in the fact that we have the advantage over all other creatures of being able to learn its laws and apply them correctly (Engels, 1883/1954, 180).

The idea of revenge by nature carries something of the dualistic implications inherent in "mastery," but nonetheless, the essential point is a marvelous insight given the context (to which Engels elsewhere in the same work succumbed) of nineteenth-century scientific triumphalism. Thus the industrial production of carbon dioxide and of sulphur dioxide into the atmosphere have had very uncontrollable climatic effects: if it still has something of a speculative ring, the possibility of a greenhouse effect and the consequent melting of the ice caps has been supported by increasing numbers of scientists, while many of those rejecting the idea expect an equally dramatic cooling; and the increased sulphur dioxide content in the air is responsible for acid rain. Even,

or perhaps especially, the production of the human hand was in no way a controlled process. And the most complete and elaborate of human production, the capitalist system, is at the same time the most anarchic. Just as pollutants are integral products of the production process though its immediate goal, much of the production of nature is not the deliberate goal of production. The production process is quite deliberate, but its immediate goal, profit, is reckoned in terms of exchange-value not use-value. The issue of control is vitally important, therefore, but only once it is viewed on context. The first question is not whether or to what extent nature is controlled; this is a question framed in the dichotomous language of first and second nature, of pre-capitalist mastery and non-mastery over nature. The question really is *how* we produce and *who* controls this production of nature.

Capitalism develops the forces of production to the point where the unity of nature again becomes a possibility. But under capitalism this unity is only ever a tendency, continually promised by the drive toward universality. Capitalism creates the technical means but cannot itself fulfill the promise. The option as Marx said is socialism or barbarism either is a unity of nature. The cruel irony of this option is more acute today, for with the threat of nuclear war, barbarism unifies nature only by obliterating it. But the class society that threatens the final barbaric defeat also offers the ambition of socialism. Socialism is neither a utopia nor a guarantee. It is however the place and the time where and when the unity of nature becomes a real possibility. It is the arena of struggle to develop real social control over the production of nature. Early in his life, Marx pictured communism as the “genuine resolution of the conflict between men and nature” (Marx, 1843-1844/1975, 348). Whether this is true, remains to be seen – and to be done.

What is certain is the struggle over this conflict, the revolt against deprivation. In many ways it is a struggle to control what is “socially necessary.” Like pollution, much of the production of nature is the non-deliberate, uncontrolled result of the production process. They may be integral products of the labor process, but pollution and many other produced parts of nature are not the bearers of “socially necessary labor time.” The struggle for socialism is the struggle for social control to determine what is and is not socially necessary. Ultimately it is the struggle to control what is and is not value. Under capitalism, this is a judgment made in the market, one which presents itself as a natural result. Socialism is the struggle to judge necessity according not to the market and its logic but to human need, according not to exchange-value and profit, but to use-value.

Later in his life Marx was less speculative as regards the relation with nature, more circumspect about what communism may or may not be. The following passage from *Capital* addresses this issue, but compared with his earlier writing is politically more concrete, succinct, and resolute:

The realm of freedom actually begins where labor which is determined by necessity and mundane consideration ceases; thus in the very nature

of things it lies beyond the sphere of actual material production {...}. Freedom in this field can only consist in socialized man, the associated producers, rationally regulating their interchange with nature, bringing it under their common control, instead of being ruled by it as by the blind forces of nature; and achieving this with the least expenditure of energy and under conditions most favorable to, and worthy of, their human nature. But it nonetheless still remains a realm of necessity. Beyond it begins that development of human nature which is an end in itself, the true realm of freedom, which, however, can blossom forth only with this realm of necessity as its basis. The shortening of the working-day is its basic prerequisite (Marx, 1883/1967, 820).

The shortening of the working-day is, as we might put it, the transitional demand. It is cast still in terms of exchange-value. The shorter the working-day, the lesser the mass surplus value produced in the form of profit for capitalist class. The ultimate demand is for workers' control, control over the production process and hence control over the production of nature; that is, the overthrow of capitalism and its control of society through control of the exchange-value system. This is in order to control the sphere of use-values. The concept of "production of nature" in this way does what Schmidt's "concept of nature" wanted to do but never could: it "changes into the concept of political action (Schmidt, 1971, 196).

There will be those who see this analysis, indeed the very idea of the production of nature, as a sacrilegious effrontery, and a crude violation of the inherent beauty, sanctity and mystery of nature. The meaning of nature to them is not only sacred, it transcends such vulgar considerations as production through real labor, sweat. About vulgarity they are not wrong; they would simply escape it and thus deny it. But it is real. Contemporary industrial capitalism and all it implies is a vulgarity of capitalism, it is not a vulgarity of necessity. It is a product of present reality, not a phantom of Marxist theory. Others will complain that if not quite vulgar, still for a theory of nature it is terribly anthropocentric. But like the explicitly romantic charge of vulgarity, this too is a product of nostalgia. As soon as human beings separated themselves from animals by beginning to produce their own means of subsistence, they began moving themselves closer and closer to the centre of nature. Through human labor and the production of nature at the global scale, human society has placed itself squarely at the centre of nature. To wish otherwise is nostalgic. Precisely this centrality in nature is what fuels the crazy quest of capital actually to control nature, but the idea of control over nature is a dream. It is the dream dreamt each night by capital and its class, in preparation for the next day's labor. Truly human, social control over the *production* of nature, however, is the realizable dream of socialism.

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Converting the Wetlands, Engendering the Environment: The Intersection of Gender with Agrarian Change in The Gambia

Judith Carney

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The pace of environmental change in Third World during recent decades has directed increasing attention in regional studies to political ecology, a research framework that focuses on the socioeconomic hierarchies and power relations regulating land use and management (Blaikie and Brookfield, 1987; Bassett, 1988; Zimmerer, 1991; Bryant, 1992). However, the political ecology perspective is most frequently employed in the context of common property regimes in the Third World to refute Hardin's (1968) "free-rider" assertion, which attributes environmental degradation to unchecked use of common property resources. Challenges to Hardin's arguments have, as a consequence, overemphasized analysis of land in political ecological analysis to the exclusion of other important factors. In this paper, I argue that the relationship of common property rights to Third World environmental change may be better understood by adequately conceptualizing labor.

Population growth and consequent pressure on limited land is frequently invoked to explain how common property resources result in environmental change. But the accelerating incorporation of Third World environmental resources into the global economy, particularly evident in recent decades, suggests a different view, in that environmental transformations initiate patterns of income generation by placing new value on land-based resources, which in turn trigger changes in common property resources. The result is often a shift to centralized resource control without a

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concomitant tendency toward privatization of land (Berry, 1989). Scarcity of land may be artificially created to gain control over labor for accumulation strategies that differentially benefit members within households.

I examine forms of environmental change on the wetlands of The Gambia during the past 25 years. Irrigation schemes play a central role in government policies aimed at diversifying agricultural exports while improving self-sufficiency in food grains. But the intensification of household labor regimes to year-round cultivation is inducing unparalleled gender conflict as communities reorient the common property regime to the new economic emphasis on irrigated production.

An examination of contemporary changes in the Gambian wetlands illuminates the interplay of environmental transformation, accumulation strategies, and women's work to changing common property regimes. In the Gambian system land is managed for individual use but is not individually owned. A number of users enjoy independent rights of usage, which is to say, individual rights to the benefits of his or her labor. Community land access is regulated by households with rights to exclude nonmembers of that collectivity. This political ecological analysis, which examines labor and rights of access to environmental resources, draws attention to the relationship of Gambian women's protests against the changing forms of control exercised over community property systems in the wetlands.

I use multiple case studies of two forms of wetland conversion: irrigated rice schemes and horticultural projects. Both forms of swamp development began in the colonial period when British officials sought to diversify exports from peanuts, the dominant cash crop, and improve domestic rice self-reliance. The projects failed to break down the gender division of labor in rice and vegetables, traditionally cultivated by women. Only in the post-independence period, with successful implementation of irrigation projects, did men labor with their wives in rice cultivation. But male participation also heralded an increasing control over surplus production and, frequently, female land dispossession. Nongovernmental organizations responded to women's declining economic opportunities in rice cultivation schemes by promoting irrigated horticultural projects among village women's groups. Horticultural projects have improved rural women's incomes but, like rice schemes, are rife with gender-based conflicts over access to irrigated land. Tracing the trajectories of the forms of irrigated development consequently reveals a process of land enclosure within the community property system which permits women's land access as laborers but denies full claims to the benefits produced.

In drawing attention to the labor rights that mediate the community property system, this paper makes two points. First, new patterns of income generation within community property regimes frequently result in a redefinition of rules of access to, and control over, benefits within the household and community. Second, this redefinition is contested by women and given political expression in their growing militancy and nascent social movements. Such "struggles over meaning" in community

property regimes may provide a critical perspective for examining Third World women's growing militancy over environmental and economic change.

Building upon previous research in several Gambian wetland communities, the paper is divided into five sections. The first presents the environmental context of the Gambian wetlands, the extent and significance of wetland farming, as well as women's labor in ensuring its productive use. The next two sections provide a historical overview of the environmental and economic changes that modify women's access to, and use of, wetland resources, as well as recent policy shifts that address the country's environmental and economic crisis. Two case studies then detail the relationship between economic change and the process of land concentration and women's resistance. The paper concludes by analyzing how wetland commodification has made women's access to resources increasingly tenuous despite income gains.

The Environmental Context of the Gambian Wetlands

The Gambia, a narrow land strip 24-50 kilometers (14-30 miles) wide and nearly 500 kilometers (300 miles) long, encloses a low-lying river basin that grades gradually into a plateau, where the altitude seldom exceeds 100 meters (325 feet) (Fig. 1). The plateau forms about one-third of the country's land base and depends upon rainfall for farming (Carney, 1986, 21). Precipitation during the months of June to October averages 800-1,100 millimeters (31-43 inches) and favors the cultivation of millet, sorghum, maize, and peanuts. As in neighboring Sahelian countries, the Gambian rainfall regime fluctuates considerably between years and within a season. From the 1940s to 1980s, for example, annual rainfall declined by 15 to 20 percent and became increasingly distributed in a bimodal seasonal pattern (Hutchinson, 1983, 7)². The recurrence of a two-week, midseason dry spell during the month of August increases cropping vulnerability on the uplands and dependence on lowland farming (Carney, 1986, 25-30).

The lowlands are critical for understanding human livelihood and survival in the unstable rainfall setting of the West African Sudano-Sahelian zone. Lowland environments permit a multiple land use cropping strategy that utilizes other forms of water availability, thereby freeing agricultural production from strict dependence on rainfall. Constituting nearly 70 percent of the country's land mass, the Gambian lowlands make available two additional environments for agriculture: (1) the alluvial plain flooded by the river and its tributaries; and (2) a variety of inland swamps that

² The drier climate cycle within the Sahel during the 1960s through the 1980s does not support the contention of long-term climatic change. Satellite measurements over the last decade reveal that the spread of the Sahara is not as widespread or severe as previously thought by the United Nations and other development organizations. The fluctuating precipitation regime is typical of climatic oscillations within the region over the long run ("Satellites expose myth of marching Sahara," 1991, 38).

receive water from high water tables, artesian springs, or occasional tidal flooding (Carney, 1986, 20-21) (Fig. 2). The lowlands, which enable an extension of crop production into the dry season or even year-round, are planted to rice, although vegetables are frequently grown with residual moisture following the rice harvest (Dunsmore, 1976, 208-11; Carney, 1986, 82).

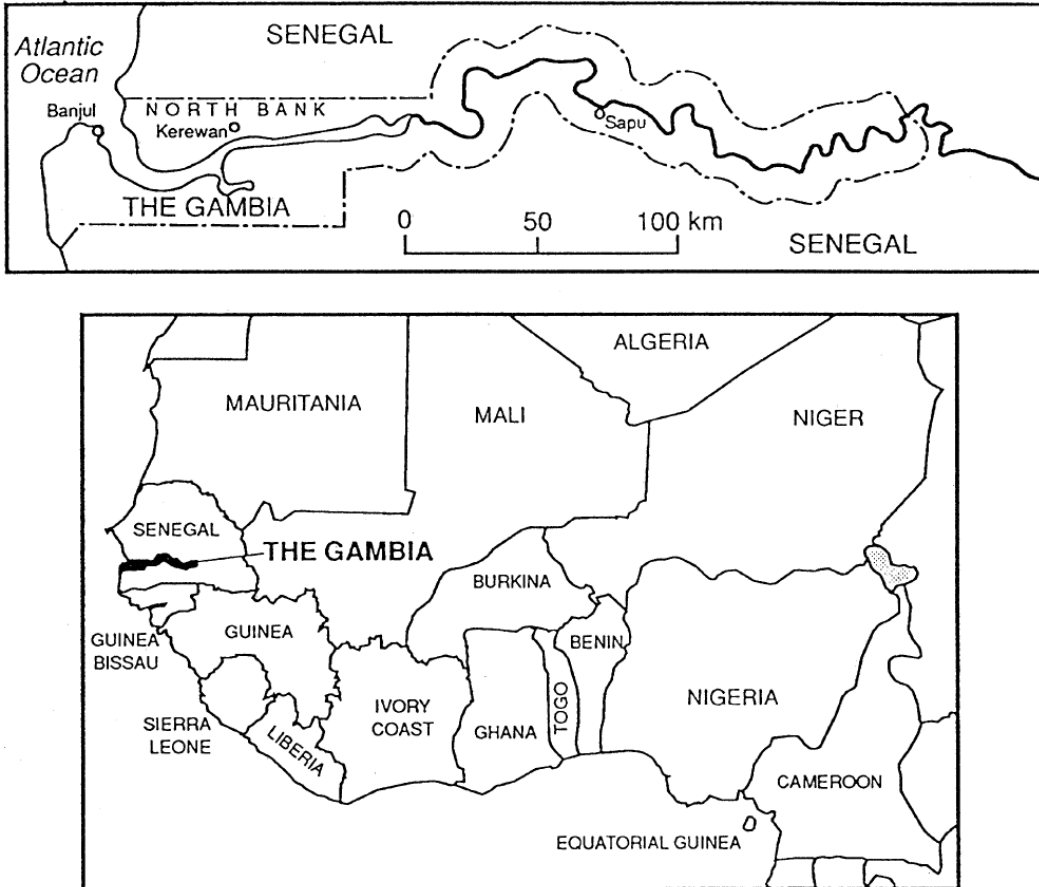


Figure 1: The Gambia

While The Gambia abounds in lowland swamps, not all are suitable for farming. Riverine swamps coming under marine tidal influence are permanently saline within 70 kilometers (42 miles) of the coast, seasonally saline up to 250 kilometers (150 miles), and fresh year-round only in the last 150 kilometers (90 miles) of the Gambia River's course (Carney, 1986, 33). The suitability of inland swamps for crop production, moreover, depends on the influence of differing moisture regimes for groundwater reserves. Consequently, although The Gambia contains over 100,000 hectares (247,000 acres) of lowland swamps, only about a third can be reliably planted (ALIC, 1981, 19; GGFP, 1984; CRED, 1985, 127). Until the mid-1980s most of the available swampland was farmed to rice, with about 20,000-25,000 hectares (49,400-61,750 acres) planted along the river floodplain and another 6,000-8,000 hectares

(14,800-19,760 acres) cultivated in inland swamps (FAO, 1983, 17; Government of The Gambia, 1973-91).

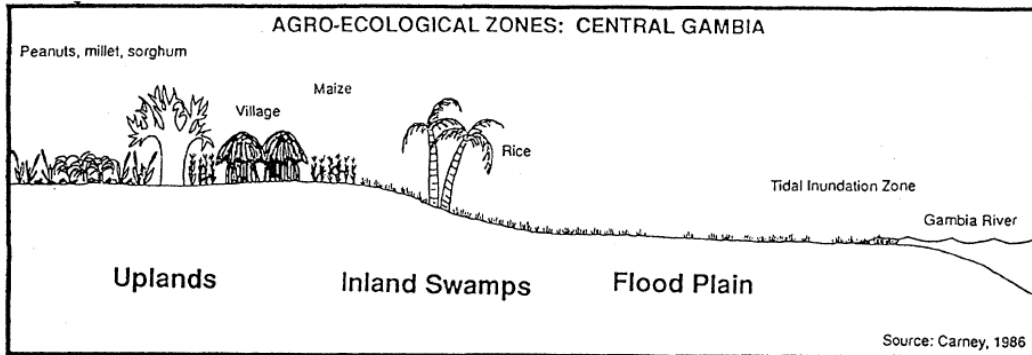


Figure 2: Agro-Ecological Zones: Central

Lowland cultivation is thus pivotal to the Gambian farming system, enabling crop diversification over a variety of microenvironments and a reduction in subsistence risk during dry climatic cycles. Wetland farming, however, requires considerable attention to forms of water availability as well as edaphic and topographic conditions. In The Gambia this knowledge is embodied in women, who have specialized in wetland cultivation since at least the early eighteenth century and have adapted hundreds of rice varieties to specific microenvironmental conditions (Jobson, 1623, 9; Gamble, 1955, 27; Carney, 1991, 40) This cumulative [local] knowledge of lowland farming underlies The Gambia's regional importance as a secondary center of domestication of the indigenous West African rice, *Oryza glaberrima*, cultivated in the area for at least three thousand years (Porteres, 1970, 47).

Gender, Environment, and Economy: A Historical Overview

Although lowland swamps and rice production are traditionally women's domain, prior to the mid-nineteenth century men and women were involved in both upland and lowland cropping systems through a division of labor based upon various agricultural tasks. Men assisted in field clearing for rice cultivation while women weeded upland cereal plots (Weil, 1982, 45-46; Carney and Watts, 1991, 657). The abolition of slavery and the turn to "legitimate commerce" led to Gambia's incorporation into the world economy through commodity production. By the 1830s peanut cultivation was proliferating on the uplands (Carney, 1986, 77-78). The imposition of British colonial rule by the end of the nineteenth century brought taxation and fiscal policies that accelerated reliance on peanuts as a cash crop, resulted in an increasingly specialized use of agricultural space, and led to a more gendered division of labor. These changes became most evident among the rice-growing Mandinka, Gambia's dominant ethnic group and principal wetland farmers.

By the end of the century, Mandinka men's growing emphasis on peanut cultivation resulted in a reduction in millet and sorghum production for household subsistence (Weil, 1973, 23; Jeng, 1978, 123-24; Carney, 1986, 92). As women compensated for upland cereal shortfalls by augmenting rice production in lowland swamps, the gender division of labor became increasingly spatially segregated, with the cash crop concentrated on the uplands under male control and women's farm work largely oriented to lowland rice, which emerged as the dietary staple (Carney, 1986, 89-91) (Fig. 2). The specialized use of agricultural land and concomitant disruptions in the gender division of labor accompanying nineteenth-century commodity production provide the setting for understanding twentieth-century gender conflicts among the Mandinka over commodification of the Gambian wetlands.

Policy interest in wetland environments began in the early decades of the twentieth century, when colonial officials began documenting farming practices in diverse lowland settings (Carney 1986, 126-27). The objective was to improve household subsistence security and generate rice surpluses that would feed an expanding pool of migrant laborers, whose seasonal influx accounted for the pace of peanut expansion on the uplands³. Initial efforts focused on improving swamp accessibility by tree clearing and causeway and footbridge construction and on increasing yields through improved seeds. By the 1960s, swamp development projects had culminated in an expansion of rice planting to some 26,000 hectares (65,000 acres) (Carney, 1986, 178). But limits had been reached on the degree to which women could carry the subsistence burden. Further gains in food availability rested on altering the gender division of labor by drawing men into rice growing. The colonial government's inability to persuade Mandinka men to take an active part in rice cultivation brought swamp rice development to a close (Carney, 1986, 139; Carney and Watts, 1991, 660).

In 1949 the colonial government initiated another approach to surplus rice generation by implementing a large-scale irrigation scheme on the site of the present-day Jahaly Pacharr project. The Colonial Development Corporation (CDC) scheme departed from the earlier swamp rice improvement project in one important way: land was removed from female rice growers through a 30-year lease program (Carney, 1986, 126; Carney and Watts, 1991, 666). The project failed due to a poorly designed irrigation system and lack of male or female interest in wage work; yet the CDC scheme is notable for adumbrating the post-independence emphasis on irrigation as well as the gender-based conflicts that would surface in subsequent wetland development projects.

These conflicts center on the invocation of customary tenure "laws" by male household heads and village elites to reduce women's land and labor rights in rice

³ Migrant laborers in peanut cultivation, known in The Gambia as "strange farmers," produced nearly half the peanut crop. They numbered nearly 20,000 in the interwar period and accounted for 1 out of every 20 rural residents (Carney, 1986, 121).

farming or, in Mandinka nomenclature, the conversion of land with individual use rights (*kamanyango*) to land whose product is controlled by the household head (*maruo*). When colonial development policies during the 1940s improved swampland access and productivity, male household heads and village elites called into question women's customary use rights. In one case that reached the colonial authorities, Mandinka men argued that "if women mark the land and divide it, it would become 'women's property' so that when a husband dies or divorces his wife, the wife will still retain the land, which is wrong. Women must not own land" (Rahman, 1949, 1). Women's land access was clearly being contested by male claims that female use rights would alienate swampland from the residence unit. A similar conflict arose with the CDC project failure: women claimed use rights to the plots they farmed (*kamanyango*), and household heads declared the improved area as *maruo* land, whose product comes under male jurisdiction (Dey, 1980, 252-53). The significance of the *maruo* designation for resource struggles is that when it is applied females experience an erosion of their customary labor rights without a reduction in their work burden.

A brief review of the meaning of the two Mandinka terms for property access and use of resources illuminates the issues in dispute. Land in rural Gambia is held in communal tenure but carries several forms of property relations. On a general level, the household landholding is termed *maruo* and cannot be alienated from the residence group. But *maruo* additionally refers to a set of labor obligations and crop rights. All able family members are expected by custom to provide labor on household land for family reproduction. Men's *maruo* work responsibility is traditionally met on the uplands through cultivation of millet, sorghum and maize, or groundnuts, which may be traded to purchase cereals. Rice production traditionally fulfills Mandinka women's *maruo* obligations. Because *maruo* crops are produced for household subsistence, they come under control of the male household head, who arranges their distribution.

A second, and important, subset of tenure relations also operates on part of the family landholding. In exchange for providing labor toward household subsistence, junior males and all adult females are given access to some of the family's landholding for their own needs. These land rights and plots are known as *kamanyango*. As long as the farmer remains a member of the household she or he controls the plot's use and benefits from plot output. *Kamanyango* labor rights provide subordinate family members the means to obtain cash from farming, as they control the rights to the crop produced as well as decisions over its use. *Kamanyango* plots are a critical issue in Gambia, where rural society is largely polygynous, male and female budgets are frequently separate, and women traditionally are responsible for purchases of clothing and supplemental foods crucial for the well-being of their children.

The expansion of peanut commodity production during the nineteenth and early twentieth centuries, which shifted food cropping increasingly to wetland environments, resulted in a greater concentration of rain-fed land use into de facto *kamanyango* plots, whether or not it was so termed by male household heads. The reverse process accompanied commodification of lowland environments farmed to rice by women. As

colonial rice development projects opened new areas for cultivation, women's *kamanyango* rights were repeatedly contested by male household heads, who placed them instead in the category of *maruo*. By claiming developed rice land as *maruo*, men placed the burden of subsistence responsibility on females, thereby liberating themselves from customary obligations. As women shouldered an ever greater work burden, male responsibility toward subsistence – either through cereal cultivation or purchase from groundnut earnings – diminished (Weil, 1973, 23)⁴. Women's preexisting labor rights steadily eroded in post-independence irrigation schemes, but with the strikingly different outcome that rural women mobilized to improve their deteriorating situation.

The Environmental and Economic Crisis: Policy Shifts

In the 28 years since independence, in 1965, The Gambia has experienced rainfall declines and accelerated environmental degradation of its uplands, a massive influx of foreign aid for development assistance (1968-88), policy shifts favoring commodification of the wetlands, and an International Monetary Fund (IMF) structural adjustment program (1985-present). These changes have shaped post-independence accumulation strategies and the gender conflicts among rural households.

Gambia entered independence with a degraded upland resource base and a vulnerable economy. The results of the long-standing monocrop export economy were evident throughout the traditional peanut basin, once mantled with forest cover but substantially deforested during the colonial period (Park, 1983, 4; Mann, 1987, 85). Reliance on one primary commodity, peanuts, to finance mounting rice imports grew more precarious in the years after independence; peanut export values fluctuated considerably from year to year, but through the 1980s grew less rapidly than the value of food imports (FAO, 1983, 4; Carney, 1986, 254). Farmers responded to declining peanut revenues through an intensification of land use – namely, by reducing fallow periods in peanut cultivation or by eliminating them altogether. The result was accelerated land degradation, particularly in the North Bank region, which was oriented to Senegalese peanut markets with generally higher producer prices (Fig. 1)⁵. Today the North Bank is stripped of forest cover, fallows have been reduced, and land degradation is more advanced than in the rest of the nation (Government of The Gambia, 1977; GGFP, 1988).

⁴ Male *maruo* subsistence requirements frequently involved the purchase of *kamanyango* rice from their wives.

⁵ The higher French support price for peanuts during the colonial period has generally prevailed in the independence period.

Precipitation declines and environmental degradation of the uplands brought renewed attention to the wetlands. The 1968-73 Sahelian Drought coincided with an escalation of capital flows from multilateral banks and financial institutions to the Third World (Thrift, 1986, 16; Shiva, 1989, 220). The changing pattern of global capital accumulation impacted the Gambian wetlands in the form of river basin development and irrigated farming⁶.

International development assistance brought far-reaching changes to the critical wetland food production zone. Nearly 4,500 hectares (11,115 acres) of riverine swamps were converted to irrigation schemes and another 1,000 hectares (2,470 acres) of inland swamps to horticultural projects (Carney, 1992, 77-78). Although affecting less than 10 percent of total swamp land, these conversions in land use have had profound consequences for food production, female labor patterns, and access to environmental resources⁷. The irrigated rice schemes and the introduction of technology to implement year-round cultivation have not reversed the country's reliance on imported rice. Only 40 percent of the land under this new strategy of development remains in production, with just 10 percent under double-cropping (Carney, 1986, 278). As domestic production lags, milled rice imports steadily climb, currently accounting for more than half the country's needs (Government of The Gambia, 1991). Population growth rates exceeding 3 percent per annum suggest demographic pressure on agricultural land; yet the failure to achieve food security is not the result of a Malthusian specter. Rather, it is the outcome of the changing use and access to resources which concentrates land within the communal tenure system and denies women benefits from improved rice production.

By the 1980s, women's mounting economic marginalization from irrigated rice development resulted in nongovernmental organizations (NGOs) targeting them for horticultural projects developed on inland swamps. The policy emphasis on horticulture intensified with the debt crisis of the 1980s and the implementation of an IMF-mandated structural adjustment program in 1985 to improve foreign exchange earnings and debt repayment. Economic restructuring has reaffirmed The Gambia's comparative advantage in peanuts while favoring the conversion of hydromorphic swamps to horticulture (UNCTAD, 1986; Government of The Gambia, 1987; Landell Mills Associates, 1989; Harvey, 1990, 3; McPherson and Posner, 1991, 6).

⁶ Among the institutions created during this period of unprecedented foreign investment in the Sahel was the Gambia River Basin Development Organization (OMVG). A regional development organization formed of four nations sharing the Gambia River watershed (Senegal, The Gambia, Guinea, and Guinea Bissau), the OMVG solicited funds for an expansion of irrigated farming, but never realized its objective of dam construction along the Gambia River.

⁷ In addition to increasing the number of days annually spent in agriculture, irrigated rice projects greatly augmented seasonal labor demands by nearly tripling (232 to 650) the adult days spent in rice cultivation per hectare (Carney, fieldwork data).

The respective policy emphases of the past 20 years have commodified the wetlands and incurred changes in customary use and access to environmental resources. As the irrigation schemes provide new avenues for income generation within rural communities, women's access to improved land for income benefits is increasingly being contested. The next two sections present an overview of the two post-drought wetland policy shifts, illustrating how customary laws are being reinterpreted to reduce women's access to productive resources and the forms of their resistance to such changes.

“Drought-Proofing” the Economy: Irrigated Rice Development

In 1966, one year after independence from Britain, the Gambian government, with bilateral assistance from Taiwan, initiated a wetland development strategy – the conversion of tidal floodplains to irrigated rice projects. It was to receive increasing donor emphasis following the 1968-73 Sahelian drought. The rationale for this development was to promote import substitution by encouraging domestic rice production. Rice imports had reached 9,000 tons per annum, and foreign exchange reserves had seriously eroded with declining world commodity prices for peanuts. The 1968-73 Sahelian drought revived the late colonial interest in irrigation and mobilized foreign aid for investment in river basin development and irrigated agriculture (UNDP, 1977; CILSS, 1979; Franke and Chasin, 1980, 148-51; Derman, 1984; CRED, 1985, 17). Hailed as a way of buffering the agricultural system from recurrences of a similar disaster, irrigation projects also created a steady demand for imported technical assistance, machinery, spare parts, and inputs. The “drought-proofing” strategy embodied in Gambian irrigation schemes targeted rice, whose import-substitution was prioritized by the post-independence government (Government of The Gambia, 1966; CRED 1985, 22). From the 1970s to the mid-1980s the World Bank, the mainland Chinese government, and the International Fund for Agricultural Development (IFAD) continued the Taiwanese development strategy by implementing double-cropped irrigated rice schemes on more than 4,000 hectares (9,880 acres) of women's tidal swamps (Fig. 3).

Despite the contrasting ideological perspectives of the donors involved, all development strategies adhered to a remarkably similar course by introducing the Green Revolution package for increased production to male household heads (Dey, 1981, 109). Developed at a cost of U.S. \$10,000 to \$25,000 per hectare and inserted into a preexisting gendered form of agricultural production and land use, these schemes failed to deliver their technological promise and added to a growing dependence on imported inputs and spare parts (CRED, 1985, 273; Carney, 1986, 275). Donor production targets required double-cropping and thus a shift in agricultural production to year-round farming. Although male heads of households were taught this new form of production, cropping calendars could only be followed if women joined their husbands in irrigated rice farming. By placing men in charge of technologically improved rice production, the donors hoped to encourage male

participation; instead, they unwittingly legitimized male control over the surpluses gained from double-cropping.

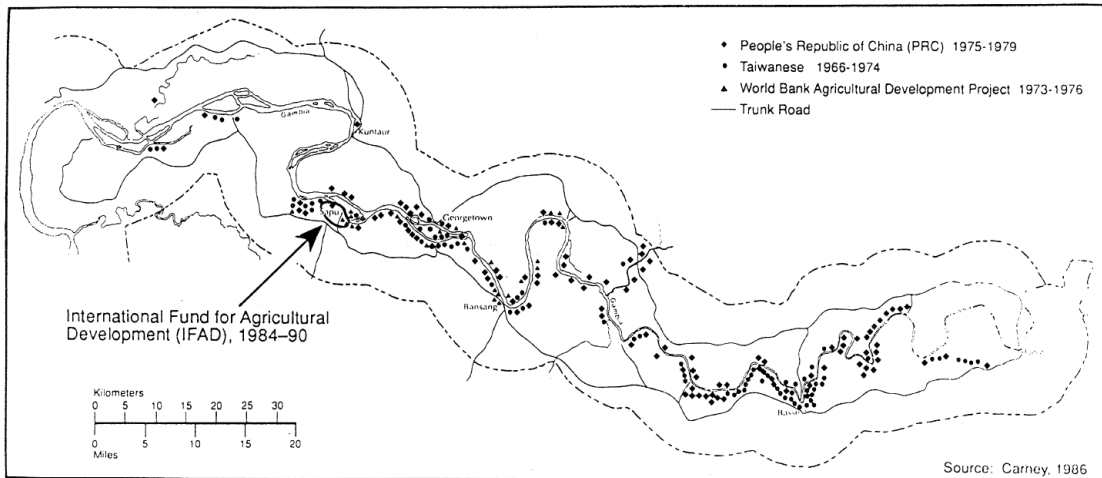


Figure 3: Irrigated Rice Projects in The Gambia

Control over the disposition of marketable surpluses proved pivotal to the gender-based conflicts that erupted within project households over which family members were to assume the increased work load. Male household heads claimed female labor under the customary category, *maruo*, but irrigated rice farming meant that the claim was invoked for year-round labor. As *maruo* labor claims for household subsistence had historically evolved within the confines of a single agricultural season, there was no precedent for women to perform labor obligations during two cropping periods when production would yield men a marketable surplus (Carney, 1988, 341-42). Irrigation projects were commodifying rice production, but income gains depended on female labor availability.

Women contested the changing lexicon of plot tenure and the enclosure of traditional *kamanyango* and *maruo* swamp into irrigation schemes. “Development” meant the delivery of female labor for intensified rice farming without concomitant income gains. The reinterpretation of customary tenure by male household heads and village elites aimed to ensure continued female access to rice land, but only as workers on plots whose benefits would flow to men as disposable surpluses. The donors’ uniformed view of the Gambian household-based production system was to prove the projects’ nemesis.

Female rice farmers responded in three principal ways to loss of control over productive swampland and efforts to augment their labor burden: (1) by relocating *kamanyango* production to unimproved swamplands where they could generate small surpluses for sale; (2) when alternative swampland for rice farming was not available,

by agreeing to perform *maruo* labor obligations on irrigated rice plots during the dry-season cropping cycle in exchange for using the same plot without irrigation during the rainy season for *kamanyango* production; or (3) by laboring year-round on irrigated schemes but demanding remuneration in rice for their labor during one cropping season (Carney, 1994). All but the first response involved a substantial increase in women's labor. The third pattern represented an even more pronounced departure in female access to resources as *kamanyango* land rights in rice production came to an end and female labor was converted into wage work.

The first two responses characterized the earliest phase of irrigated rice development implemented in a small scale on community perimeters (ca. 30 hectares, or 74 acres). The third response was developed in 1984 with the 1,500 hectare (3,705 acres) IFAD-funded Jahaly Pacharr irrigation scheme, which incorporated most of the available swampland of 40 contiguous villages and proletarianized numerous women from floodplain rice cultivation. Seeking to ensure compliance with the year-round cropping calendar and production targets, the IFAD project had implemented an additional mechanism reminiscent of the earlier colonial CDC project. Community control over project land use terminated with a 30-year lease, which placed the irrigated swampland under project jurisdiction. The lease permitted the state to tie plot use to repayment of the credited inputs and mechanization charges; these rates, in turn, were based on anticipated productivities (IFAD 1988). Households unable to comply with these terms faced eviction.

The project's mandate to double-crop as a condition for participation placed intense pressure on household labor, which plot designation as *maruo* could not easily resolve. Previous irrigation schemes had frequently accommodated women's *kamanyango* claims at the cost of year-round pumped production. Confronted by a legal mechanism that threatened eviction for households falling short of production targets, women now faced enormous pressure within the household to augment their labor burden. Because project development had incorporated most of the region's available swampland, preexisting *kamanyango* land access came to an end. Gender-based conflicts exploded throughout the project area as women resisted the erosion of their right to derive benefits from a greatly augmented work burden and sought to reconstitute the rights embraced by *kamanyango* in other ways. While ethnicity, class, and differences among types of irrigated cultivation available within the project shaped the ensuing patterns of conflict resolution, the third response to loss of land access dominated among Mandinka women (Carney, 1994)⁸. Nonetheless, many households failed to honor women's demand for access to project land for *kamanyango* cultivation

⁸ The IFAD project had also improved some swamps that relied on river tides for irrigation. In several Mandinka communities this land was given to women for *kamanyango* production. But the tidal irrigated area was of limited areal extent and not available to most of the project's women (Carney, 1988, 1994).

or remuneration in kind for year-round *maruo* labor, resulting in women's outright refusal to work on the family's irrigated plots.

These dispossessed women consequently pursued two complementary economic strategies for income generation: the formation of work groups to carry out the project's labor-demanding tasks of transplanting, weeding, and harvesting; and a shift in *kamanyango* production to upland cultivation. By organizing work groups for hire, women have managed to bid up their daily wage rate within the project and to take advantage of peanut land made available as men intensified their work in the more remunerative rice scheme (Webb, 1989, 66). But their efforts to obtain upland *kamanyango* plots were not always successful as they came into direct competition with the claims of junior males for individual land rights. Women have consequently placed considerable effort into gaining the support of nongovernmental organizations to develop village vegetable gardens for income generation (Carney, 1986, 311).

In summary, wetland development policy unfolded initially on riverine floodplains. As these areas became technologically improved and commodified, male household heads reinterpreted women's preexisting crop rights and benefits to gain access to their labor for the intensified work burden. Irrigated rice development simultaneously undermined women's customary access to rice land for income generation, while enabling male household heads to capture surplus value. By rupturing the relationship between women's knowledge systems, agronomic expertise, and rice farming, project households are beset with repeated delays in cropping schedules as well as an inability to follow agronomic recommendations. By the 1990s the legacy included poor rates of double-cropping, declining productivities, and failure to achieve rice import-substitution.

Like its predecessors, the much-heralded IFAD project now operates principally during the dry season. IMF reforms, which raised the producer price of peanuts relative to rice, have resulted in males shifting labor to peanuts during the wet season. Yet despite the project's failure to generate reserves of surplus rice, few households have faced eviction. The Jahaly Pacharr project has become politically sensitive throughout rural Gambia as an example of the state's attempt to "take" land from peasants (Carney, 1991, fieldwork).

Notwithstanding repeated state-peasant and male-female conflicts over rice land, irrigated development remains a governmental priority. Gambian political officials and their foreign advisors are currently reviewing ways to more efficiently restructure the irrigation sector. Alternative cropping arrangements in irrigated farming are being explored whereby farmers more "modern" in outlook may be asked to contract irrigated land (Carney, 1994). As policy measures increasingly dictate debt repayment and comparative advantage, the earlier small-scale schemes are being rationalized into larger units for centralized pumping and management (CILSS, 1990). A mounting emphasis is being placed upon crops, like fruits and vegetables, that generate foreign exchange. By 1991 even the plot bunds of Jahaly Pacharr's rice fields were being planted with bananas.

During the 1980s, the international development assistance community challenged male control over irrigation schemes by funding women's horticultural projects on unimproved inland swamps previously sown to rice. The explicit "women in development" focus of NGOs and multilateral donors aimed to bolster female income-earning opportunities by improving seasonally wet swamps, with wells for dry-season planting. As cropping patterns shifted to export production, the process of commodification was brought to inland swamps, with contradictory implications for women.

Comparative Advantage and Horticultural Development

Shortly after the 1968-73 Sahelian drought the Gambian government promoted economic ventures in inland swamps that grew over the years into a major focus of donor assistance and income generation within the country. During the 1970s, the government encouraged onion-growing schemes among village women's groups as a means to increase household incomes in the peri-urban corridor and North Bank district, geographically proximate to the capital (Ceesay et al., 1982) (Fig. 1). During the next decade women's vegetable gardens emerged as a major focus of donor support within the country. By the 1990s over 340 small- (0.5-2 hectares, or 1.1-4.9 acres) and medium-scale (5-15 hectares, or 12.3-37 acres) vegetable gardens were developed by NGOs and multilateral donors (Smith, et al., 1985; Nath, 1985; Sumberg and Okali, 1987; Giffen, 1987; DeCosse and Camara, 1990). The entry of private growers into the burgeoning horticultural sector, along with incipient women vegetable growers' groups (not funded), accounts for an expansion of market gardening that currently exceeds 1,000 hectares (2,470 acres) (Carney, 1992, 79).

The boom in market gardening on Gambian wetlands results from the confluence of several policy directions during the past 15 years. Following independence, Gambia began developing its pristine beaches for international tourism; by the 1990s over 100,000 Europeans were taking a six-hour flight to vacation along the Gambian coast between November and April (N'Jang, 1990). The initial onion projects successfully linked local production to the tourist sector and awakened donor agencies to the possibilities of expanding vegetable production for the dry-season tourist demand. These developments, meanwhile, were unfolding against a growing clamor within the international donor community for women in development (WID) projects. The emergent WID focus in The Gambia was pioneered by NGOs that viewed vegetables, traditionally planted by Gambian females, as the solution to women's limited economic opportunities.

Policy support for diversifying wetland agriculture into horticulture received additional impetus in 1985 with an IMF-mandated structural adjustment program. Geographic proximity to Europe encouraged policymakers to exploit The Gambia's comparative advantage as a winter fruit and vegetable supplier, as did favorable tariffs and the removal of export taxes on fresh produce (UNCTAD, 1986; Government of

The Gambia, 1987; Jack, 1990). Seeds of nontraditional horticultural crops such as lettuce, tomatoes, green peppers, carrots, eggplants, beans, cabbages, and tropical fruits were distributed, and marketing strategies focused on hotels, the expatriate community, neighboring Senegal, and Europe.

By the 1990s horticultural production had expanded to rainfed areas in the peri-urban corridor located near the international airport, with boreholes dug to reach underground aquifers. With few exceptions, the projects are operated by the state, senior government officials, and resident Lebanese and Indian landowners and are oriented to European export markets. In the five years following IMF economic reforms, annual fruit and vegetable exports to Europe alone grew to 3,000 tons, a value exceeding U.S. \$1 million (Jack, 1990). The same period witnessed the growing involvement of multilateral donors (European Economic Community, Islamic Development Bank, United Nations Development Program, and the World Bank) in women's horticultural production and marketing along the coastal corridor (Ceesay, et al., 1982; Government of The Gambia, 1987; Barrett and Browne, 1991, 244; Carney, 1992, 78; World Bank, 1990). Despite this most recent form of donor support, Gambian women's horticultural projects remain concentrated in rural areas, on inland swamps of small areal extent (0.5-2 hectares, or 1.2-4.9 acres), and oriented to local and regional markets.

Although the policy emphasis on converting inland swamps to horticulture dates from the 1970s, Gambian women have long been involved in vegetable production. They were observed marketing vegetables during the dry season as far back as the mid-fifteenth century, while eighteenth-century travelers noticed vegetable cultivation in inland swamps following the rice harvest (Adanson, 1759; Crone, 1937, 48; Park, 1983). Dry-season horticultural production received encouragement during the colonial period, but its expansion was limited by the elementary technology employed for irrigation, *shadufs*, in which river water is lifted by hand for watering (Carney, 1986, 144). Although colonial horticultural programs targeted men, their failure left vegetable growing in women's hands. Females remained the country's principal producers, using residual moisture from inland rice swamps early in the dry season to cultivate traditional crops such as bitter tomatoes, okra, sorrel, and hibiscus for subsistence.

Donor support for well construction from the 1980s has enabled an extension of the vegetable-growing period in inland swamps. Deeply dug, concrete-lined wells have revolutionized Gambian horticultural production by tapping water tables for dry-season cultivation. Vegetable gardening is no longer a seasonal activity, as it was prior to donor involvement. Women's village gardens receiving NGO assistance grow vegetables during the entire dry season and, in some cases, year-round.

The provision of reliable water supplies through well-digging is central to NGO efforts to implement a rural development strategy aimed at improving women's incomes. By promoting village gardens for women's groups interested in commercialized vegetable cultivation, NGOs have launched a development strategy

that targets women who were ignored in the previous wetland policy approach. NGO support for well construction has proved crucial to women's negotiations with male landowners and village elites for access to land for communal vegetable gardens. At a cost of U.S. \$3,000-4,000 per hectare, these wells provide communities a valuable infrastructure to ensure a permanent water source for dry-season agricultural production (Nath, 1985, 6; Sumberg and Okali, 1987; Schroeder, 1989, 13).

Arrangements to secure female access to improved village gardens, however, vary between communities and depend on the availability of land locally, as well as the swamp's land use history. Consequently, in rural communities with NGO-supported gardens, women are granted either year-round usufruct for cash-cropping vegetables or *kamanyango* dry-season rights, with the plot reverting to subsistence cereal production in the rainy season. Once access to land is accomplished, NGOs provide assistance for constructing concrete-lined wells and barbed wire fences (for protection from livestock damage). When completed, female growers are credited the seeds and tools for vegetable farming.

A labor-intensive process, vegetable gardening during the dry season requires two daily waterings – averaging about two hours per session – weeding, and pest control, as well as transporting the bulky and highly perishable produce to weekly markets. But in a country where rural per capita income averages U.S. \$130, efforts are often rewarded (World Bank, 1981). Schroeder (1992, 4) records that women vegetable growers in surveyed North Bank villages gross incomes ranging between U.S. \$67-265 during the dry season, with more than half of them reporting incomes exceeding their husbands' earnings from peanuts. These income differentials are the new source of contemporary gender conflict in North Bank vegetable gardens.

An examination of three areas where market gardens figure prominently in women's economic options reveals the effects of improved water availability and increased income opportunities in fueling contemporary gender conflicts. These include: (1) the area around Kerewan on the North Bank, site of the pilot onion schemes, which borders neighboring Senegal; (2) across the Gambia River, the peri-urban corridor close to the capital, Banjul, where tourist hotels, government offices, and the expatriate community are concentrated; and (3) 260 kilometers (156 miles) upriver from the capital on the river's south bank, the IFAD-funded Jahaly Pacharr project, centered at Sapu. The first two areas, the original loci for horticultural development, enjoy numerous marketing opportunities, while women growers in the IFAD project rely solely on weekly markets (*lumos*) for vegetable sales. While income returns from vegetable marketing in the peri-urban corridor approximate the low range cited for North Bank growers, incomes in the IFAD project are only U.S. \$15-35 for dry-season production (Carney, 1991, fieldwork).

Each of these areas offers men different income opportunities. Jobs in government, the tourist sector, petty commerce, and transportation are concentrated in the capital. In the IFAD project and North Bank areas, men derive their income chiefly from agriculture – peanuts and irrigated rice in the former, peanuts in the latter. As

noted above, within the IFAD project men's control over irrigation schemes and peanut farmland has severely limited women's access to village land for vegetable gardens. The explosion during the past five years of banana cultivation by men within the IFAD project, directly along the banks of riverine tributaries, and in inland swamps outside the project area has reduced wetland availability even further⁹. Village women in the IFAD scheme accordingly have severely restricted access to potential garden land; when they do manage to negotiate land access, it is usually only for dry-season vegetable cultivation.

Female growers in the capital face an altogether different situation. The concentration of tourist hotels, an expatriate community, and international horticultural trade provide them numerous marketing opportunities. But potential income benefits are limited by the proliferation of vegetable projects and the excessive number of female participants in each scheme. Local markets are saturated with women selling vegetables, resulting in meager returns for their labor and a continuous search for new outlets. An important outcome of the explosion of vegetable gardens within the peri-urban corridor is the growing involvement of women's groups in contract farming production relations with large growers. While the latter arrangement provides an outlet for excess production, produce prices are driven down by large-scale growers and traders, who set prices and control distribution networks (Carney, 1992, 80-82).

Vegetable gardening nonetheless remains attractive to women, whose alternative income-earning prospects are limited. While structural adjustment programs have led to a 10 percent reduction in employment within the government sector and have catapulted men into increasing involvement in horticultural production, women have generally maintained usufruct to village land for gardening because donor representatives, located in the capital, are poised to defend them. The case of the North Bank, detailed by Schroeder (1993) differs, however, and provides yet another illustration of the complex intersection of gender with environmental transformation and economic change.

Proximity to the land border with Senegal and declining peanut production associated with upland environmental degradation underlie the gender conflicts that have emerged in North Bank horticultural projects. As with peanuts, most vegetable production flows across the border to Senegal, where horticultural import-export distribution networks are of operator antiquity, internal demand for vegetables is more developed, and prices are higher (Mackintosh, 1989, 15). NGO improvement of inland swamps with wells has resulted in new avenues for income generation that sharply conflict with the WID objectives of NGOs.

⁹ The explosion in banana cultivation along the main river bank led to deforestation of a three-mile stretch of primary riparian forest by 1991 (Carney, 1991, fieldwork).

NGO-funded vegetable projects in North Bank communities have transformed the inland swamps and the social relations regulating preexisting cropping and labor patterns. Well construction, in effect, has widened the seasonal window that formerly regulated vegetable cultivation. Crops are no longer confined to the autumnal planting period following the rice harvest; vegetables can be planted throughout the dry season, and frequently year-round, since profits from cross-border sales currently compensate for displaced rice production (Schroeder and Watts, 1991, 62).

As North Bank horticultural projects have considerably augmented women's earnings, female rights of disposal over their income and access to vegetable land have come under increasing threat. Schroeder (1993) reports men deferring to women the burden for costs formerly met by males and their capture of part of women's earnings through unpaid loans. Additionally, male landholders in numerous communities are contesting women's access rights to vegetable land through the planting of economically valuable trees (e.g. mango and orange) within the vegetable gardens. After five to ten years the canopy closes, blocking the sunlight needed for vegetable growth. Tree planting therefore facilitates the conversion of land use from vegetable gardens to orchards, enabling male landlords to reclaim the improved plots for their own economic strategy based on tree crops within a decade (Schroeder, 1992, 9).

By making verbal agreements with NGOs for women's vegetable gardens, landlords are acquiescing to female demands for *kamanyango* land rights. But these rights are honored only for a limited number of years – those required to capture women's labor for watering adjacent fruit trees during the initial growth period. The use of economically valuable trees to recapture garden plots as male *kamanyango* over the long run, however, is not lost on women. Schroeder (1993) notes the gender confrontations that have occurred with orchard planting: women cutting back mango and orange trees as they begin shading out vegetables, deliberately setting fires to fatally damage fruit trees, and sending delegations to local officials for legal action.

The inland swamps of the North Bank, formerly used by women for subsistence rice production, are being increasingly commercialized to vegetables. But the process is unfolding within a region of limited economic opportunity and severe environmental degradation. While NGOs attempted to address the gender equity issue ignored in the first wetland development phase, this second development approach indicates that women's gains over the long run are indeed precarious.

Conclusion

The structural dislocation of a monocrop export economy and attendant food shortages brought government attention to the Gambian wetlands during the late colonial period. The pattern of swamp development implemented during colonial rule foreshadowed the large-scale emphasis on the wetlands that materialized with the influx of foreign capital coincident with the Sahelian drought. During the past 25 years, wetland development through irrigation projects has transformed Gambian

agriculture from a seasonal to a year-round activity, enabling agricultural diversification, surplus cereal production, and new avenues of income generation among rural households.

The promise of irrigated agriculture, however, depends upon the ability of peasant households to restructure family labor to the dictates of irrigated farming – a labor regime that requires a greater work burden during the entire calendar year. As claims to family labor evolved in the context of a limited wet season, institutional mechanisms within the household-based production system were deformed to mobilize family labor for year-round agriculture. Use of the term *maruo*, for technologically improved swamps, is central to obtaining a female labor reserve for the intensified work burden in irrigated farming. While reaffirming the integrity of the patriarchal family landholding, the naming of developed land, *maruo*, in practice facilitates men's claim to benefits produced by female labor.

Women contest the semantics of *maruo* precisely because this new meaning is a mechanism that deprives them of their customary rights. They are acutely aware that the rules of access to, and control over, environmental resources are not a codification of immemorial tradition, but rather the outcome of struggle and negotiation with husbands, male community leaders, state and donor officials (Berry, 1986, 5; Okoth-Ogendo, 1989, 14). This awareness has sharpened in the past 25 years with irrigation projects that have imbued wetlands with new economic value. Gambian women are not engaging men in mere semantic discussion as they struggle for *kamanyango* rights – their actions reveal growing recognition that commodification of the wetlands is steadily eroding their economic and social status within the household and village community.

The two case studies of irrigated agriculture illustrate the multiple ways in which women contest and renegotiate their access to resources. Struggles in rice schemes have centered on reaffirming claims to a portion of the surplus by requesting seasonal plot use as *kamanyango*; remuneration in the form of paddy rice for year-round labor availability; or, when labor benefits are denied, outright refusal to work on the household's irrigated fields and entry into local wage markets for improved rates of pay. Each outcome of women's struggles, however, has resulted in an intensification of female work burdens without commensurate income gains.

Women's fortunes appear much improved in vegetable projects, where females are granted *kamanyango* cropping rights seasonally or year-round. But female growers find their incomes from garden cultivation being claimed in new ways by their husbands, who, in some cases, refuse to pay back the loans given by their wives or abrogate their contributions toward household expenses (Schroeder, 1993). Moreover, the increasing emphasis on orchards for income generation indicates that women's *kamanyango* gardening rights may only be exercised for a limited number of years – equivalent to the time required for hand-watering of trees until the plot's land use converts to mature orchards (Schroeder, 1993). Despite income gains and growing

militancy, women's earnings in vegetable gardening appear precarious over the long run.

These case studies indicate that a process of land concentration is occurring in Gambian wetlands improved with irrigation. Concentration is not the result of absolute land scarcity and overpopulation but rather a response to household labor shortages and new income opportunities with irrigated agriculture. The designation, *maruo*, for irrigated land reveals how land is enclosed to create an artificial scarcity for accessing female labor. This unusual form of enclosure permits women access to irrigated land while denying them benefits from their work. Land concentration consequently involves the conversion of a developed plot from one with multiple female rights to the surplus product to land with a single claim over the surplus produced by multiple female laborers.

In contrast to the pattern described by Humphries (1990, 38-39) for eighteenth-century England, land enclosure in The Gambia has resulted in very different outcomes for women. While land enclosures in England pushed rural men into waged work and left their wives and children to defend traditional rights to rural resources, it is women in contemporary rural Gambia who are increasingly proletarianized, as men gain control of both customary rights over female labor and the income from irrigated lands. The forms of economic change promoted by national and international organizations are intensifying household labor demands in wetland cultivation, thereby spearheading a form of enclosure that uses the *maruo* designation to weaken women's customary rights to rural resources so that male heads of households can capture their labor for individualized accumulation.

In outlining the social and historical processes of changing land use strategies on the Gambian wetlands, this paper reveals that more than the environment is being transformed. So too are the social relations that mediate access to, and use of, land within rural households. As commodification transforms the use of wetland environments, the social relations that produce these environments are also restructured (Berry, 1989, 41). The process of wetland conversion in The Gambia clearly illustrates these changes in women's reduced control over lowland use at the household level and in their frequent expulsion from technologically improved swamps. The contemporary pattern of accumulation unfolding in the Gambian wetlands centrally depends on controlling access to irrigated land by "freeing" women from their customary rights and by imposing new work routines that undervalue and intensify their labor contribution. Women, however, are resisting their newly assigned role as cheap labor reserves. Changing self-perception among women in rural Gambia has resulted in protests, household- and village-level negotiations that are modifying resource strategies and agrarian practices on the irrigated wetlands.

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What's the Problem Here?

Joni Seager

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Let's start with the bad news first. Simply put, ours is a small and much-abused planet. We have so degraded our environment, so disrupted our biosphere, so stressed physical carrying capacities that the lives of millions of people on the planet (certainly our cherished "ways of life") are at risk. The litany of contemporary environmental horrors is now familiar, even to grade-school children: ozone depletion; acid rain; chemical pollution of groundwater; the startling and escalating rate of loss of bird, animal, and plant species; tropical deforestation; increasingly massive and deadly chemical, oil, and toxic spills; and the list could go on for pages. The daily newspapers are filled with a barrage of bad news, all of it larger than life. We hear how many acres of trees have fallen in the Amazon between the time of our morning coffee and our evening meal (over 1,500 acres on an average day); we are told, with uncomfortable precision, how many of us will be likely to develop skin cancer in the coming decades, and how many of us will die from it (more than 6,500 a year in the US alone); we are mesmerized by images of the ozone hole over the Antarctic pulsating in astral colors.

These are the Big Problems. Nature is clearly in trouble, and we with it. If we are going to solve these environmental problems, we need to bring to bear on them all of our analytic and political skills and resources, including feminist analysis.

But what can feminists contribute to our understanding of the environmental problems? Is there a place for feminist voice in the environmental chorus? As a feminist and a geographer, I posed these rhetorical questions to myself a number of years ago – and, surprisingly, my first answer was "no," feminist analysis was not

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particularly pertinent to things environmental. The environment, after all, seems genderless, and thus not a very fruitful arena for feminist inquiry.

My training as a geographer, in both the physical and social sciences, led me to conceptualize environmental problems in their physical forms – that is, I understood environmental problems as *problems of physical systems under stress*. This interpretation of the state of our environment is reinforced by popular media reporting on environmental issues, which typically emphasizes the visual and physical manifestations of environmental problems. The media conveys very powerful and enduring messages: of oil-slicked otters dying off in Prince Edward Sound; of acres of scorched stumps of tropical rain forest in Brazil; of NASA computer-simulated photos of the pulsing hole in the ozone layer. These images, and the reporting that accompanies them, encourage us to think of environmental problems in their physical forms – the problem, we're told, either directly or subliminally, is too many dead trees, too big a hole in the sky, too many fossil-fuel pollutants, too much soil erosion, too much garbage, not enough water, not enough arable land, not enough fuel wood.

The tendency to conceptualize environmental problems in their physical form has a number of implications. Popular reporting on environmental affairs that focuses primarily on the scope of environmental calamity leaves causality out of the picture. The journalistic predilection for using passive language wherever possible (presumably so as to offend as few people as possible, and to limit legal liability) leaves us all ill-equipped to make sense of the environmental scene. Statements such as “we will ‘lose’ 50,000 animal species annually by the end of the century” or “there are more toxins in the Great Lakes than ever before” or “the ozone hole is growing” may provoke an awareness of environmental problems, but they leave the question of agency unexamined. Questions about agency – that is, the social and economic processes that create a state of scorched trees and dead otters – are placed at a distant second, if they are raised at all. The physical manifestations of environmental problems are often presented as both the beginning and the end of the story.

The conventions of scientific analysis, similarly, blunt curiosities about questions of agency. Neither specialist training nor popular media coverage encourage us to ask questions about the actors, institutions, and processes behind mutilated elephants and oil-slicked beaches. Social analysis and institutional critiques are shut out from both specialist and popular representations of the state of our earth. Feminist analysis is shut out.

If environmental problems are framed as problems of physical deterioration, this is barren territory for feminist analysis: there is no feminist analysis of the chemical process of ozone disintegration; there is no feminist analysis of soil erosion, of groundwater pollution, of the acidification process that is killing forests and lakes throughout the industrialized world. (While there *are* feminist critiques of the *construction* of scientific knowledge, the analysis of physical and chemical processes in and of themselves is not particularly suitable territory for feminist forays.)

But there is a subtext to the daily news. Reading between the lines, in the best feminist tradition, reveals the story *behind* the environmental story. The environmental crisis is not just a crisis of physical ecosystems. The *real* story of the environmental crisis is a story of power and profit and political wrangling; it is a story of the institutional arrangements and setting, the bureaucratic arrangements and the cultural conventions that *create* conditions of environmental destruction. Toxic wastes and oil spills and dying forests, which are presented in the daily news as the entire environmental story, are the symptoms – the symptoms of social arrangements, and especially of social *derangements*. The environmental crisis is not just the sum of ozone depletion, global warming, and overconsumption; it is a crisis of the dominant ideology (Simmons, 1992). And it is this that is grist for the feminist mill.

Scientific specialist and environmental populists leave a vacuum of curiosity, into which feminists should step. Feminists are especially acute about asking questions of agency. A feminist analysis of the environment starts with the understanding that environmental problems derive from the exercise of power and the struggle of vested interest groups played out on a physical tableau. A feminist analysis of environmental problems thus needs to be rooted in an analysis of social, cultural, and political institutions that are responsible for environmental distress.

The first task of feminists interested in the environment is to rewrite the litany of horrors in a way that makes agency clear. Take deforestation, for example. We are not “losing” forests. In the Amazon, multinational oil companies, Japanese lumber firms, and local elites, with the complicity of and cooperation of specific Brazilian government officials and international development agencies, are burning, clearing, and clear-cutting vast acreages of tropical forests at a staggering rate for mineral exploitation, timber, and cattle ranches. The rain forest in Indonesia is falling under the ax of Scott Paper Company, among others, which plans to replace 800,000 acres of tropical rain forest with mono-plantations of fast-growing eucalyptus trees for pulp paper. In Hawaii, power-plant developers are clearing the last rain forest in the USA. Deliberate deforestation is a tool of the trade in the dozens of dirty little raging wars in Central America and Asia.

But naming names is not enough, and feminists are not the only ones to point to the structure behind the environmental symptoms. Radical economic analysts have long pointed, for example, to the role of capitalist economic structures as the cause of much environmental damage (an analysis that falls short when environmental degradation is as prevalent in noncapitalist structures as in capitalist [ones]). But the analysis that feminists offer – an analysis rooted in overcoming the workings of gender – is unique, and as of yet, not widely applied to environmental questions.

I started this [essay] by saying that “we” have so degraded our environment, so disrupted our biosphere, so stressed physical carrying capacities that the continued existence of life on the planet is at risk. But “we” – an undifferentiated humanity – have not done so. Rather, our environmental problems are the progeny of very particular clusters of powerful institutions acting in particular ways. A handful of large

institutional structures largely control the state of our environment. Large-scale environmental degradation – not litter on the streets, but the really major environmental problems that may well kill us all – is the product of three or four clusters of large institutions that include, prominently, militaries, multinationals, and governments (which are often in collusion with, or indistinguishable from, militaries and multinationals).

On the other side of the fence, there is the environmental movement. While this “movement” is neither homogeneous or uniform, the environmental agenda is one that is increasingly coordinated by a handful of large, powerful, and very well-funded environmental groups that I call the “eco-establishment.” Grassroots environmental groups, “fringe” groups (such as Deep Ecology), and individuals fill out the rest of the environmental slate, but their presence is overshadowed by the eco-establishment. Governments, militaries, and multinational institutions are primary agents of environmental degradation; eco-establishment institutions are setting the environmental agenda, and framing the ways in which we perceive environmental crisis.

Militaries, multinationals, governments, the eco-establishment. When I write down this list of institutions on a piece of paper, the first thing that I notice, as a feminist, is that these are all institutions of men. These institutions and groups are controlled by men (and a mere smattering of women). The culture of institutions is shaped by power relations between men and women, and between groups of men in cooperation or in conflict. Institutional behavior is informed by presumptions of appropriate and necessary behavior for man and for women. Their actions, their interactions, and the often catastrophic results of their policies cannot be separated from the social context that frames them. And, on twentieth century Earth, the large social frame is one of gender difference. Everywhere in the world, men and women lead different lives; everywhere in the world, men have more institutionalized power than their female counterparts; even when the “pie” of social power is small, women’s share is smaller still.

The institutional culture that is responsible for most of the environmental calamities of the last centuries is the masculinist culture. The “expert structure” – of scientists, environmentalists and bureaucrats – that interprets and assesses the state of the earth is, for the most part, one of men. *As a feminist then, the first environmental question is to ask whether or not it “matters” that the institutions that for the most part control our collective environmental fate are constructs of male culture.*

[...]

As a feminist who is extremely wary of essentialism (“men are essentially destructive ... women are essentially nurturers”), I try to examine environmental agency without reinforcing essentialist fallacies. The fact that we all know individual women who thrive in the institutions I name, and that we all know individual men who suffer the predations of this institutional culture does not undercut the saliency of the

argument that these institutions are structured around masculinist presumptions and prerogatives. The feminist environmental question that I pose is not so much about men *qua* men, nor even about women as individual agents, but rather whether it matters that the institutions that control virtually all decisions and actions that shape our environment are institutions shaped by male culture. The common-sense answer to this question is a resounding “yes” – common sense suggests that a skew of power and representation in favor of men within these institutions has to “matter”, feminist theory and women’s history tell us it matters. But in what ways does it “matter”?

The feminist challenge is to identify the ways in which gender and gender relations enter into the environmental arena through the workings of institutions, and through the role of individuals working within particular institutional contexts. Men and women have different relationships to militaries, multinationals, governments, and large environmental organizations. Similarly, the implications and experience of environmental decay are different for men and women, rich and poor, elites and disenfranchised. The task for feminists is to unravel the ways in which gender operates as a structured condition within the institutions that hold the balance of power on environmental issues.

I firmly reject the “biology is destiny” argument in whatever guise they take. But I do, just as firmly, believe that we cannot answer hard questions about environmental agency without looking closely at the nature of power, the workings of power, *and the gender of power* in the institutional arrangements and groups on both sides of the environmental coin – those that are primarily responsible for destroying the environment, and those that have set themselves to saving the environment. It is folly to ignore the fact that virtually all of the institutions, bureaucracies, and groups fanned out across the environmental spectrum are run by men in pursuit of male-defined objectives.

Women are fed up. Women carry much of the burden in this world of sustaining daily life, and they are angry – not only because they see their burden becoming heavier as the state of the earth deteriorates, but because they see that as environmentalism is becoming a “big” game in the men’s world of politics, science, and economics, women are once again excluded from the ranks of the powerful players. In 1991 thousands of women gathered in Miami for what was billed as the first Global Assembly of Women for a Healthy Planet. Listen to the voices of some of the women from that conference:

We are here to say that this mad race towards self-destruction must stop ... and that the overwhelming exclusion of women from national and international decision-making, their exclusion from economic and political power, must end (Bella Abzug, USA).

Women are constantly being told that their analysis is political hysteria (Vandana Shiva, India).

The current state of the world is a result of a system that attributes little to no value to peace. It pays no heed to the preservation of natural resources, or to the labor of the majority of its inhabitants, or to their unpaid work, not to mention their maintenance and care. This system cannot respond to values it refuses to recognize (Marilyn Waring, New Zealand).

Only those who have fought for the right to protect their own bodies from abuse can truly understand the rape and plunder of our forests, rivers, and soils (Margarita Arias, Costa Rica).

If women are to “clean up the mess,” they have a right to challenge the people and institutions which create the problems (Peggy Antrobus, Barbados).²

For people who do not encounter feminist analysis in their daily lives, these voices may sound strident. The response of many environmentalists when women start talking feminism is to draw the ideological wagons into a defensive circle, with environmental reason inside, threatened but valiant, against the crazy assault of women’s “paranoia” and “hysteria” without.³ Men are unaccustomed to hearing women express their anger, and some men feel personally attacked by a feminist analysis that lays bare the gender skew of power and responsibility. This has become especially clear to me over the past two or three years as I have given talks across the country on various aspects of the themes I explore in this book. It is apparent that a feminist analysis of environmental issues makes some people – and especially many men – anxious.

The purpose of noticing that environmentally instrumental institutions are run by men is not simply to ask, “Well, what would be different if women were in charge?” For one thing, the state of the world being as it is, we can’t answer that question yet: we do not have many examples of women-led, non-masculinist institutions (or, even, of male-led, non-masculinist institutions). This question, which is often raised as a challenge whenever feminists talk about gender and power, sidesteps the point that most feminists are making: “the problem” with masculinist institutions is not primarily that men are in charge, but that structures can be so rooted in masculinist presumptions that even were women in charge of *these* structures, they would retain the core characteristics that many feminist and progressive men find troubling.

² Quotes taken from taped transcripts of the Global Assembly of Women for a Healthy Planet Conference, Miami, 1991.

³ This sentence paraphrases a comment by Lorene Cary (1992).

In a new book on gender in international relations, a field particularly relevant to environmental relations, Ann Tickner elaborates this point:

Rather than discussing strategies for bringing more women into the international relations discipline as it is conventionally defined, I shall seek answers to my questions by bringing to light what I believe to be masculinist underpinnings of the field {emphasis added}. I shall examine what the discipline might look like if the central realities of women's day-to-day lives were included in its subject matter Making women's experiences visible allows us to see how gender relations have contributed to the way in which the field of international relations is conventionally constructed and to reexamine the traditional boundaries of the field. It is doubtful whether we can achieve a more peaceful and just world ... while these gender hierarchies remain in place (Tickner, 1992, xi).

Over the past two decades, feminists have brought similar gender-based analysis to illuminate the workings of social institutions as diverse as the law and the family, and to virtually every academic field from the sciences through the arts. My contribution here is to bring this kind of feminist analysis to bear on our understanding of the global environmental crisis.

In point of fact, most men, like most women, lead humble lives; most men probably don't feel that they are in charge of anything, or that they have more power or privilege than their female counterparts. At first glance, this is largely true, and, as I and other analysts point out, most feminists are not necessarily interested in "picking on" men (or women) as individual actors. More to the point, when male power is aggrandized by institutional power, it generates an impression of a more distorted gender dichotomy than may actually exist. This magnifying lens of power creates what one observer calls "hegemonic masculinity," a type of culturally dominant masculinity that, while it does not correspond to the actual personality of the majority of men, sustains patriarchal authority and legitimizes a patriarchal society and political order (Connell, 1987)⁴.

At the same time, it is not coincidental that masculinist structures are run by men; there is synchronicity between "hegemonic masculinity" and ordinary manhood; there is continuity between exercise of institutional power by "extraordinary" men and the privileges, however minor, that most men, even the powerless, share in ... and that most women, even the powerful, do not. Gender hierarchies privilege all men: even if individual men do not feel specifically enriched or empowered by them, gender hierarchies that universally install men at the top universally privilege men's knowledge and men's experiences – experiences that are then assumed to be normal,

⁴ This point is also made especially well in Ann Tickner's book.

or ubiquitous, or, simply, the most important. It is still the case that the world is a mirror, in the words of Virginia Woolf, that reflects men (even “little” men) at twice their natural size.

Where then, some critics ask, is the room for “good men”? Men have been prominent in the struggles for peace, social justice, and against systems that are environmentally destructive – does a *feminist* environmentalism exclude them? Not at all. Ordinary men, the many “good men” among us, can distance themselves from the hegemonic masculinity that they feel does not represent them. Men need not defend, nor be defensive about, the institutions that are wreaking environmental havoc. Patriarchy is not only oppressive to women. Men, like their feminist sisters, can insist on a more clear-headed analysis of how power works in institutions, and men can also be clear about the extent to which they are or are not complicit in perpetuating that power or those institutions. Paraphrasing the words of another feminist scholar, I believe that because gender hierarchies have contributed to the perpetuation of environmental catastrophe, *all those concerned with the environment – men and women alike* – should be concerned with understanding and overcoming their effects ([see also] Tickner, 1992, xii). The fact that men sometimes find this particularly hard to do underscores the strength of the symbiotic bonds between institutionalized masculinist prerogative and ordinary manhood.

Because patriarchy is not something in which membership is optional, for women or for men, the only way that most women and men can “get by” in this world is by making alliances and compromises with male power structures; indeed, all of our major social institutions are supported by the labor and compliance of women as well as men. [...] I do not expunge the reality that there are men and women on “both sides” of the environmental coin. [We should] all [...] take a hard look at how environmental realities are shaped by institutional realities that are, in turn, shaped by distinctive gender assumptions and dispositions.

Feminism and environmentalism are among the most powerful social movements of the late twentieth century. The vision of promise – the carrot on the stick – of both movements is the possibility that personal interactions and institutional arrangements can be transformed into non-exploitative, non-hierarchical, cooperative relationships. Both are progressive movements, both offer a challenge to mainstream “business as usual” standards, both assert the need for reordering public and private priorities, and the constituencies of both overlap. Intuitively, it would seem that the feminist and environmentalist movements should be closely allied. And yet they are not. If anything, as we go deeper into the 1990s, the gap between feminism and environmentalism appears to be widening.

The environmental agenda in Europe and North America is increasingly orchestrated by a handful of large environmental organizations, “the eco-establishment” – groups such as Worldwide Fund for Nature, the Sierra Club, Friends of the Earth, and even more “radical” groups such as Greenpeace, all of which now control multimillion dollar budgets, all of which support expensive lobbying offices

and hundreds of paid staff members. One reason for the widening gap between feminism and environmentalism is that the institutional culture of this eco-establishment is, by and large, hostile to women. Resistance to feminism seems to be as firmly entrenched in environmental establishment as it is in society at large, perhaps only taking more surprising and more subtle forms. The leaders of the eco-establishment, most of whom are men, appear unwilling to entertain a critique of their institutional culture, and in fact they are increasingly looking to the conventional male worlds of business and science as exemplars of organizational behavior. As environmental organizations take on the coloring of business, and the leaders seek to be “taken seriously” by the movers and shakers in business and government – in the terms defined by business and government leaders – they compromise their credibility as “outsiders.” More to the point, the replication of conventional organizational culture within the environmental movement alienates many women working for environmental change, and at the same time it excludes feminist analysis.

On the other hand, feminist theorists have been slow to address environmental concerns. There is only a nascent feminist analysis of ecological issues, perhaps because feminist scholars are concentrated in fields such as history, literature, and art, while environmental issues are assumed (wrongly, I believe) to belong primarily to the realm of the physical sciences. Over the last three decades of the recent wave of the women’s movement, feminists have developed finely honed analyses of social domination and the workings of power in personal and institutional life. We have yet to apply these analyses to environmental issues.

One of the few environmental issues that feminist *have* addressed is the thorny issue of the presumed bond between women and nature. Feminist historians and particularly feminist historians of science have identified that a central dualism – the men-culture and women-nature dichotomy – is pivotal to the development of Western civilization, and of Western patriarchy with it.⁵ A number of feminist writers posit that the *domination* of women and that of nature by men are linked, and are linked to this dualism, and that a deconstruction of one leads to an illumination of the other.

Feminist response to the presumed woman-nature bond has taken a number of tacks. In the first instance, and most noticeably in the 1970s and early 1980s, many feminist seemed to agree that the way to advance the cause of feminism was to deny the potency of difference between women and men. Early feminist agitation – especially in Western industrialized countries – was aimed at equalizing the relations between men and women. This might be characterized as a “rationalist” or anthropological feminist position. In terms of the Nature question, writers such as Simone de Beauvoir and Sherry Ortner argued that the woman-nature connection should be seen as a male cultural artifact, the product of a particular historical period,

⁵ “Patriarchy,” here means the systematic and systemic dominance of men in society, and the structures that support and further this dominance.

with little contemporary relevance or value other than as a tool of the patriarchy in justifying the ongoing oppression of women (and of nature) (de Beauvoir, 1968; Ortner, 1974). Ortner, for instance, argued that women should reject their presumed link with Nature, and should seek to be integrated into the (“men’s”) world of Culture, and that feminists should explore theoretical work that exposes the presumed woman-nature bond as bankrupt male artifice.

In the late 1970s, other feminists, influenced by prominent theorists such as Susan Griffin and Mary Daly, called for a feminist revaluation and reclamation of the woman-nature connection (See, for example, Daly, 1980; Griffin, 1980). They argued that while the women-nature bond had been defiled and denigrated by patriarchal culture, the bond of women with nature in fact represents a significant and empowering bridge for women – a bridge to their past, and a bridge to the natural cycles that can seem to have significance in women’s lives. For these feminists, a celebration and affirmation of women’s distinctive culture offers an avenue out of and away from the dominant male culture. “Ecofeminism,” virtually the only ecological ideology to self-consciously bridge feminism and environmentalism, derives from this second feminist analysis.⁶

Both strands of feminist analysis are problematic. The first feminist position draws on historical research and contemporary explorations of cross-cultural relativism. It posits that the woman-nature bond is an Anglo-European male cultural construction of a particular historical period, the efficacy of which women should resist and deny. From this position, some feminism pose arguments against women’s separatism – arguments that, in some instances, privilege heterosexual and “mainstream” women’s organizing, and which can merge with a conservative agenda, or that at best lead to a liberal, “reformist” feminist stance. The second feminist position, by claiming a distinctive women’s culture, lends support to women’s (and lesbian) separatism, but it relies on ahistorical, universalizing, and essentialist arguments about the inherent bond of women with nature.

A third feminist approach to the woman-nature debate is just emerging, one that draws on historical research charting the contours of gender difference across time, and on psychological work that maps out the nature of gender difference in particular

⁶ The growing literature on women who identify themselves as “ecofeminists,” and who self-consciously identify themselves as shaping the course of ecofeminism, includes the following: Judith Plant (1989), Collard with Contrucci (1988), Diamond and Orenstein (1990). The ecofeminist articles published in journals and newsletters over the past three or four years are too numerous to be cited here [...]. The term “ecofeminism” is not, of course, the exclusive property of the women mentioned above, and there are no doubt women who call themselves “ecofeminists” who would take issue with some of the above-mentioned authors. Nonetheless, it is important to note that the term increasingly *is* identified with a spiritually-based and goddess-centered philosophy, and its meaning is increasingly specific to that philosophy.

cultural context of work and play.⁷ This research suggests that there *are* differences between men and women in moral behavior and character, the reality of which shouldn't be denied or avoided, but that these are culturally constructed and variable across cultures and time. The promise of this research is that the elucidation of these differences may provide the sense of a common bond among women, and, further, it asserts that women *do* have a distinctive culture from that of men, and that theirs may suggest alternative "ways of being" in the world. When applied to the woman-nature debate and in assessing the relevance of feminism to environmentalism, this new feminist insight suggests a middle path:

That while recognizing that the nature-culture dualism is a product of culture, we can nonetheless consciously choose *not* to sever the woman-nature connection by joining male culture. Rather, we can use it as a vantage point for creating a different culture and politics that would integrate intuitive and rational forms of knowledge ... and enable us to transform the nature-culture relationship (King and Plant, 1989, 23).⁸

It is not clear how this "middle path" can be "operationalized" in terms of changing the "realpolitik" of environmentalism, but it does suggest the saliency of critiquing institutional arrangements from a distinctive woman-centered stance.

[...]

The cast of institutional characters that I introduced earlier – the militaries, corporations, bureaucrats, and environmental organizations – hold the balance of power in determining our collective environmental fate. We need to transform our "culture of pollution" by transforming the core institutions that shape that culture. In some cases, institutions can be "reformed." Reformism should not necessarily be slighted as a liberal band-aid – feminist transformation within institutions, for example, has always necessitated a substantial reworking of both presumptions and the operations of institutional culture, whether implementing affirmative action in hiring, enduring sexual harassment protection procedures in the workplace, or introducing women's sports into the Olympic Games. In other cases, though, feminist transformation has required the wholesale dismantling of "men's club" institutions.

⁷ This emergent strand of feminism relies on the academic work of historians such as Joan Kelly and Carol Smith Rosenberg who identify the separate culture of women in other historical periods, and the groundbreaking work by Carol Gilligan on the construction of women's and men's moral and behavioral development. Ynestra King is a key figure in building bridges between a "transformative feminism" and the environmental issues (see King, 1990).

⁸ King suggests that this is the direction promised by "ecofeminism," but semantics are confusing here. The direction of what is now called "ecofeminism" is clearly away from this middle ground, and more emphatically towards "essentialist" feminist analysis and a philosophy of goddess-worshipping self-realization.

Global demilitarization, for one, needs to be high on a feminist environmental agenda. But the dismantling of militarism is not going to be achieved only by beating swords into ploughshares. Dismantling militaries necessitates dismantling the bonds of masculinity that prop up and sustain military powers.

I started this [essay] with the bad news about the state of our earth. The good news is that we have the analytic skills to expose the structure of environmental destruction. If we are willing to take seriously the implications of our understanding, we can change course. Feminism, and feminist transformation of environmentally instrumental institutions, is not a magic balm – it will not solve all environmental problems, and it will not save the Earth. But it is perilously evident that “salvation” will not come through masculinist structures that have brought us to the brink of environmental collapse. The African American poet Audre Lorde, speaking of women’s multiple oppressions (of homophobia, sexism, and racism), reminds us that “the master’s tools will never dismantle the master’s house” (Lorde, 1981). It is a warning to which environmentalists, and all concerned global citizens, should pay heed.

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Environmental Change and Policy

Melissa Leach and Robin Mearns

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Introduction

The driving force behind much environmental policy in Africa is a set of powerful, widely perceived images of environmental change. They include overgrazing and the ‘desertification’ of drylands, the widespread existence of a ‘woodfuel crisis’, the rapid and recent removal of once-pristine forests, soil erosion, and the mining of natural resources caused by rapidly growing populations. So self-evident do these phenomena appear that their prevalence is generally regarded as common knowledge among development professionals in African governments, international donor agencies, and non-governmental organizations [(NGOs)]. They have acquired the status of conventional wisdom: an integral part of the lexicon of development. Yet as shown by accumulating research [...], these images may be deeply misleading.

The resurgence of concern over the global environment in international development during the late 1980s and early 1990s has given such images a new and vigorous lease of life. *Agenda 21*, the global plan of action adopted at the 1992 Earth Summit in Rio de Janeiro, claims that desertification affects “about one sixth of the world’s population, 70 per cent of all drylands, amounting to 3.6 billion hectares, and one quarter of the total land area of the world” (UN, 1992, 98). A result is “widespread poverty” (UN, 1992, 98). A prestigious article published in *Science* claims that “[a]bout 80 per cent of the world’s agricultural land suffers moderate to severe erosion” (Pimentel et al., 1995, 1117), leading to the destruction and abandonment of

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arable land attributable directly to unsustainable farming practices; and that “more than half of the world’s pasturelands are overgrazed and subject to erosive degradation” (Pimentel et al., 1995, 1117). And research carried out by the World bank in western and central Africa finds that under conditions of rapid population growth, “traditional farming and livestock husbandry practices, traditional dependency on wood for energy and for building materials, traditional land tenure arrangements, and traditional burdens on women ... became the major source of forest destruction and degradation of the rural environment” (Cleaver, 1992, 67).

Such views of environmental change in Africa are not restricted to professional circles. They are also popularized in the news and current affairs media in developed and developing countries alike, and help to build support among the general public for the field operations of charitable organizations, designed to halt the forces of environmental destruction. Images of starving children, and the attribution of blame to natural environmental causes, have become an integral part of the way Africa is perceived in the North. They are signposts to the lie of the land: the reasoning behind them is taken for granted and rarely questioned.

These orthodoxies assign to Africa’s farmers, hunters and herders a particular role as agents, as well as victims, of environmental change. If current trends are to be reversed, it is implied, local land-use practices will have to be transformed and made less destructive. Yet the development policies and programs that result commonly prove to be at best neutral and at worst deleterious in their consequences for rural people and for the natural-resource base on which their livelihoods often substantially depend.

Take the notion of the “fuelwood crisis” as an example (Leach and Mearns, 1988; Mearns, 1995). Felling trees for firewood and charcoal is often assumed to be a prime cause of deforestation in Africa, which thus presents a classic case of demand for fuel outstripping supply. It has been conventional to assess the scale of the problem by comparing current woodfuel consumption with current stocks and annual growth of trees. Typically, this comparison identifies a shortfall, which is assumed to be made up by depleting the standing stock of trees. The supply “gap” is then projected into the future, often in direct proportion to population growth, so that it widens even faster as sustainable yields diminish. There is a crisis. The logical solution is also implicit from the starting assumptions: namely, to plant trees on a colossal scale to close the woodfuel supply gap, and to introduce more efficient cooking stoves to reduce demand. As the “woodfuel crisis” is or will be so severe, so the argument goes, trees must be planted on a scale far in excess of the capacity of rural people themselves to respond. Government forestry departments, with financial and technical support from aid agencies and NGOs, must intervene.

By re-framing the problem, however, many authors have now shown such solutions to be inappropriate. They point out that even when projections are made more “realistic” by correction to allow for factors such as tree re-growth after cutting, as long as the basic assumptions remain intact, three important factors are overlooked.

One is that most woodfuel in sub-Saharan Africa does not come from cutting live trees for fuel, but from surplus wood left over from clearing land for agriculture, or from lopping branches off trees standing on farms that are valued for many purposes besides fuel supply (e.g. shade, fruit, or building poles). Second, wood supply as conventionally defined by foresters greatly underestimates the woody biomass resources available to people as fuel, for example from smaller trees, brushes and shrubs. Third, where people really do perceive a physical shortage of woodfuel, or a need for trees for other reasons, they tend to respond in various ways, whether to reduce fuel consumption, or to plant or encourage the natural regeneration of trees.

Seen from this broader perspective, there is not just one, very big problem of energy supply, but many smaller problems of command over trees and their products to meet a wide range of basic needs, including food, shelter, income and investment. Since these problems take different forms for different people in different places, the range of potential solutions is equally diverse. Rather than simply planting trees for their own sake, the focus shifts to intensifying agricultural production so that output per unit area is increased, but in ways that enable people to better integrate trees with crop production.

The way in which problem and solution are framed in the case of the woodfuel crisis offers a classic example of how “received wisdom” about environmental change obscures a plurality of other possible views, and policy in Africa. A sustained challenge to received wisdom about the woodfuel crisis has been built up through careful research, but this case is far from unique. Similar challenges to many other orthodoxies concerning African environmental change have been mounted over the last decade or so. [...]

While the debates represented here have been building for some time, challenges to received wisdom have now, by the mid-1990s, reached a critical mass which for the first time permits comparative analysis. Such an exercise is, we argue, not only timely but of critical importance, because [...] the insights to be gained from reflecting on these cases together add up to far more than the sum of their parts.

One common denominator of the received ideas considered here is that they rest on neo-Malthusian assumptions² concerning the relationships between society and environmental change. The symbolism of neo-Malthusian images is deeply embedded in Western popular culture and religion (Hoben, 1995). With the advent of space travel in the late 1960s, the newly projected image of the earth from space gave rise to the icon of “spaceship earth,” which so emphatically conveyed the impression of a fixed natural-resource base and inspired the 1970s environmental movement. But as Grove shows, pre-Sputnik, “island” and even “gardens” provided equally potent “global

² A school of thought that sees improvements in standards of living as impossible without reducing population size.

analogues ... of society, of the world, of climate, of economy” (Grove, 1995, 13) which helped shape European attitudes towards nature.

Some of the case studies [...] demonstrate that orthodox evaluations of environmental change, and hence of local-land practices, are demonstrably false. The land – or rather, certain representations of it – can indeed lie. Other cases do not fundamentally challenge received wisdom, but do show how it has exaggerated the magnitude of problems such as forest or soil loss. We want to ask why, if the received wisdom can be shown to be misguided or just plain wrong, is it so pervasive and resistant to change? In this [essay], we argue that the answers to this question are to be found in the sociology of science and in the sociology of development; in other words, in the broader historical political and institutional context of science and policy. An inextricable part of this nexus – and the reason why it is so important – are the profound practical implications for farmers, herders, and other land users in Africa. [...]

Contradictory evidence from a single case study cannot, of course, entirely refute an orthodoxy. The fact that forest loss or range degradation may have been misinterpreted everywhere. But the fact that contradictory cases exist certainly casts doubt over the general applicability of received views, and calls for a more critical examination of the evidence that supports other cases, in case they too prove to counter dominant opinion. The received wisdom under scrutiny [...], then, is the product of particular interpretations of the relationship between environmental change and people’s behavior. [...]

Challenging Received Wisdom

The exposure of the lie in the land [...] comes from three principle angles: history, ecology, and social anthropology, as well as recent fruitful cross-fertilization between them in the analysis of African environments.

A number of popular myths about environmental change have their origins in attempts to infer process from form; that is, to make assumptions about the history of a given landscape on the basis of a “snapshot” view of its current state or on data gathered over a few years at most. Several case studies here, however, demonstrate the importance of using historical and “time-series” data sets of various types to study processes of landscape change more directly; documenting history rather than inferring it (cf. Fairhead and Leach, 1996).

The science of ecology itself has helped turn attention to time-series analysis by questioning the validity of baselines such as “climax vegetation community,” or static concepts such as “carrying capacity” – notions which have hitherto been integral to the scientific validation of orthodox views of environmental change. Older theories are now yielding to a greater pluralism in ecological thinking (cf. McIntosh, 1987).

Attention to historical detail, and the shedding of theoretical straitjackets in ecology, have converged with a better understanding of the land-use practices of Africa's farmers and herders, and of their own ecological knowledge and views of landscape change. This is amply provided in recent works by social anthropologists and others (e.g. Chambers et al., 1989; Croll and Parkin, 1992; Ellis and Swift, 1988; Fairhead, 1992; Richards, 1985; Warren et al., 1995), following some notable precedents (e.g. Alan, 1965; De Schlippe, 1956). Indeed, the application of recent approaches in ecological history often reveals the logic and rationality of "indigenous" knowledge and organization in natural resource management. By contrast, received wisdom would have much of the blame for the vegetation change perceived by outsiders as environmental "degradation" rest with local land-use practices, whether labeled them as ignorant and indiscriminate or – more commonly – as ill-adapted to contemporary socio-economic and demographic pressures. In such accounts, rural people's ecological knowledge is notable mostly by its absence, silenced before it is investigated.

But the reasons why received wisdom has proved so resistant to change have to do with more than simply "getting the facts wrong," or "ignorance" on the part of outsider observers of African environment and land users. Particular readings of history and of African land use, particularly notions within ecology, and so on, have attraction beyond their own claims to "truth value." Their claims to "truth" may rest on the application of particular methods and theories. They may be shown to serve the purposes of particular institutions, or political or economic interest groups; or to appear logical given the cultural backgrounds of their opponents. But as the cases in this collection demonstrate, such "truths" may serve to obscure quite different readings of environmental and land-use history. The sustained critique running through these contributions clearly denies the value-neutrality both of the methods employed in the study of environmental change, and of the conclusions derived from them. Before we are able to judge between alternative conceptions of environmental and land-use change, then, we need to be able to specify the conditions of their production.

Bringing together a range of cases therefore allows [...] to address three central questions. First, how does received wisdom about environmental change in Africa become established, get reproduced, and in some cases persist even in the face of strong counter-evidence? Second, how is it put to use and with what outcomes? And third, what alternative approaches for policy and applied research are suggested by countervailing views? In the remainder of this [essay], we begin to explore some partial answers to these questions; but first it is necessary to clarify what is meant by received wisdom, by outlining several approaches to theorizing the production of knowledge in public policy.

Theorizing “Received Wisdom” in Development Policy

At the most general level, all the contributors treat received wisdom as an idea or a set of ideas held to be “correct” by social consensus, or “the establishment.” Within this broad characterization, there is scope both for more “structural” explanations, which in emphasizing how conspiracy theories, and for those emphasizing human agency, which at their own extreme may appear excessively voluntaristic. The kinds of explanation [...] inevitably vary in emphasis, given the predilections of individual authors, differences in [...] case material, and differences in the tenor of the debates their work has engaged with [...], but most nonetheless tend to combine structural and actor-oriented forms of explanation.

In his seminal study *Development Projects Observed*, Hirschman (1968) showed that “effective development policies and programs (i.e. ones that succeed in mobilizing funds, institutions, and technology) depend on a set of more or less naive, unproven, simplifying and optimistic assumptions about the problem to be addressed and the approach to be taken (Hoben, 1996). [...]

Clay and Schaffer (1984) extend Hirschman’s work in the field of development sociology and policy studies by questioning the normal premise of policy and planning activities: “That there is something to be done. Policies make a difference. Different policies could be chosen. There is room for maneuver” (Clay and Schaffer, 1989, 1). They argue that the mainstream approach to public policy actually “reduces the margin of maneuver towards alternative and better policies” (Clay and Schaffer, 1989, 11), owing to structural factors that “box in” (Long and Van der Ploeg, 1989) individual policy makers within particular institutional establishments and preconceived agendas.

One of the means by which policy makers “box themselves in” is through labeling (Wood, 1985), referring particularly to “the way in which people, conceived as objects of policy, are defined in convenient images” (Wood, 1985, 1). Labels are put on “target groups” as passive objects of policy (e.g. the “landless”, “sharecroppers”, “women”), rather than active subjects with projects and agendas of their own. The disarming shorthand of labeling constructs a problem in such a way as to prescribe a predetermined solution, and legitimizes the actions of development agencies and other public bodies in intervening to bring about the intended results (cf. Long and Van der Ploeg, 1989). Such classifications are “represented as having universal legitimacy, as though they were in fact natural” (Wood, 1985, 9). Wood argues further that “labels misrepresent or more deliberately falsify the situation and role of the labeled. In that sense, labels ... in effect reveal [the] relationship of power between the giver and the bearer of a label” (Wood, 1985, 11)

In a similar vein, Roe (1991) has shown how the simplifying assumptions that enable policy makers to act is frequently encoded within “development narratives”. As a “story,” these have “a beginning, middle, and end (or premises and conclusion, when cast in the form of an argument) ... development narratives tell scenarios not so much

about what should happen as about what will happen – according to their tellers – if the events or positions are carried out as described” (Roe, 1991, 288).

Nowhere is the power of policy narratives and paradigms illustrates more clearly than in environmental planning in developing countries, as Hoben argues:

The environmental policies promoted by colonial regimes and later by donors in Africa rest on historically grounded, culturally constructed paradigms that at once describe a problem and prescribe its solution. Many of them are rooted in a narrative that tells us how things were in an earlier time when people lived in harmony with nature, how human agency has altered that harmony, and of the calamities that will plague people and nature if dramatic action is not taken soon (Hoben, 1995, 1008).

Whatever their truth-value – and as Roe points out, this may be in question – narratives “are explicitly more programmatic than myths, and have the objective of getting their hearers to believe or do something” (Roe, 1991, 288). By making “stabilizing” assumptions to facilitate decision-making, narratives serve to standardize, package and label environmental problems so that they appear to be universally applicable and to justify equally standardized, off-the-shelf solution.

Whether understood in terms of labeling or narratives, what is happening here is the representation of the experiences of those who are seen to be “the problem” outside their specific historical and geographical contexts. The stabilizing assumptions of policy makers thus substitute for the rich diversity of people’s historical interaction with particular environments. Even when they embrace debate, such debates often reduce the world to two dimensions in a simplified and ultimately unhelpful way. Environment and development discourse is replete with examples, frequently taking the form of “bad/good” dichotomies: “tragedy of the commons” versus common property resource management; farmer’s ignorance versus “indigenous technical knowledge”; Malthusian degradation versus Boserupian intensification, and so on.

Hoben (1996) highlights more cultural dimensions of this issue, arguing that “the power of development narratives is enhanced through the incorporation of dominant symbols, ideologies, and real or imagined historical experience of their adherents. In this sense they are culturally constructed and reflect the hegemony of Western development discourse” (cf. Hoben, 1995). He suggests that as narratives become influential within environment and development practice, so they help shape their own “cultural paradigm”: namely, specific development programs, projects, packages and methodologies of data collection and analysis. The “cultural policy paradigm” thus builds its own foundation, being “based on concrete exemplars as well as on a set of ideas.”

By received wisdom as applied in African environment change and policy, then, we mean an idea or set of ideas sustained through labeling, commonly

represented in the form of a narrative, and grounded in a specific cultural policy paradigm. It can be understood as a form of “discourse”, in the sense meant by Foucault (1971; 1980) to draw attention to the way it embodies relations of power that are constituted through everyday, familiar acts that go unnoticed because they are taken for granted (cf. Milton, 1993). The fact that received wisdom as discourse is embedded in particular institutional structures, active on the ground, not only accounts for its tenacity, but enables it to have real practical consequences, or “instrument effects” (Foucault, 1979; cited in Ferguson, 1990) that reveal the underlying exercise of power.

Keeping in mind the structure-agency axis referred to earlier, it is important to be explicit about the degree of intentionality at work in producing and reproducing received wisdom and its actual consequences once put into policy. Representations of environmental change and the role of assorted people and organizations in bringing it about are rarely contested. Received wisdom should not be conceived of as somehow autonomous, with a life of its own, independent of human agents. Rather, it is at the same time a product of the unintended and intended consequences of the actions of individual human agents, and a part of the structure within which they act and which shapes future possibilities for action (Giddens, 1984; Long and Long, 1992).

[... T]he influence of African land users over the way in which environmental change is conceived in the development process appears rather small. In the case of desertification, for instance (Swift, 1996), received wisdom pays little heed to the perceptions of indigenous herders, but rather represents a hegemonic, “totalizing discourse” (Peet and Watts, 1993) in which their position is often relegated to that of resistance to projects imposed. In other cases, however, local land users have had much greater influence over received news of environmental change. There is evidence of considerable interaction between different knowledge systems, which gives rise to new strands of knowledge at their interfaces (Long, 1989; Long and Long, 1992). This certainly seems to have been the case at certain times in parts of the West African forest zone, for example. Fairhead and Leach (1996) describe how farmers in Guinea have contributed to the State’s discourse concerning forest loss when attempting to secure development benefits, for example, despite the very different environmental options and experiences they express in other contexts.

The Origins and Persistence of Received Wisdom

The received wisdom [...] is by no means new. In many cases, the ideas that drive contemporary environmental policy in Africa can be traced back to early colonial times. But the reasons for their origins and persistence are to be found at different levels. It might seem reasonable to assert that received wisdoms are held because, at a first approximation, they capture realities important to people’s lives and problems. Certainly, their substantive messages, the underlying theories which lend them

scientific credibility, and the methodologies from which those messages are derived all merit close attention and critical evaluation in their own right. [...] However, it is striking that recourse is taken to the same substantive messages, theories and methodologies, time after time, even in situations where they have been shown to hold little validity. To explain this we need to consider the broader social and historical context within which science is used in the service of public policy (Coolingridge and Reeve, 1986). Here we consider each of these levels in turn, first examining issues of scientific theory and methodology, and then issues in the sociology of science and of development, and finally the role of popular culture in the construction of environmental meaning. [...]

Scientific Theory

Only a small number of ideas and theories have been truly pivotal in debates about environmental change and human-environment interactions in Africa, but their influence has been enormous. One has been the notion of a “climax vegetation community”: the vegetation that a given climatic zone would support in the absence of disturbance. Another pervasive idea has been the supposed causal link between devegetation and declining rainfall. This was strongly evident in nineteenth-century thinking (Grove, 1995), and has been as influential in theories of the derivation of savanna from forest in Africa (Fairhead and Leach, 1996) as in those of desertification further north (Swift, 1996). A third is the idea of carrying capacity: that every set of ecological conditions can support a given number of people and/or livestock which, once exceeded, will lead to a spiral of declining productivity.

Many of these sets of ideas or theories, dominant in ecological science since its inception (Clements, 1916), have their foundation in some notion of equilibrium. This could be the equilibrium between environmental factors (e.g. climate, soils, and vegetation) that would prevail in the absence of people, as in the notion of vegetation climax. Or it could be equilibrium between certain sorts of society and environment (e.g. “traditional” society in culturally regulated harmony with “nature”, remaining within carrying capacity). In each case, environmental change could be projected as a linear departure from the ideal.

Recent thinking in ecology questions these ideas of equilibrium, instead emphasizing the inherent variability of many ecosystems. In space, assemblages of biotic communities are increasingly thought to resemble more of a patchwork, controlled by edaphic and abiotic factors often on quite a small scale, than mere variants on some presumed ideal “climax” community. In time, variability frequently takes the form of state-and-transition dynamics, rendered complex by spatial variation. There is not one unique, ideal state which is “deflected” into an inferior state upon disturbance. Rather, historically specific conjunctures of conditions may determine unique pathways of transition from one state to another, and may even give the appearance of “chaotic” fluctuation. This has led ecologist Robert May to comment on

“the ineluctable contingent nature of such rules and pattern as are to be found governing the organization of communities’ (cited in McIntosh, 1987, 322). Sometimes heralded as the “new ecology” (Botkin, 1990; Worster, 1990a), or ecological pluralism (McIntosh, 1987), such perspectives are certainly opening new ways of conceptualizing the dynamics of ecological systems whether in drylands (Behnke et al., 1993; Dublin et al., 1990; Scoones, 1996) or forests (Fairhead and Leach, 1996; Sprugel, 1991).

More broadly, the message contained within the scientific theories that underpin received wisdom can be seen to reflect culturally and historically specific representations of “the environment.” The very concept of an external “environment,” analytically separable from society, can be traced to post-Enlightenment thought in the North (Glacken, 1967; Worster, 1977). Western science rests on the basic assumption that “natural” phenomena can be investigated separately from human society, except inasmuch as people and their social world are subject to “nature” and act on “it.” Such a distinction is, of course, alien to many African societies, in which categories of thought are structured in very different ways and cut across a nature-culture divide (Croll and Parkin, 1992; Fairhead and Leach, 1996; Gottlieb, 1992).

The assumptions of post-Enlightenment science are manifested in several different ways in the received wisdoms explored here. On the one hand, they are evident in views which seek out untouched, pristine nature against which to assess human impact, whether in undisturbed, climax forest vegetation (Fairhead and Leach, 1996); or in the wildlife-rich wilderness of Southern and Eastern Africa as represented in northern colonial and popular imaginations (Anderson and Grove, 1987; Brockington and Homewood, 1996). Human impact is portrayed in terms of “anthropogenic disturbance” to an otherwise stable nature.

On the other hand, post-Enlightenment thought is also evident in the view – held from Francis Bacon’s time onwards – that society can and should use the technology at its disposal to achieve mastery or dominance over nature so as to satisfy human needs and wants. Others highlight the ideological character of such a view, suggesting that it serves to disguise the real form of domination which is between classes in society (Leiss, 1972). [...] Scoones (1996) describes how imperatives of administrative control and surveillance underlay the attempts of colonial and post-colonial administrators to impose order and straight lines on the rangeland landscape in Southern Africa. Similarly, in Northern Nigeria, expatriate foresters have been convinced that only trees planted in lines and orderly plantations constitute a “proper” use of the drylands (Cline-Cole, 1996). What masquerades as environmental control is often more correctly seen as social control.

Implicit in culturally specific representations of the environment are particular notions of its “value,” as derived from prevailing priorities in natural resource exploitation, or from the biases of particular scientific disciplines. A good example concerns the way professional foresters and ecologists in Africa have conventionally valued closed-canopy or gallery-forest – so that any conversion of such a vegetation

community is seen to constitute “degradation.” Yet such conversion may be viewed positively by local inhabitants, for who the resulting bush fallow vegetation provides a greater ranger of gathered plant products and more productive agricultural land (Davies and Richards, 1991; Leach, 1994). Thus the same landscape changes can be perceived and valued in different ways by different groups; what is “degraded and degrading” for some may for others be merely transformed or even improved (cf. Beinart, 1996).

Ideas and theories in social science have often converged with those in natural science in the production of received wisdom about environmental problems. Indeed in some cases, social science has provided supporting narratives that reinforce demonstrably false analyses of the nature and cause of environmental change. Hoben (1996), for instance, describes how a neo-Malthusian narrative concerning the impact of population growth has supported the orthodox view of recent environmental collapse in highland Ethiopia. He counters this with an alternative analysis that suggests there is nothing new in environmental “flux, crisis and calamity” in that setting, and that it should more properly be attributed to the political economy of the state and its influence over natural-resource use than to demography. While the alternative view does not deny that there are serious problems of soil erosion in highland Ethiopia, it certainly provides a counterweight to the neo-Malthusian narrative that “exaggerates the rate and magnitude of degradation and misrepresents the role of human agency in causing it” (Hoben, 1996).

Perhaps the best known supporting narrative from social science is the so-called “tragedy of the commons” argument, used to support received wisdom about drylands environmental changes. It runs as follows:

Picture a pasture open to all. It is to be expected that each herdsman will try to keep as many cattle as possible in the commons. Such an arrangement may work reasonably satisfactorily for centuries because tribal wars, poaching, and disease keep the numbers of both man and beast well below the carrying capacity of the land. Finally, however, comes the day of reckoning, that is, the day when the long-desired goal of social stability becomes a reality. At that point, the inherent logic of the commons remorselessly generates a tragedy ... Ruin is the destination towards which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons (Hardin, 1968, 1244).

This argument, used as a metaphor by Hardin and others (e.g. Ehrlich and Ehrlich, 1990) to account for population pressure on resources in general, has been critically analysed as a development narrative by Roe (1991; 1994). A strong counter-narrative refutes it, arguing that Hardin confused “common property” with open access; that in a true common situation, local institutions facilitate cooperation between users such that resources can be managed sustainably; and that “tragedies” are a result of the breakdown of such arrangements, for example through state intervention (e.g. Bromley

and Cernea, 1989; Bromley, 1992; Ostrum, 1990; Shepherd, 1989). Yet Swift (1996) shows how the “tragedy of the commons” has been marshaled consistently to support the conviction that the world’s deserts are “on the march,” in spite of an absence of reliable empirical evidence to support that view. He finds the explanation of its persistence in the fact that it serves well the interests of donor agencies and national government in perpetuating various forms of planned development. The finger of blame has been pointed in a different, but perhaps equally misleading, direction in the case of South Africa, described by Beinart (1996). Here, rangeland degradation was said to have been caused by the destructive farming practices of white settlers; a view which conveniently suited the political agendas of those opposing the apartheid regime. Yet time-series evidence tells a rather different story of general stability in grassland composition over the period in question.

The persistence of received wisdom may also depend on what is left out of the analysis; on the way that dominant ideas serve to highlight certain aspects of local farming and environmental management while excluding others. Tiffen (1996) gives several examples of such “blind spots” on the part of outsider observers of smallholder agriculture. Researchers and others working in Kenya’s Machakos district, for instance, failed to “see” farmers’ investments in soil conservation and farm landscape improvement (cf. Chambers, 1990). Farmers’ investments in enriching their local environment tree regrowth were also invisible to, or ignored by, outsiders and government officials in Guinea’s forest-savanna transition zone of Nigeria (Cline-Cole, 1996). While in Tiffen’s work, the “blame” for these biases and omissions tends to be laid at the feet of individual economists and anthropologists who are seen to be responsible, the problem may be broader. Below we examine why such blind spots exist by focusing on the context within which science operates.

Scientific Method

Theoretical issues in science are frequently inscribed in the methods which generate supportive data; as such, theory and methodology are hard to distinguish. Nevertheless, a more specific focus on methodological question is also helpful in comprehending the persistence of orthodoxies about African environmental change. In virtually any discipline particular methods come to acquire credibility and authority, and it can be the inheritance of such methods – as much as of the actual messages they generate – that explains the persistence of some received ideas. By defining what is acceptable as evidence, certain privileged methods also act to exclude other sorts of data. It is in this way that certain questions remain unasked, and certain types of evidence are ignored or dismissed as invalid.

The exclusion of historical data from much ecological science as applied to Africa is a case in point. Orthodox views are often based on speculative projection backwards from the present time, in which present landscapes are presumed to be changed – or degraded – versions of those supposed once to have existed. The

“snapshot” methods on which such views are based came to dominate at a time when time-series data, from air photography and satellite images, for instance, were unavailable to researchers. Now they are increasingly obtainable for periods stretching back several decades, and researchers are becoming increasingly aware of their value. [... Such] historical data sets – often combining photographic with official written records, early travelers’ accounts, and ethnographic research methods such as oral history – call into question conventional views of environmental change and their methodological underpinnings.

Take the example of botany. The possibility and validity of “reading” historical process from present form has been strongly developed in “phyto-sociology”; an approach which uses the present species composition structure and boundaries of vegetation communities as a basis for deducing the processes which have led to this form. Yet, as Fairhead and Leach (1996) show with reference to the “derivation” and savanna landscapes, the assumptions about process in these deductions may prove unfounded. Rather than regarding the mixed forest-savanna species composition of forest-patch boundaries as evidence of “savannization” and forest degradation, as many botanists in forest Guinea have assumed (e.g. Aubreville, 1949), Fairhead and Leach show it to be the outcome of forest expansion into savanna, resulting from deliberate management of soil, trees and fire by local farmers. Time-series aerial photography comparisons support farmer’s own oral-historical explanations that their strategies serve to increase forest cover over the longer term.

Another type of methodological blind spot has been mistakenly to assume conditions at a particular time to be representative of an enduring state of affairs. Brockington and Homewood (1996), for example, describe how colonial administrators interpreted the low population levels prevailing at the turn of the twentieth century as the norm for East African savannas, when in fact they were the result of the decimation of human and livestock population by war, famine and disease in the late nineteenth century. Not only did this convey a misleading impression of unpopulated “wilderness” to early European settlers (cf. Anderson and Grove, 1987), but it also fuelled anxieties about African population growth later in the twentieth century, which proved expedient in politically motivated arguments that the “carrying capacity” of the land would quickly be exceeded.

An equally common methodological error has been to take short-run observations as evidence of a secular, long-run trend, when they may simply describe one phase in the cycle. The clearing phase in a fallow cycle, for example, need not imply the long-term removal of vegetation. Swift (1996) describes how received ideas about desertification have rested a little more on the observed expansion of desert margins over periods of little more than a handful of years. Analysis of the data for several decades usually reveals that such observations capture only a small wobble in the long-run fluctuation of the desert margin, driven by outside observers’ impressions of range condition at a given point in time. Taking the case of South Africa, Beinart (1996) shows the significance of the chosen observation period in relation to the long-

run dynamics of livestock herd build-up and decline, determined largely by political and economic conditions.

An analogous type of error is the scale problem discussed by Stocking (1996) in relation to the measurement of soil erosion. Just as short-run observations may give a poor indication of long-run trends over time, so extrapolation from the small-scale erosion plot to an entire catchment area, region or even country gives a wildly exaggerated impression of the real severity of soil erosion. [...] This is just one of a number of methodological traps commonly encountered in the measurement of soil erosion, which combine to give a highly misleading impression of its rate and severity in Africa. Yet, as they are lent professional authority by the scientific establishment, such assessments have come to represent a chief source of legitimacy for orthodox soil conservation programs in Africa, such as those carried out in Ethiopia (Hoben, 1996).

[...S]cience and methodology, and the selective use and misuse of the resulting empirical evidence, form central props to received wisdom about environmental change in Africa. This is based not on ignorance [...] but on particular forms of “knowledge,” and what is taking place is the exercise of power through subtle but effective instruments for the formation and accumulation of knowledge, including “methods of observation, techniques of registration, procedures for investigation and research, {and} apparatuses of control” (Foucault, 1980, 102). The power relations embodied in the production of knowledge are reinforced by the ideas, values and methods of “normal professionalism” in rural development (Chambers, 1993). It is not merely that “knowledge itself is power” (Francis Bacon, cited in Davies, 1994, 1), but that “what constitutes knowledge, what is to be excluded and who is to be designated as qualified to know involves acts of power” (Foucault, 1971; cited in Scoones and Thompson, 1994, 24). In the following sections we examine how the embedding of such knowledge/power relations in the institutions of science and of development help account for the persistence of received ideas about African environmental change.

Sociology of Science in Public Policy

We noted in the previous section that the origins of many of the orthodoxies we are concerned with here can be traced back to the early colonial period. Both distance and recent research make nineteenth and early twentieth-century imperialism a good choice of historical period for the purpose of illustrating how the broader economic, political and institutional context shape the manner in which science is put to use in public policy.

The political and economic context, for example, helps to explain the differences in the kinds of conservationist policy adopted in the settler colonies of British East and Southern Africa, and those adopted in the trading colonies of British West Africa (Anderson and Millington, 1987). An overt, social control agenda lay behind policies in East and Southern Africa that places physical restriction on African

farming activities, supposedly in the interests of European settlers (Anderson, 1984; Beinart, 1984). These restrictions included, for example, the prohibition of farming on slopes claimed to be too steep for cultivation (Showers, 1989), the relegation of African farming to designated reserve areas, and restrictions placed on the crops African farmers were allowed to grow, especially with respect to export crops such as coffee (Tiffen et al., 1994). In all these cases, conservationist arguments were made to justify those policies. By contrast, in the trading colonies of West Africa where African cash-cropping and gathering were important to colonial economic interests, conservationist policies to restrict these activities were much less prominent (Millington, 1987). Thus, in selective ways, received ideas about environmental change were marshaled to justify one or another type of public policy.

Colonial science, as it came to be applied in Africa, was strongly influenced by scientific ideas and debates originating elsewhere. The influence of the North American dustbowl in the 1930s on thinking about soil erosion in Africa has been well-documented (Adams, 1996; Anderson, 1984; Beinart, 1984; cf. Brockington and Homewood, 1996), but there were much earlier precedents. A coherent interpretation of environmental degradation attributed to the economic demands of colonial expansion emerged in the island colonies of St. Helena and Mauritius as early as the mid-seventeenth century (Grove, 1995). The notion of a causal link between deforestation and declining rainfall already held wide currency among the medical surgeons, botanists and other scientists employed by trading companies such as the East India Company by the mid-nineteenth century and through them came to play a decisive role in shaping India's forest conservancy system (Grove, 1989). The Indian system, in turn, provided a model for those in Africa and, much later, North America (Grove, 1995). And early in the twentieth century, the scientific study tours of the Indian-trained Stebbing were particularly influential in emergent African debates about desertification (Swift, 1996).

The extent to which colonial scientists were part of a "global" network or community was echoed even more strongly within the African continent itself. Scientific tours and visits, as well as regional commissions and conferences, created a context in which individuals were often able to influence entire regions and generations. For example, Pole-Evans influenced a whole generation of rangeland scientists in Southern Africa and beyond (Scoones, 1996); and the interactions of the francophone botanists and foresters, particularly Thompson and Unwin, ensured that their analyses of vegetation were carried over the Anglophone-Francophone divide in West Africa (Fairhead and Leach, 1996). The written texts and maps of such influential figures frequently became key reference works in subsequent generation of scientists in comprehending African environments. It is little surprise, then, that a remarkable consistency in ecological analysis often emerged and persisted across whole ecological zones.

While the terms of scientific debate during the colonial period appear to exhibit remarkable consistency, it would be misleading to portray scientific opinion at any

given moment as homogeneous. For example, Beinart (1996) describes the strong debates around assessments of grassland condition in South Africa between the 1930s and the 1950s. Unlike his contemporaries, the botanist C. E. Tidmarsh was rather cautious about the orthodox view of continuous grassland degradation, and attributed grassland composition more to climate and available moisture supply than to the nature of grazing treatment. Tidmarsh's arguments predated the recent literature on non-equilibrium range ecology (Behnke et al., 1993) by some forty years. However, although Tidmarsh served on the Desert Encroachment Committee, his ideas had lasting influence on public policy. Similarly, in the context of Southern U[nited] S[tates] agriculture between the seventeenth and nineteenth centuries, ideas about environmental change, agricultural innovation and the role of indigenous farmers appear to have fluctuated on a cycle of several decades (Earle, 1988). Although the mainstream view of agriculture during the period is characterized by the notion of the southern farmer as "soil miner," Earle seeks to explode this myth by highlighting those periods in which "folk" innovations in agriculture were viewed positively by outside observers, in a manner reminiscent of contemporary "farmer first" paradigm in agricultural development (Chambers et al., 1989).

The financial and bureaucratic structure of scientific establishments and public administrations strongly influence these processes, shaping debate – and freedom to pursue it – at any given moment. In many cases, those whose ideas posed a significant challenge to the prevailing orthodoxy found their views either suppressed or unable to influence higher levels in the institutional hierarchy. For instance, Fairhead and Leach (1996) show how much constraints have operated through colonial, post-independence and recent times to stifle challenges to the dominant view of vegetation dynamics in Guinea's forest-savanna zone.

Even changing and contested views of environmental change in Africa may have posed little real threat to the continuity of policy and practice. Adams (1996) suggests that changing sets of ideas originating at the center may, in the course of their transmission to the more distant outposts of public administration, "sediment down" more slowly and adapt themselves to preceding thinking. There can, therefore, be a remarkable degree of continuity in what happens on the ground, as he shows with reference to the rationale for external intervention in irrigation in a Marakwet district of Kenya from the 1930s onwards. Adams describes how colonial administrators could at the same time be impressed by indigenous irrigation furrows, yet regard them as a cause of soil erosion and local irrigators to be incapable of managing them properly. Whatever view prevailed of indigenous irrigation practice was consistently manipulated in order to justify European intervention and imposed change.

Many of the colonial scientists to whom we have referred as having a disproportionate influence over the early origins of received wisdom about African environmental change were not only scientists. In most cases, they were employed as public servants, and played decisive roles in colonial policy formation and administration. The botanist Pole-Evans, for example, is also credited with having

shaped the draconian Natural Resources Act (1942) in Rhodesia and the Swynnerton Plan (1954) for agricultural intensification in Kenya (Scoones, 1996). In French West Africa the botanist Aubréville eventually rose to become *Inspector Général des Eaux et Forêts des Colonies* in French West Africa (Fairhead and Leach, 1996). And in Nigeria, the forest conservation enthusiast Moloney came to be Governor of Lagos Colony (Grove, 1994), while Lugard (Cline-Cole, 1996) established a regional forest service in Northern Nigeria.

Early in the colonial period, these individuals had little evidence to support their hypotheses about African environments. Nevertheless, these hypotheses became institutionalized in colonial agriculture, forestry, livestock and wildlife departments, forming the rationale for intervention. Thus, even if the scientific analysis to provide empirical support to early contentions about the relationships between rainfall and deforestation, or stocking density and range condition, had not yet been carried out, the agenda of such analyses had already been set through the establishment of these institutions. And in turn, the persistence of these institutional structures provided a context in which their analyses could remain dominant, and be further elaborated.

At least in some parts of Africa, the colonial legacy in environmental institutions was directly inherited by post-independence governments, helping to account for the persistence of received wisdoms. Furthermore, by comparison with the colonial period, some notable similarities can be observed in the relationship of contemporary expatriate scientists and academic advisers to the process of public policy formation in Africa. One is the exchange of ideas within a network or community of like-minded individuals; a second is the tendency for scientists to be more or less directly “in the pay” of policy institutions.

Sociology and Practical Effects of Development

The foregoing arguments begin to suggest how received wisdoms about environmental change are institutionalized. We now turn more directly to institutional issues, and examine how structural factors in the contemporary development process itself help explain the persistence and power of particular views of African environments. Of key importance here are the inextricable links between development institutions, their analyses and the effects “on the ground” of the policies they promote, effects which have proven detrimental from the perspectives of local land users.

It is possible to show that the interests of various actors in development – government agents, officials of donor agencies, the staff of Northern and Southern non-governmental organization, and independent “experts” – are served by the perpetuation of orthodox views, particularly those regarding the destructive role of local inhabitants. Pejorative attitudes and repressive policies towards pastoralists, for example, have been well-served by the view that they cause desertification, or bring about a tragedy of the commons (Scoones, 1996; Swift, 1996). And in East Africa, it

suited the land-expansionist concerns of white settlers to attribute soil erosion to the “primitive” practices of indigenous farmers (Anderson, 1984; cf. Adams, 1996).

Throughout the colonial period, received wisdom about environmental change served to justify the formation and funding of national-level executive agencies with responsibility for environmental management. This has continued to the present day. Government departments with responsibility for forest and wildlife protection and management, in particular, are often heavily reliant on revenues received from fines and the sale of permits. The underlying premise on which the continued flow of such revenues rests is that stewardship over natural resources is properly the responsibility of the state. It depends on and serves to perpetuate the conventional view that local inhabitants are incapable of acting as resource custodians. In order to justify the existence and expansion of natural resource departments as an arm of state administration, therefore, there are strong vested interests on the part of the government agents in maintaining received wisdom about the instrumental role of local inhabitants in bringing about environmental degradation (Fairhead and Leach, 1996; Tiffen, 1996).

[A common view is] that received wisdom about African environmental change has had the instrumental effect of promoting external intervention in the control and use of natural resources. In a bold statement of this position, Roe states that:

... crisis narratives are the primary means whereby development experts and the institutions they say are under crisis (Roe, 1995, 1006).

He goes on to argue that shifts in narratives can reinforce, rather than undermine this process, since

... the more crisis narratives generated by an expert elite, the more the elite appears to have established a claim to the resources it says are under crisis ... whether right or wrong, the claims, counter-claims and changing claims of experts serve principally to reinforce and widen the belief that what they, the experts, have to say really matters and matters solely by virtue of their expertise (Roe, 1995, 1066).

More broadly, others suggest that particular kinds of development discourse serve to justify the expansion of bureaucratic power in rural areas. For example, Ferguson (1990) documents how the bureaucratic logic of the Thaba-Tseka Development Project in Lesotho served to depoliticize poverty and powerlessness so that they could be portrayed as a set of “technical problems” awaiting solution by “development” experts. Drawing on the work of Foucault, but sharing much with the analysis of Wood (1985) and others, Ferguson reveals the planning apparatus and the conceptual system on which it rests as mere cogs in the development “machine”, linking up with social institutions in such a way as to shape outcomes without actually determining them (cf. Long and Long, 1992). The principle outcome, Ferguson argues,

is to promote, almost unnoticed, the pre-eminently political operation of strengthening the state presence in rural Lesotho.

The process Ferguson describes is not uncommon in planned interventions in natural resource management. His analysis gives an insight into the seemingly inexorable way in which it is convenient for government and donor agencies to promote particular, off-the-shelf intervention “packages” which frame problems and solutions in technical terms, obscuring alternative analyses such as those which might lie in the realm of political economy. Amanor (1994a), for example, described how in the forestry “sector” such packages may take the form of replicable “green technologies” such as alley cropping, or of organizational packages such as those promoted under the tropical Forestry Action Plan (FAO, 1985). [...]

[... S]uch external claims over resource management and control can have deleterious consequences for local livelihoods. They can marginalize and alienate people from natural resources over which they previously enjoyed access and control, perhaps directly undermining their ability to secure food or income. This has sometimes been the case, for instance, with policies to exclude people from externally managed forest or wildlife reserves, or to confine pastoralists to fenced paddocks. Where inhabitants must, out of necessity, continue to use resources claimed by external agencies, they often find themselves subjected to taxes or fines which render them more resource-poor. Even when inhabitants retain rights to use resources, the imposition of external regimes or “packages” for their management can impose unwelcome demands on their labor and resources. [...]

In some cases, the assertion of professionalized claims over land and resources has also had adverse ecological consequences. For example, Fairhead and Leach describe how external prohibitions on the setting of bush fire undermines inhabitants’ early-burning strategies, risking greater fire damage by late dry season fires. By contrast with negative effect on local populations, which may be of little concern to – or even in the interests of – certain state agencies, such counterproductive environmental effects might be thought to throw policy approaches and their supporting analyses into question. Yet an effect of labeling in the framing of technical problems, as Wood (1985) notes, is to contribute to a self-fulfilling cycle of policy failure which deters such questioning. As Scoones (1996) shows with reference to rangeland management in Zimbabwe, if a given policy or intervention package fails or is resisted by the “target group,” it is implicitly assumed to be because the “target group” is recalcitrant or ignorant, rather than because the problem was misconceived in the first place. As a result, efforts are redoubled on the part of the implementing agency to bring about the same desired outcome, but with the use of greater force, which merely serves to worsen the initial “policy” failure.

In this light, it is not surprising that policies have often been resisted by local people. Such resistance needs to be interpreted both as a response to social repression, and to inhabitants’ understanding that policies were often inappropriate to local ecological conditions. Resistance sometimes takes “everyday,” covert forms (Scott,

1985), including coping and adaptive strategies to carry on with customary practices regardless of the consequences, and sometimes takes more overt forms of political expression.

Nevertheless, it would clearly be wrong to portray local inhabitants only as victims of repressive colonial conservation policies. Evidence from West Africa, for example, suggests that local elites, at least, were quite successful in subverting external forest policy agendas, and turning them to their own advantage (Grove, 1994). Furthermore, [one ought to be] careful not to overplay the significance of planned development in analyzing the practical effects on the ground and in people's lives of the received wisdom [...]. Changes in people-environment relations certainly do not come about only through development policy, while planned interventions are simply part of a chain of events within a broader framework of activities of the state and various interest groups (Long and Van der Ploeg, 1989) [...]. Heeding Clay and Schaffer's (1984) warning on the artificial separation of policy and implementation in development practice, Long and Van der Ploeg (1989, 228) remind us that interventions merely "come to form part of the resources and constraints of the social strategies" devised by individuals and "target groups" affected by development.

If orthodox thinking about natural resource stewardship provides the *raison d'être* for certain state institutions, it is relevant to ask whether it might change along with a change in political context. How much room for maneuver is there to shift the environmental agenda? Periods of transition from one political regime to another may provide an opportunity for [...] resistance to be voiced more strongly. During pre-election periods in West Africa, for example, opposition parties commonly attempted to gain support by expressing discontent with repressive natural-resource "policing" activities on the part of the state, as illustrated for Nigeria by Cline-Cole (1996) and for Guinea by Fairhead and Leach (1996). The question remains, however, to what extent this actually affects the substance of environmental debate. In the case of South Africa, for example, Beinart (1996) argues that in reversing the direction of blame from African farmers to white farmers, anti-apartheid literature merely turns conventional arguments about environmental degradation on their heads. It thus reinforces dominant readings of environmental history, rather than begins to challenge them.

In contemporary development practice, other actors and institutions have joined the state and national elites in perpetuating received thinking about environment-society relationships[, such as] donor agencies. Hoben (1995, 1009) suggests that, "regardless of its merit, an environmental paradigm is transferred to aid recipient countries through training, institutional building and investment. These activities attract and create elite interest groups which, in turn, become its constituency, making it politically difficult to discard." He adds to this a number of other conditions relating to donor agencies which contribute to the entrenchment of a given environmental narrative. They include the dependence on the weak African government departments on official development assistance; and the political and moral pressures on donors to be seen to respond to their domestic constituencies and to act quickly (Hoben, 1996).

These conditions create a policy-making environment within which neo-Malthusian, “crisis” narratives, in particular, can flourish.

The reliance of African governments on foreign assistance for environmental-related “development” activities is by no means new. In the colonial period, for example, following the attention generated by Africa-wide environmental conferences, funding envelopes often became available for which colonial administrators could apply. But the late 1980s and early 1990s saw the onset of “green conditionality” (Davies, 1992) as donor agencies began to use environmental goals as a form of leverage over national governments in the process of “policy dialogue” (Davies and Leach, 1991; Leach and Mearns, 1991a,b).

Since the 1992 Earth Summit new international financial mechanisms have emerged to address environmental problems conceived at a global level. The Global Environmental Facility, for example, jointly implemented by the World Bank, UNDP [United Nations Development Programme] and UNEP [United Nations Environment Programme], is concerned with the loss of biodiversity, climate change, the pollution of international waters and ozone layer depletion. In this context, conformity to globalized, commonly held conceptions of environmental problems has become important for local environmental activities to attract funds.

At the same time, NGOs have become increasingly important actors in the international development community, and have also contributed to the “greening of aid.” Although in the 1990s multilateral and bilateral donor agencies are channeling an increasing volume of official development assistance through NGOs, the activities of many Northern-based charitable organizations have long relied on fund-raising from the general public. Their campaigns must therefore appeal to and elicit a response from a wide audience. Ironically, this often serves to reinforce stereotyped images which, in their development education mode, the very same organizations may wish to challenge. The Northern popular perception of famine as evidence of a Malthusian crisis in Africa with an environmental dimension, for example, played an important role in sustaining aid flows in Ethiopia in the mid-1980s (Hoben, 1996), but arguably did little to further understanding among the general public in the North of social and political realities in Africa.

These contradictory relationships are replicated in the alliances between Southern NGOs and the Northern NGOs on which they are financially dependent (Hudock, 1995). In order to attract funding, Southern NGOs must respond to and comply with an environmental agenda set by their Northern partners and, in so doing, can reproduce a view of local land users which denies the perceptions and interests of their local constituencies. They tend to internalize the specific discourse used by Northern NGOs to justify funding environment-related activities, and in many cases even owe their very existence to it. For example, Fairhead and Leach (1996) suggest that the emergence of the urban-based “Friends of Nature” societies in Guinea, or at least the discourse they adopt, can be attributed to the availability of wisdom about

environmental change and human agency and the *raison d'être* of many Southern NGOs can therefore be mutually reinforcing.

Another relative newcomer to the contemporary international development community is the independent consultant “expert,” whose influence over the shape of development policies, projects and programs in Africa is now indisputable. This actor plays a unique role in the reproduction of environmental orthodoxies which has to do, we argue, with the nature of accountability. As Tiffen (1996) remarks, academics and civil servants who advise donor agencies and African governments on agricultural and other forms of development policy are accountable not to those who are the intended beneficiaries – Africa’s farmers – but to public sector agencies as their paymasters. This kind of “backwards accountability” has its origins in colonial service, since colonial scientist-administrators were similarly accountable to the higher echelons of the civil service to which they aspired. The independent consultant of today, however, is faced with rather different incentives and pressures.

The reduction of international aid budgets in the 1990s has led donor agencies increasingly to use independent consultants rather than those from public bodies and private firms whose fee rates are inflated by institutional overheads. Independent consultant, it can be argued, are accountable only to their own [careers]. The terms of reference for short-term contracts tend to be pre-set so that, for example, the consultant is required simply to describe the social causes and consequences of a particular environmental problem without ever questioning its existence. Under strong time pressure, an analysis is produced which tacitly confirms and further reinforces the conventional wisdom embodied in the original terms of reference. Even if consultants are well aware that the underlying premises of their work may be called into question, the incentive structure is unlikely to lead them to operate differently. Indeed, the market for consultancy services is so segmented that even the risk of a damaged reputation in one field or geographical area, or with one multilateral or bilateral agency, need not unduly hinder an individual’s chances of winning new contracts elsewhere in future. None of these remarks are intended to suggest that all independent consultants behave irresponsibly, or to deny instances where committed consultants have strongly criticized conventional views. There seems to be little doubt, however, that this new group of actors can play a significant role in fixing environmental narratives.

Popular Culture and the Social Construction of Environmental Meaning

We do not suggest that received wisdom can be explained simply in terms of the interest of these or any other individual set of actors. It is not the case that any single group deliberately conspires to engender environmental or other messages that best suit their interests. It is more that through their continuing interactions with others, individual actors can unwittingly participate in the social construction of particular forms of environmental meaning. Here we explore further how such meanings can

resonate with existing symbols and meanings in popular culture such as to produce and reinforce received wisdom.

The “environment” constitutes not one single issue, but many diverse ones which “do not ordinarily articulate themselves” (Hansen, 1991, 449). Claims therefore have to be made by various actors about what constitutes environmental issues for public concern. This process often begins in the scientific forum, but its subsequent inflection takes place through complex interaction with other arenas for public debate, including courts of law, formal politics, and other mass media. The mass media do not simply transit messages to their audiences about “the real world.” Rather, they participate in the social construction of environmental problems by articulating culturally specific and encoded “messages,” which are subsequently decoded and given meaning by their audiences within existing frames of reference (Burgess, 1990). Environmental understanding is continually being transformed by the interactions of all the participants in this process.

Research on the role of the media in shaping environmental understanding has addressed both the volume of environmental coverage in the mass media (e.g. Lacey and Longman, 1993), and the character of that coverage (Lowe and Morrison, 1984). While noting “the journalistic preference for the negative and the dramatic” in news in general, Lowe and Morrison point out that “it is especially difficult to feature the positive within environmental reportage” (Lowe and Morrison, 1984, 78). There appears to be an inbuilt tendency for the media to generate “crisis” narratives with respect to environmental issues.

Owing to the globalization of information flows in recent years, the range of actors who now play a role in producing and consuming ideas about environment and development is historically unprecedented. The rapid technological development of communications media, including satellite television and the internet as well as more conventional forms of mass media such as terrestrial television, radio and newspapers, means that the global circulation of information has never been greater or accessible to a wider audience (Davies, 1994). This has led to new and complex forms of claims-making for environmental issues, in which popular culture and the mass media play especially important roles. As Burgess argues,

The power to define the meanings of landscapes and places, plants and animals, renewable and non-renewable resources is being contested in new and fascinating forms of cultural politics conducted primarily through the mass media: take, for example, the alliance between actors, musicians, Brazilian Indians, pop music promoters, conservation organizations, the media industry and the mainly young consumers who buy records to support the campaign against the destruction of the Amazonian rainforest (Burgess, 1990, 141).

Paradoxically, this more rapid circulation of information may actually increase the tendency towards simplification and convergence in the substance of popular discourse

about environment and development, as a way of dealing with information overload. Public debate about environment and development issues necessarily involves other actors in the development process too, and contributes to the construction and simplification of environmental messages. Political pressure is brought to bear on multilateral and bilateral donor agencies through NGOs and other domestic constituencies, but the terms of debate are increasingly global and symbolic. The same images, the same often-repeated statistics that define environmental change, are frequently internalized and reproduced by scientists and administrators working at the local level.

While the inhabitants of local African environments may themselves participate in the production of ideas about environmental change, they do so with less power to define the terms of debate. As token participants in global and national fora, they may have little chance to express alternatives to the dominant viewpoint. But equally, it is not uncommon for rural inhabitants in their interactions with development fieldworkers to confirm outsiders' preconceived ideas, given the power relations which operate at such "interfaces" (Long, 1989; Long and Long, 1992). Such confirmation may arise out of fear, suspicion, or a desire to remain on good terms by accepting what is being offered, as well as the relations of authority and the memory of past experiences which structure these interactions. All too often, the power relations which shape such encounters remain invisible to the outsiders involved, leading them blindly to accept local accounts as indisputable. By attempting to increase dialogue with local people, some efforts to enhance "participation" in development may, ironically, contribute to the very conditions which permit such misunderstanding to occur.

More significantly, farmers and herders may also selectively adopt outsiders' environmental idioms and turn them to their own advantage in struggles over identity and resource control. Such expressions of "environmental" discourse may bear little relation to local people's own practical ecological knowledge. For example in Guinea, Fairhead and Leach (1996) describe how externally derived images of forest loss are invoked by Kissi and Kuranko villagers in discourse about ethnicity, to identify themselves respectively as "forest people" or "savanna people" in ways which – in colonial and now modern Guinea – have political significance. Thus "there is no way of keeping the conceptual apparatus of the observer ... from appropriation by lay actors" (Giddens, 1987, 19; cited in Long and Long, 1992, 39), although such appropriation may respond more to other pressing concerns in popular culture than to "environmental" concerns *per se*.

To summarize, we have argued that the reasons for the origins and persistence of received wisdom about environmental change in Africa lie in the substance of science, on the one hand, and in its social and historical context, on the other, including the effects that it has through development in practice. To the extent that science is often the "primary definer" (Hansen, 1991) of what constitute environmental problems, it is relevant to ask how that science is carried out. Brockington and Homewood (1996) suggest that "good" natural science can be used to judge between

competing social science explanations for dryland degradation. Swift (1996), on the other hand, asks why it is that in the debate about desertification the results of “poor” science tend to be picked up and used more often than those of “good” science. Sometimes the orthodox view appears to persist because it is politically expedient to suppress or ignore evidence to the contrary. From this viewpoint, science and the broader political economy are regarded as distinct from one another. Alternatively, “evidence” itself is seen to be produced through a discursive process in which scientists are just one set of actors among several. This view, held by sociologists of science, emphasizes the simultaneous construction of knowledge and social commitments.

[...] On the one hand, there are structuralist explanations, within a rational choice or “political economy” framework. The perpetuation of received thinking about desertification, for example, seems quite clearly to serve the agencies and recipient governments, with the tacit support of sections of the scientific community (Swift, 1996). On the other hand, there are “actor-network” explanations (cf. Long and Long, 1992). In these cases, the “stickiness” of received wisdom is explained by the convergence of ideas and social commitments on the part of various actors, including local inhabitants, at particular historical moments (Fairhead and Leach, 1996). An additional layer of such analysis suggests that there are hierarchical relations of power between various participating actors, which leads such convergences of commitments to coalesce in certain, dominant directions (cf. Foucault, 1980). It is this, we argue, that accounts for the remarkable historical continuity in received wisdom about environmental change in Africa.

Ways Forward in Research

[... P]olicies founded on environmental orthodoxies have often proved not merely harmful to African farmers and herders, but ineffective in ecological terms as well. Given the power relations through which, as we have argued, orthodoxies are produced and sustained, there is clearly no simple remedy for this state of affairs. Nor is it likely that “more and better research” could improve the outcomes of policy for Africa’s farmers and herders without more fundamental changes in the relationship between research and development policy-making, and between the diverse institutions which influence policy processes. The issues involved here extend far beyond the scope of this [essay]. Nevertheless, [...] in this last section we reflect on some of these research implications, moving from the level of place-specific analyses of society-environment relations, to broader issues concerning the role of research in the policy process.

Numerous [scholars] show how alternative analyses of environmental change and people’s roles in it imply very different kinds of policy from those suggested by received wisdom. For example, Scoones (1996) and Swift (1996) [...] join a major rethinking of pastoral development policy which has followed new understandings of

rangeland ecology (Behnke et al., 1993; Scoones, 1995). If pastoralists' herd and land-management strategies are not, in fact, precipitating overgrazing and linear degradation, but instead are making the most of productive opportunities in highly variable and patchy dryland environments, then there are good grounds for adopting policies that support those strategies, for instance through flexible land-tenure arrangements which allow herders to maintain mobility.

[...]

In their implications for policy, these countervailing analyses [...] share certain common elements. One is that they emphasize working with and building on the ecological knowledge and skills of Africa's farmers and herders; the very skills often rendered invisible by neo-Malthusian degradation narratives. In particular, they suggest that local inhabitants may have long been practicing "opportunistic" resource management attuned to non-equilibrium ecological conditions. A second, related emphasis is on creating the enabling conditions under which local resource-management strategies can be pursued effectively. [...]

Many [researchers] are careful to note the place-specificity of their alternative analyses, and would therefore make no claims that their policy implications necessarily extend throughout the ecological zones or natural-resource management sectors in question. However, it would seem unwise to treat these cases as exceptions until it has been proved that their analyses do not apply elsewhere. In vast areas of Africa's drylands, highland and forest margins, similar investigations have yet to be carried out. To date, received wisdom about environmental change has been so taken for granted that deeper interrogation has seemed unnecessary. The cases thus imply an urgent need for further research elsewhere to explore findings such as these in a comparative way, research that makes use of historical and time-series data sets, which pays serious attention to inhabitants' own experiences and opinions, and which opens its questions to issues in "new" ecology.

There are research implications here too for ecological science, in which theory as well as empirical tenets have begun to re-cast in recent years with the adoption of historical approaches. [Recent] insights [...] invite more widespread studies of ecological history that tests alternative theoretical propositions even where issues may seem cut and dried. This, in turn, demands openness and willingness on the part of scientists not only to explore radical counter-hypotheses about environmental change – including those which stand conventional wisdom on its head – but also to the possibility that indigenous ecological knowledge and opinion might provide methodological challenges, especially to use the historical data sets now available in innovative ways. [...]

Yet, as [our] analysis [...] indicates, "better scientific research" is unlikely to have practical impact on orthodox thinking and practice without more fundamental changes in the institutional structures through which environmental problem-claims are made, solutions elaborated, and translated into policy and practice. [...]

It is not merely the case that received wisdom and challenges to it draw different conclusions about environment and people's interaction with it; they also uphold different social and political commitments and claims. Even in the cases where received wisdom can be shown to be demonstrably false, there will not necessarily be a single alternative analysis which can be shown to be "truer" to all parties involved, nor policy solutions derived from it which all would find acceptable. As Wynne (1992a) suggests, reflecting a view now widely held by philosophers of science, all knowledge is conditional, in the sense that it reflects the institutional context in which it was produced. Specific readings of environmental change should therefore be treated less in terms of their claims to "truth," and more in terms of the implicit social commitments that underlie them and on the validity of which they depend. Several such readings or "plural rationalities" may thus co-exist, and it is the job of good policy research to make them explicit enough to debate (Thompson, 1993). This task, however, requires a radical shift in the relationship between "research" and "policy-making" as conventionally conceived.

Many authors have made the case for such a re-conceptualization of the policy process in complex situations characterized by insurmountable uncertainty (Thompson et al., 1986) or indeterminacy (Wynne, 1992a). The analyses [...] of changing environment-society relations in Africa reveal similar degrees of uncertainty associated with knowing the character, direction and strength of causal linkages, and with designing policies that achieve their stated objectives once put into practice (cf. Mearns, 1991). Under such conditions of uncertainty, conventional, managerialist policy blue-prints are of questionable validity. This is especially true in cases of epistemological uncertainty, or "ignorance-of-ignorance" (Funtowicz and Ravetz, 1992, 259), in which policy makers are unaware that there are things of which they are unaware, including the unintended consequences of a given policy instrument.

From this perspective, the task of linking research into policy-making shifts to one of broadening the range of problem-definition claims, and negotiating outcomes among an extended peer group of actors. These may include scientists, policy makers in governments and donor agencies, local administrators, others such as NGOs with a stake in environmental protection, the mass media and, of course, local inhabitants themselves. This is tantamount to a "democratization of expertise" (Funtowicz and Ravetz, 1992). This reconceptualization of the research-policy process is very much a frontier in the contemporary practice of development. The line taken in work on science and public policy is kindred with the agendas of political ecologists, who express the need "to help uncover the discourses of resistance {to received wisdom}, put them into wider circulation, create networks of ideas" (Peet and Watts, 1993, 247). There are not yet any proven models for practical success in such a reconceptualization, although a powerful case in its favor has been made in a number of contexts. Among these, for example, are the reinterpretation of the causes of environmental degradation in the Himalayas by making plural rationalities explicit (Thompson et al., 1986), and the lessons learned from community-based approaches to wildlife management in Africa, emphasizing an action-research approach to program

design involving local communities, national research institutions, local and national government, and NGOs (Thompson et al., 1994).

Three types of criticism of a more pluralistic, or democratic, approach to the research-policy process may be anticipated: that it is methodologically weak or unproven; that it is populist or politically naïve; and that it generates findings that are too complicated to be of practical use to policy makers (cf. Wynne, 1992a).

While allowing for serious consideration of the knowledge, experience and opinions of “lay” actors in the development process, those advocating the “democratization of science” do not imply that “anything goes,” or that the value of conventional scientific research is thus contested. The findings from such research are merely placed on a more provisional footing (Funtowicz and Ravetz, 1992; Pretty, 1994).

On the charge of populism or political naivety, it may be argued that building consensus among actors whose world views and political interests are incommensurable is impossible; that exchanges between policy actors with radically different endowments of power and resources could never be politically neutral. The “democratization of the policy process” calls to mind the metaphor of an African palaver tree, in whose shade scientists, policy makers, donors and farmers or herders would argue their respective cases, and attempt to come to some agreement. But as participants in African palavers are well aware, such fora are neither open nor neutral; cases are expected to invoke particular interpretations of history in their favor, and “consensus,” if reached, may be in little more than outward appearance (cf. Murphy, 1990). Furthermore the real history of political interaction between different actors would certainly condition any attempt to foster more “democratic” encounters. And in many cases, fundamental differences of environmental change may be so deeply rooted in their social and cultural contexts that participants in such encounters would be likely to be defeated in their attempts to comprehend and respect each others’ perspectives. It is difficult, for instance, to imagine how consensus might be reached where Northern conservationists aspire to empty high forest, and farmers to convert the same land to the bush fallow they value as more productive. All groups of actors, whether scientists, policy makers or local inhabitants, may be expected to resist such a pluralistic – even relativistic – view of knowledge. Yet a “democratic” approach to the research-policy process aims precisely to reveal the hidden social and cultural assumptions underlying apparently incommensurable world views. Rendering such conflicts explicit may enable them to be addressed more openly, rather than remain concealed in hegemonic environmental readings and policy.

The third charge against a more “democratic” approach to the research-policy process is that such an exposure of plural viewpoints would serve to replace a simple received wisdom with excessive complexity. In this context, Roe (1991, 1995) argues, pragmatically, that simplified but compelling narratives are in fact necessary to the policy process as currently existing. The challenge is thus to create equally compelling counter-narratives which better fit the claims of a different set of stakeholders,

preferably counter-narratives with equally attractive slogans and labels. In this context, it is recommended that researchers consider ways of working more closely with the mass media in trying to counter received wisdom about environmental change in Africa. A further justification for generating counter-narratives is that excessive plurality or complexity could leave the door open for either no policy at all or for politically motivated, draconian measures, in the absence of other clear guidelines. While devising counter-narratives may seem expedient, given the current nature of much development policy-making in Africa, it tends to perpetuate the binary-oppositional type of policy debate which has so frustrated attempts to move beyond received wisdom. [...]

These arguments suggest the strong need for changes in the policy process and its institutions, as well as in research. If scientists, policy makers and local inhabitants are genuinely to comprehend each other's perspectives and exchange viewpoints, then innovative institutional arrangements will be needed. If research which reveals a plurality of perspectives is to be useful in the policy process, that policy process and its institutions have simultaneously to change. [...]

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A Walk on the Wild Side: A Critical Geography of Domestication

Kay Anderson

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Introduction

Few interventions in the world's diverse environments have been as influential as those taken some 11,000 years ago when Neolithic peoples began to domesticate select species of plants and animals. Two to three million years of food collection on the part of human societies gave way to new forms of settlement and livelihood associated with the production of particular food sources. Through an infinite number of modifications, not necessarily or uniformly adopted by all societies, humans began to transform nature into new forms of life and product.

By today, such interventions on the part of western societies have become highly orchestrated, but no less experimental, projects of selective breeding for human purposes. The next generation of farmyard animals – dubbed “super sheep” and “cloned cattle” – will be mass-produced creatures that can grow faster, produce more milk and meat, and resist more disease (*The Daily Telegraph*, 22 May 1996). The harnessing of science and biotechnology to the domestication of plants and animals has enlarged the ground of human control over nature. During the intervening millennia between Neolithic times and the present, with enormous regional variation, trees were cleared, crops were planted and commercialized, animals were raised as livestock, soils were fertilized and habitats for human settlement were made.

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So breath-taking is the scope of this transformation that the domestication of nature appears to be a universal process of humankind, the unfolding of laws of evolution which made humans lords of creation and animals our organic hosts. The significance of the process is reflected in a huge volume of academic literature, particularly in the fields of geography, archaeology, anthropology and zoology where plant and animal domestication has been examined for the light it throws on environmental histories, evolutionary process, species change under selection, population growth and patterns of human livelihood and settlement (e.g., Clutton-Brock, 1981, 1989; Harris, 1996; Hemmer, 1990; Sauer, 1952; Smith, 1995; Ucko and Dimbleby, 1969; Zeuner, 1963;). Yet to date, and despite the enormous environmental, commercial and social impacts of the process, domestication has escaped critical, sociological attention from human scientists (although see Noske, 1989, Chap. 2; Tuan, 1984; and critiques of contemporary biotechnology, especially Haraway, 1991). It is a silence that is not only surprising but also one that continues to constrain the imagining of alternative ethical and practical relationships between humans, animals and environments.

This article takes a more critical look at the process of animal domestication [...] I take domestication to mean a process of drawing animals into a nexus of human concern where humans and animals become mutually accustomed to conditions and terms laid out by humans; where that which is culturally defined as nature's "wildness" is *brought in* and nurtured in some guises, exploited in other guises, mythologized and aestheticized in still other forms of this complex cultural practice. Conceived in this way, domestication has broad practical and theoretical significance. I wish to argue in what follows that domestication frames relations that extend beyond animals to include other human groups encountered as people inhabit and move about the world (Anderson, 1998). Domestication practices have had a political content, I shall argue, that not only defined the relationship of humans with certain animals but also intra-human relationships between groups defined on the basis of race and gender.

This article is structured in two major parts as follows. In the first part, I review existing treatments of the concept of domestication in geography, from the late nineteenth century and beyond to the Berkeley school of cultural geography. Those schools of thought conceived of domestication within a culture-ecology framework which, I argue, inhibited the critical attention to the process that it deserves. In the second part of the article, I therefore begin the task of critically deconstructing the process of domestication. I seek to connect practices of domestication to recent critical geographies of power, discourse, nature and identity.

[...]

What is Plant and Animal Domestication?

The history of plant and animal domestication is gradually being reconstructed from evidence obtained from archaeological sites. There is agreement, however, that during Neolithic times and probably earlier, humans in various parts of the world began to confine and breed artificially select life-forms for certain physical and behavioral characteristics. Plants and animals deemed suitable for service and company were incorporated into the social structure of human communities where they became objects of ownership, purchase and exchange.

Domestication was not the prerogative of any one society. Nor was it a one-time event. Despite some controversial evidence that dogs, sheep and goats may have been responding to domestication pressures some 1,000 years before plants (e.g., Henry, 1989), it is widely accepted that plants were domesticated before animals. Tuberous species rich in carbohydrates such as sago palms, taro and yam were selected between approximately 11,000 and 9,000 BC; later, cereals were adopted, and as recently as the twentieth century, mint and ginseng became objects of agricultural production (Busch, 1991). As for animals, the first creatures to be incorporated into regions of simple plant domestication (in south Asia) were dogs, goats, pigs and sheep (Sauer, 1952). Such animals were bred, possibly initially in protective relationships as pets (Serpell, 1989), and from them, the domestic strains developed. Living artifacts - hybrids of “culture” and “nature” – were brought into socially embodied form.

Over generations, and a period of about 5000 years in the case of the major animal domesticates, the evolution of creatures was reorganized so that their natural state became one of coexistence with humans. As the docility of animals increased, their practical utility to humans was enhanced. Humans could have security of survival within a greater range of habitats, settled abodes and more sedentary lives. Humans themselves became domesticated (Wilson, 1988), though increasingly, archaeologists argue that human settlement occurred in tandem with breeding experiments (for European sites, see, e.g., Hodder, 1990). Regardless, human populations began to multiply in conjunction with food storage, agriculture and animal husbandry, and the conditions were created for the more complex urban life of the Bronze Age. Fellow life-forms were drawn into the fold of human activity - or “domus” – progressively “improved” in human terms, and stripped of what came to be called their “wildness”.

The “Animal” Turn as Biological Determinism?

One of the most persistent themes within western thought has been the concern with what makes us human, an impulse that has seen numerous efforts to specify how we are different from animals (and also machines). It is not my intention to chart the complexity of the efforts of diverse world cultures to conceptualize humanity in

relation to animals. Rather I seek to draw out the political significance, in cultures with a European tradition,² of the turn to animal domestication and the resonances of that process through wider social relations. My objective is to use the lens of *critical cultural geography* to situate such relations within a broader nature-society problematic, one that is typically used in geography to theorize within political economy frames and strands of historical materialism (see, e.g., Smith, 1984; Fitzsimmons, 1989).

Challenges to the conceptual boundaries segregating “humanity” and “animality” are my point of departure for examining the process of animal domestication. The human-animal divide is increasingly being problematized in the human sciences, along with other conceptual distinctions of mind-body/male-female that over time interacted with it. Such dualistic thought is under challenge by postcolonial and feminist scholars such as Birke (1995) and Plumwood (1993), who in her book *Feminism and the Mastery of Nature* unsettled the fixity of not only the category “animal” but also, more radically, “human” (see later discussion). The study of animals has thus been brought into a culture/society framework from which it has long been excluded (see, e.g., Sheehan and Sosna, 1991; Arluke and Sanders, 1996; and contributions to the new journal *Society and Animals*). The sociological turn to animals has also recently registered in geography where “animal geography” is being integrated into human geography (Philo, 1995; Wolch and Emel, 1997) and urban geography, for example, is being retheorized as a field of “trans-species relations” (Wolch *et al.*, 1995).

There is commonly resistance among human scientists to drawing analogies between relationships in “nature”, on the one hand, and social relations, on the other - the latter being deemed to be resolutely “outside” nature. There are fears of lapsing into the determinism and reductionism of sociobiology (e.g., Wilson, 1979) where explanatory recourse for social life is made to inanimate forces such as evolution, fitness and species survival. Such forces are (quite rightly) seen to deny agency and power to humans.

Humans are not in the grip of their instincts and senses, it is often asserted, whereas animals are. Animals are little more than their biology, this is what constitutes their animalness; they are mere puppets of genes. This uncomplicated conceptualization of animality is now long since out of date with literatures on the cultural and linguistic life of animals. The findings of that scholarship do not form the subject matter of this article, however. Nor does my interest in domestication stem from a position of “animal rights”, though the escalation of critiques of animal agriculture on the grounds that animals have intrinsic value and recognizable suffering, certainly gives currency to the topic (Regan, 1983; Singer, 1975). Rather, I will

² A discussion of other cultural traditions’ relations with domesticated animals would be an equally valid subject for analysis.

become interested in the article in how notions of animality came to inform concepts of “human” identity in European-derived societies; how the concept of animality holds up a window to ideas of “human” nature. My way forward, then, is to historicize the dualisms of human/animal and culture/nature (see also Haraway, 1991; Ingold, 1995; Latour, 1993) within what I shall be calling a *politics of domestication*. First, however, the article undertakes an assessment of perspectives on domestication in human geography.

Evolutionary Perspectives on Domestication in Geography

Animal and plant domestication has long been considered central to the concerns of human geography. This is not surprising given that domestication made possible the development of pastoral and agricultural economies with enormous implications for landscape form, and the relations of people to environment and each other. In what follows, my intention is to highlight the culture-ecology frame within which domestication has to date been conceived in geography. This provides my point of departure from other schools of thought in cultural geography for whom, as we shall see, domestication was an unproblematic phenomenon – a natural extension of man’s³ rise to ecological dominance of the earth. I do not perceive this as a call to inflame the debate about entire schools of cultural geography, however (see, e.g., Cosgrove et al., 1993; Price and Lewis, 1993), but rather as an opportunity to engage with diverse perspectives on the phenomenon of domestication.

In 1955, an international symposium under the chair of Carl Sauer of the University of California, Berkeley, was convened to review the impact on the earth’s surface of “man’s evolutionary dominance” (Thomas, 1956). Drawing on late nineteenth-century scholars such as George Perkins Marsh who wrote the influential *Man and Nature* (1864), the French geographer Paul Vidal de la Blache, and the Scottish geographer Marion Newbigin’s *Man and his Conquest of Nature* (1912), the symposium sought to “address the impact of domestication and civilization on animals and human beings” (Thomas, 1956, xxxv). One scholar whose work was considered particularly relevant was the geologist, Nathaniel Shaler, who had written specifically on the topic of animal domestication in the 1890s.

In a broader analysis of “man’s estate on earth”, Shaler (1896) identified domestication of the “forms of wilderness” as the point that marked man’s transition

³ In this article, I retain the practice of speaking in the male voice because the falsely universalist premise implicit in the usage of the term – of man as culture, reason, progress – was logically crucial to the narratives that were constructed. The decision to retain this style is only possible in the context of persuasive feminist and anti-racist challenges to the universalistic truth-claims (e.g., Rose, 1993). Where the term ‘man’ appears to have been inflected with especially transcendent qualities, I capitalize the word and its corollaries Culture, Reason, and Progress.

beyond “the threshold of barbarism”. It was an advance of culture, he claimed, that separated people from creatures of the wilderness. After all, the process of domestication did not lie only with functional need on the part of humans, but with “aesthetic values” and inclinations to bring “other beings into association with our own lives”. Such “sympathetic” tendencies were acquired as the “ancient savage impulses” of the “care-taking soil tiller” were “slowly worn away” in the task of husbanding animals. To the work of domestication, then, “perhaps more than to any other cause, we must attribute the civilisable and the civilised state of mind” (Shaler, 1896, 222). In short, such habits of mind and conduct distinguished Man both temporally and conceptually as Culture, from beast conceived of as instinct.

Domestication was for Shaler, then, the force through which culture - understood normatively as a civilizing attribute - had arisen and evolved, a view that enabled him to cast within an evolutionary frame the relations of man and animal. And yet, such “humanizing influences due to the care of animals” were not universally shared by people, he observed. The distinction between wild and tame was meaningless, Shaler claimed, to “the savage”. So just as creatures acquired a “tone of civilization” when they “abandon{ed} those ancient habits of fear and rage which were essential to their life in the wilderness” (Shaler, 1896, 226), savage men could only be brought into a “higher state of perfection” - if not literally through selection - then under the conditions of civilization (a claim which will become relevant later in the article).

As long as domestication was conceived as the civilizing activity that marked (at least some) humans’ separation from animals, its understanding could feed into ethnocentric ideas that were in circulation during Shaler’s era (see Livingstone, 1984). More precisely, the activity of domestication seems to have been taken as a fundamental criterion for ranking groups of people called “races”. The work of domestication has “in the main”, Shaler (1896, 220) claimed, “been effected by our own Aryan race”. In the continent of Africa, excepting the “lands about the Mediterranean and the Red Sea, the native peoples have never attained the stage of culture in which men become inclined to subjugate wild animals” (Shaler, 1896, 247). Hence such men had themselves remained savage.

The terms of reference of the 1955 symposium echoed many of Shaler’s views. The meeting grew out of a concern about the environmental impacts that were said to have transpired since “man supplemented organic evolution with a new method of change – the development of culture” (Thomas, 1956, viii). This was taken to mean “man’s growing knowledge of, and control over, forces external to himself” (viii) as testified by the technology of domestication. Such control had attended man’s rise to the status of (what was called) “ecologic dominant”.

Carl Sauer, the convenor of the symposium’s retrospective focus, had already written about the origins and dispersal of agriculture. For Sauer (1952/1969), the evolution of culture in man had given rise to “innovations” which – in an intellectual context of economic and environmental determinism – he argued deserved their own

analysis. In Sauer's (1956, 2) words: "Man alone ate of the fruit of the Tree of Knowledge and thereby began to acquire and transmit learning, or culture." Unlike Shaler, however, Sauer saw no variability in the capacities of different races to modify landscapes through domestication, and would tolerate no claims about the special ability of Aryans to domesticate. Sauer's theoretical objective, after all, was to make a case for the instrumental role of culture as a "universal capacity" of "even the most primitive people", including "the obtuse Tasmanians" (Sauer, 1956/1969, 11).

Sauer's (1952) inquiry into the origins of agriculture led him to hypothesize, following the German geographer Eduard Hahn, that domestication had (what he called) "cultural" rather than "economic" origins. At least some animals became domesticated, he argued, to serve in the religious ceremonies of more or less sedentary populations. Animals also became part of the household as pets, "giving" (again following Shaler and also Francis Galton, 1865) "aesthetic satisfaction" to humans. Herd animals, too, Sauer argued, would have first been brought into gentle captivity and reared like children. Only subsequently would breeding experimentations have occurred. Nor were today's chickens initially domesticated for functional (egg-laying and meat-producing) qualities, Sauer argued. Such characteristics were selected for later, at least in Malaysia and India, where originally animals were domesticated for ritual re-enactments of divine combat (in cock-fighting) and as gifts to spirits. He thus theorized domestication as a "cultural advance achieved only where people of special inclination . . . gave peculiar and sustained attention to the care and propagation of certain plants and animals" (Sauer, 1952/1969, vii).

Not that Sauer was an uncritical advocate of domestication. Despite seeing the process as an "innovation" associated with the rise of Man (as Culture) to ecological dominance, he recognized in his paper for the 1955 symposium that settlement and pastoralism were progressively causing deleterious attrition of vegetative cover and surface soils. It was time to "take stock" – Sauer wrote in words that not only connected back to Shaler but forward to today's environmental impact rhetoric – of the "responsibilities and hazards of our prospects as lords of creation" (Sauer, 1952, 104). In other words, Man had singularly decoupled himself from evolutionary pressures and had thus been set on a path to civilization. What was needed now was for him to heed the negative consequences for his environments (or in today's ecology-speak, to acknowledge the "environmental limits" to our role at evolution's centre-stage).

Sauer's views on the origins of domestication were elaborated by other geographers, most notably the Simoons in their 1968 book about the ceremonial uses of the ox in India (see also Simoons, 1974), and Erich Isaac who, in 1970, published *Geography of Domestication* (see also Donkin, 1989; Palmieri, 1972). Isaac was concerned to develop the linkage between the domestication of cattle and religious ideas. After outlining a wealth of evidence, he concluded that the "cultivation and domestication of plants and animals were the by-product or outcome of a religious world picture" (Isaac, 1970, 110). It was an argument whose trend was "to reverse the popular Marxist axiom that religion and science are superstructures. For in this case,

technology (domestication) was a superstructure on . . . religious knowledge” (Isaac, 1970, 110). To this day, key human geography texts such as Rubenstein (1989) and Fellman et al. (1990) carry forward this idealist position on the origins of domestication.

Such theorizations have recently been the focus of challenge from a number of directions, some internal to the framework of cultural ecology, others opening up the possibility of alternative understandings of domestication. Regarding the first line of critique, Rodrigue (1992) refutes on empirical grounds the Sauerian theory of animal domestication. Using archaeological data dating from periods spanning the transition from Upper Palaeolithic to Neolithic times in near-eastern sites, she tests the theory that ritual sacrifice induced the earliest animal domestications. Her data support the reverse argument; that ritual sacrifice occurred in societies that already possessed domestic animals, as well as stored and traded food. Her findings led her to reject the emphasis of cultural geographers on “the causal power of the human mind” (Rodrigue, 1992, 427) and to claim instead that it was “fragile, destabilizing human ecosystems” that impelled decisions to settle and to elevate long-domesticated stock into “spiritual herds” (Rodrigue, 1992, 428).

Criticism of philosophical idealism in Sauerian cultural geography came from another, quite different, source in recent years. Whereas Rodrigue criticized Sauer within the frame of a (narrow) reading of culture as “learning”, others sought to challenge more radically Sauerian forms of explanation. This line of critique queried not so much Sauer’s empirical findings as the mode of conceptualizing culture that underpinned the Berkeley tradition. It is a critique that facilitates more critical thinking about domestication, of the kind that appears in the second part of this article.

In an influential article published in 1980, James Duncan laid out lines of disagreement with the Sauerian model of culture and elaborated the grounds for a revised view [...] ([see] Jackson, 1989; Anderson and Gale, 1992). Here I wish to think briefly through the implications of Duncan’s ideas specifically for Sauerian views of domestication.

Duncan challenged many of the premises of the Berkeley school’s theory of culture, many of which can be found threaded through Sauer’s work on domestication. Most clear is Sauer’s attribution of causal power for the “advance” of domestication to culture itself, as if culture were an agent that functioned somehow independently of individuals. This, after all, was Sauer’s objective in relation to theorizing the origins of agriculture and animal husbandry: to deflect ecological and economic theorizations in favor of those that emphasized the force of culture in imprinting the face of the earth. For Sauer, culture was an evolutionary attribute uniquely acquired by man, one whose diverse religious expressions it was his project to document. In so doing, he granted culture “superorganic” power, reifying it as an abstraction with its own logic, rather than making the “learning” surrounding domestication the subject of its own explanation.

Such a criticism does not compromise the detailed investigations of Sauer and others into the diffusion of specific domesticates. Indeed it is surely possible to query the evolutionary perspective of Sauer, without discrediting the often sophisticated contributions of the Berkeley school to regional studies of environmental, social and population change. Moreover, Sauer's focus on the ceremonial bases of domestication prompted him to address different symbolic systems in different places. But, in being content to explain, or more precisely explain away, animal sacrifice and selective breeding within a pregiven evolutionary trajectory – one that bestowed Culture on Man -- Sauer lost the opportunity of contextualizing domestication within a wider politics of premises and practices surrounding human uniqueness.

In what follows, I depart from treatments of domestication, including those outside geography such as Budiansky's (1995) spirited *Covenant of the Wild*, that explain species alteration in terms of some naturalized category of domestication. On the contrary, I see animal domestication as a political activity historically interconnected with ideas of human uniqueness and dominion, savagery and civilization that become woven into the structuring of not only human-animal relations but also other social arrangements. This is the subject of the substance of this article, to which I now turn.

Deconstructing Animal Domestication

The Rise of the Idea of Human Uniqueness: Transcending "the Wild"

Although the term "domestication" did not enter the English language until the 1500s, the practice of selectively breeding animals is rooted in the remote past. The verb to "domesticate" appears to be a technical term (deriving from the French *domestiquer*) that in medieval times became attached to a concept that had been circulating for centuries prior. We know that in the classical era, from approximately 500 BC to the Roman period AD 100-300, domesticated beasts were the reference point for a rift in thought between "nature" which was said to be tame (the nature in Cicero's words, which "we make") and nature which was "indomitable" (Cicero, 1894).

Significantly, the opposition of domesticable and indomitable nature was no neutral distinction for the ancients. From at least the time of Hesiod's *Works and Days* in the eighth century BC, human history was conceived as a journey from the age when man lived in (what was said to be) a "state of nature" (Glacken, 1967, 132-33). As various life-forms began to be recast practically by humans as food, energy, warmth, sport, company and so on, a process ensued that came to be narrated as the "cultivation" of nature. And to cultivate nature was to draw it into a moral order where it became (what was said to be) "civilized". Improvements of nature through the techniques of domestication were taken by Cicero, for example, to reflect human art in the fulfillment of Design in nature (Glacken, 1956, 72).

The practice of refining life-forms was valorized as a marker of “humanness”. It was the practice that signified “culture” itself, a term which in its earliest European use meant to cultivate or tend something, usually crops and animals (Williams, 1983, 87). By extension, nature, which lay beyond the orbit of cultivation, came to signify a space of danger and distance with tameness as its converse (Cosgrove, 1995). Indeed the walled city or *polis* of the classical era, where wildness would be kept out and the ideal moral community established, represented a major effort to segregate definitively civility and wildness (Pagden, 1982, 18-19). Later on, biblical stories invoked still more negative notions of wilderness (Cronon, 1995).

It is possible to historicize these concepts of civility and wildness further within the material and symbolic transformations called agriculture. One social archaeologist, Ian Hodder (1990), locates the distinction between civility and wildness remotely, in the Neolithic era, when experimentation with breeding of animals (and plants) was underway. The erection of more stable homes, the delimitation of settlement and the treatment of the dead all came to separate more securely the domestic from “the wild”. While recognizing that the full range of meanings within Neolithic symbolic systems is lost to us, Hodder argues that built form in many archaeological sites throughout Europe was organized around the dramatic templates of the “domus” (where life sources such as clay, plants and animals, as wild, were *brought in* and transformed) and the “agrios” (as danger and death) beyond.

Note that the distinctions of domus and agrios are under constant construction, experimentation and negotiation as humans remake life sources and they remake humans. By the late fifth and fourth millennia BC, Hodder claims, the productive activities of cooking, feasting and exchange were couched within an ideology of the domus where that which was “wild” was domesticated into arrangements of coexistence with humans. From this perspective, the alteration of the relationship between humanity and other life-forms during the Neolithic – called agri-culture – was far broader than a functional rise in the activities of herding and harvesting (Thomas, 1991, 13). It was a simultaneously practical and symbolic process.

By the time of Greek writing, as early as Hesiod’s *Works and Days*, the capacity of humans to domesticate life-forms had become quite deeply inflected with normative ideas. Such ideas have had an extraordinary resilience and were alive in the writings about domestication reviewed earlier in the article. Not only had domestication come to be narrated as the process out of which culture was constituted but it was also, for many Greek scholars, the very basis for the claim of human uniqueness (Frankfort et al., 1951).

Recognizing there were dissenting views (not least Porphyry’s *On Abstinence from Animal Food* in AD 268), we can characterize the ancients’ narrative logic as follows: whereas man (see note 2) could control his instincts through thought, animals were by contrast locked in the tyranny of instinct, unable to “realize their potential” (cited in Pagden, 1982, 17-18; Aristotle, 1976; see also Sorabji, 1993). Evidence for this claim was the art of cultivation through which humans had apparently improved

“nature” (that is, brought it closer to the interests of humanity) (Pagden, 1982, 43). Now, of course, the animal world provided a reference point for the process of human self-definition long before domestication c. 11,000 BC (see, e.g., Hodder, 1990; Linzey and Yamamoto, 1998). But cultivation was decisive for most Greeks because it was taken as representing the systematic application of reason on the part of humans to their condition. The art of selective breeding had enabled humans to realize the “telos” [the end of a goal-oriented process] inherent within them and to transcend the primal struggle for survival. Animals by contrast were consigned to remain forever lodged in that struggle. They were stuck, not only in their own nature but also in the space called nature that was somehow left over and *behind* after humans, or at least Man – as Thought, Culture (and later on, Progress) – had heroically detached himself.

One has a further sense of the triumph with which domestication was viewed, in the classical idea that Man, in harnessing life-forms to his service, was said to be overcoming the force of instinct within himself. In so doing, he too became “civilized”. He became free, released from what the ancients called his “animal nature”. This was the metaphorical site within humans occupied by what loosely came to be called “the beast within”, signifying all the contradictory fears and desires which surround uninhibited behavior, including sex and violence (Midgley, 1978). In short, a language of difference became expressed by the ancients in terms of a *temporal* metaphor of civilized and wild, human and animal, culture and nature.

The history of European ideas of animality, of the otherness of the nonhuman, is increasingly attracting a body of scholarship. There is a growing interest in how, instead of acknowledging *species-specific diversity*, humans came to draw a sharp dividing line between human and nonhuman such that we have perceived ourselves as belonging to a totally different order (called culture), while all other beings and inanimate things are *only* nature (Noske, 1989). We know that the human/animal distinction congealed under the weight of Christian premises about human dominion and an institution dedicated to curbing the animal within (although also that popular wisdom often clung to the more ominous belief that the boundary was not so secure). We also know that ideas about the integrity of the human species grew considerably more uncertain in medieval times when ambiguous and fantastic entities of mermaids, centaurs and other figures of sexual transgression entered myth and fable (Davidson, 1991). During the 1500s, there were some outspoken critics of the idea of human distinctiveness and superior station. Erasmus, Thomas More and Montaigne were, for example, bitter critics of hunting, an activity that rendered humans “beasts themselves” in the words of Erasmus (cited in Cockburn, 1996, 19). Thomas (1983) also reminds us that official notions of human mastery of the animal world in England during the early modern period were sometimes undercut by the unofficial efforts of farmers to nurture animals. But by the late 1600s, such romantic impulses had again been engulfed in views that the hand of a wise Providence was guiding humans whose duty on earth was to *improve* the primeval aspect of the earth through animal husbandry and tillage (Glacken, 1956, 75).

From that time, with the development of the scientific revolution, the human capacity for reason became further exalted, and humanity was again opposed to animality (Cockburn, 1996). Earlier invocations to man's divine status were cast off. And when the French philosopher Descartes overlaid the earlier dualism of reason/nature with the distinction of mind and body – one which privileged the former (as the embodiment of intellect) over the latter (the locus of instinct) – the conceptual ground was further cleared to segregate human from animal (Midgley, 1984). While both were believed to be capable of physical sensation, Descartes deduced that since animals lack reasoning capacity, their sensations were merely bodily (physical/mechanical), ones of which they can't be aware or conscious (Lloyd, 1984). The categorical opposition of human and animal was thus further entrenched and the complex patterns of species-specific diversity slipped virtually entirely from popular view (Birke, 1991).

So taken for granted has the divide of human and animal become in western societies that the processes embedded in its construction have been obscured. As part of a strategy of retrieval, therefore, I have been foregrounding how formative classical ideas about animal difference and human uniqueness were historically conjoined with notions of culture and nature, and more precisely, "cultivating the wild". The couplet of civility and wildness belongs not only to the history of ideas, however, but also to real practices – specifically the material activities of selective breeding that gave humans control over the reproduction and character of other life-forms. The metaphorical and technical faces of domestication thus hold up a mirror to tensions within the process of "human" self definition in European-derived societies.

Nature, Savagery and Civilization: Colonialism Beyond "Raced" Identities

The practice of domesticating animals had embedded within it a structure of ideas surrounding the control, elaboration and "improvement" of wildness (into service and products). This had profound implications for human relations with the animal world, but also for intrahuman relationships and geographies. Negotiating the wild became a metaphor and mechanism for the regulation of European-derived societies.

With the development of the Enlightenment, the capacity of humans to reason – to transcend "the beast within" – came to colonize deeply not only western conceptions of human identity but also moral claims to *humanness*. The rational faculty (versus, for example, emotion, sensation and other sensibilities shared by all sentient creatures) was taken to stand as the defining characteristic of Human. The premise of a universal "human" subject was powerful enough to over-ride the internal contradiction of its own gendered and racialized inflection, as many feminist and anti-racist critics have already noted (e.g., Plumwood, 1993; Birke, 1995). Those who were European, white, male and adult set themselves up as the prototype of humanity, with animality as its opposite.

This sleight of hand relegated the feminine (equated with the body/the irrational), racialized peoples and children. All such “other people” had ambiguous status. While they were irrefutably “human”, as people beyond reason they were not wholly spared of “animal-like” qualities. This was perhaps particularly the case for racialized peoples.

Under regimes of slavery in ancient Greece and also the sixteenth-century Americas, such peoples had performed a niche in human society because they were “like animals” (Jacoby, 1994). But the conflation of womanhood with the body (and its “wild” energy) was also a powerful and enduring couplet, as was the idea that children’s “wild” behavior should be subject to “training” and discipline (as for animals).

The sense of “human” transcendence hardened with the rise of formal bodies of scientific knowledge from the eighteenth century which afforded (to themselves) the promise of fitting “nature” into models of regularity (Jay, 1992; Rose, 1993). Linnaeus’ *Systema Naturae* (1735) was especially influential in conceptually ordering nature’s apparent chaos. It laid out a system of classification for plants and animals that became widely adopted despite (or perhaps because of) its logical base in the Aristotelian *scala naturae* or “great chain of being”. Thus Man sat at its summit, with “higher” and “lower” organisms in descending order to the base. In such ways, despite being mixed with many folk ideas, (see Miller and Reill, 1996), science came to stand as the glorious incarnation of Mind.

Not that science was removed from earthly concerns. On the contrary, in the tradition of Bacon of utilizing science for the “relief of man’s estate”, improvement was an ethic that meshed easily with those of the Enlightenment. Fortified by the confidence in human reason that scientific achievements brought, Britain’s landed elite embraced the secular rhetoric of this-worldly “improvement” of the earth’s products. Waste lands could be brought into cultivation (an idea that lives on today in, for example, Australian mining company assessments of “unimproved” land as “useless”, see Gelder and Jacobs, 1995). But not only that. As the eighteenth century progressed, the concept of improvement grew elastic enough to legitimize the expansion not only of agriculture but also industry and, ultimately, the development of colonies overseas (Gascoigne, 1994).

By the mid-eighteenth century, then, the ideal of improvement – one that had long justified selection of animals (and plants) for cultivation – became an informing ethic of European states undergoing schemes of empire-building. The frontiers of the “new world” could be *reclaimed*, symbolically and practically, *from their wildness*. As “blocks of space” inscribed with uncultivated landscapes, colonies were perceived to be stranded in the flow of social time (see Agnew, 1996). Stuck, as such, they joined the woods, the jungle, the frontier – all those primeval undomesticated spaces on to which could be *(dis)placed* the tensions within “human” identity-making surrounding the civil and the wild. The “telos” within such spaces could be “realized”, however, by being “brought in” to the fold of a domus (empire or commonwealth) where wildness

had been familiarized. Plant and animal species could be transferred from abroad as part of the “improvement” mission. An arm of the improvement strategy called “acclimatization” was thus extended to the “new world” after the example set in 1852 when the *Société Zoologique et Botanique d’Acclimatation* was established in Paris (Banks et al., 1994; Osborne, 1994).

Equally, certain peoples could be transformed into putatively *more human* humans. Just as nondomesticated plants were “weeds” and nondomesticated animals were “wild”, nonwestern indigenous peoples typically bore the title of “savage”. They were the people who stood at the beginning of social time, “unevolved” through having themselves *remained* undomesticated. (The term “savage” originally applied only to plants, but in the seventeenth century it came to acquire a more general reference to primitive peoples, Pagden, 1992, 14.) In the case of Australia’s indigenous peoples, for example, it was their insistent nomadism that struck white settlers most forcefully. Aboriginals didn’t have homes. Their camps were “part of nature”; that is, they weren’t first modeled in the Mind, and then *built* or realized (see Ingold, 1995). The savages didn’t live in cities (where to recall the ancients, all civil beings lived). Their resource management strategies didn’t qualify as “agriculture”. They didn’t wear clothes. They ate a lot of raw food. Their tools and arms did not qualify as “technology”. Patently, they didn’t know how to realize their own human potential. Apparently (despite their nomadism), they were not yet “free”. As shocking counterpoints to culture conceived primarily in terms of cultivation, sedentism, city life and technology, they unlocked the tensions within European models of what it meant to be “human”.

Yet, according to the putatively universal ideal of human development as a series of stages from savagery through domestication to freedom (as witness G. Klemm’s 1843 *General Cultural History of Mankind* and the earlier discussion of Shaler), the wildness of such savages could potentially be overcome. Through spatial containment and moral education – such as could be provided on missions – they could themselves learn to be domesticated. Under conditions of tuition, protection, pastoral care and discipline, primitives could be liberated of their savagery. A language of difference thus became expressed in terms of a temporal metaphor of wild and domesticated that justified a host of “civilizing” measures (see Guha, 1989, 240-44) and which again suggests how the myth of wildness belongs as much to a history of real people, real power, real practices and real geographies as to a history of ideas.

Charting practices and ideologies of improvement in this way enables us to rethink colonial encounters in fresh ways. Long conceived through the lenses of cultural transfer (e.g., Meinig, 1962; Powell, 1976; Williams, 1974), race domination/subjugation (Fredrickson, 1981; Pawson, 1992; Thomas, 1994), and regimes of extractive capitalism (e.g., Greenberg, 1980; Wallerstein, 1976) colonial relations might themselves be narrated within the frame of the much older process of domestication. The civilizing mission was not *only* about ethnically based supremacy and capitalist extension under Imperialism and modernity. Ideas of race hierarchy and

strategies of capitalist extraction were nested within a more extensive framework of ideas about “human” uniqueness and dominion, a key material basis of which, I am arguing, lay in domestication of the nonhuman world. This was a source of ideas about perfectibility under selection practices,⁴ of improvement towards the goal of cultivating the wild, of mitigating backwardness, of reigning in and “fixing” wildness to a settled point.

Of course it has long been noted by race relations scholars that colonized and other racialized peoples were treated “like animals”, as beasts closer to nature or as children in need of tutoring (e.g., Jordan, 1968). And the connections between Darwinian notions of survival, selection and fitness in nature and nineteenth-century ideas about race conflict have been widely documented (e.g., Stepan, 1982). But such scholarship has typically been cast within the frame of a critique of societal racism, using the contemporary analogies that were drawn to relations in nature as the subject-matter for their critically deconstructive efforts, rather than taking the further step of situating multiple oppressions of colonized “races”, nonhuman animals, “wild” landscapes and savage spaces within the legacy of domesticatory projects.

What I am proposing, then, is that once we begin to problematize social (including human/animal) relations within a *wider politics of nature’s domestication*, broader modalities of power to do with civilizing the wild are brought into view. This is no quest on my part to assimilate (and depoliticize) all the diverse racialized practices under diverse European colonialisms into some overarching continuity flowing from the Neolithic to the present! Nothing so transhistorical, linear, totalizing or impregnable in scope is proposed. Nor is this a search for ultimate origins; we know, after Foucault, that history is partly constituted in the present, in the interpretation of the past. Indeed that is what I am suggesting: that the conceptual frame within which colonial relations in western societies are figured can be remembered differently and productively through being enlarged. By turning a spotlight on geographies of the “wild” – its management and all the disruptions that cross cut its containment – we might go some way to dislodging the petrified scripting of *raced* identities within the domination/resistance plot of contemporary anti- (and some post-) colonialist critiques.

⁴ Notably, the science and practical program of eugenics, which was popular in Germany, Russia, Japan, the USA and Australia from the 1920s, was designed to promote racial quality and purity through selective breeding of the human species (see Stepan, 1982, 111-12). (Although note also that, in an extraordinary inversion, while brutal practices towards racialized humans were executed by Nazi Germans, animals rights were liberally trumpeted by Hitler and other Nazis – see Arluke and Sax, 1995.)

Neutering the Wild: The Gendered Politics of Domestication

The first animal domestication practices required species to be positioned within the fold of the human “domus”. (As noted earlier, this can be defined as the space of human concern set in opposition to “the wild” and including, without being restricted to, the household – Hodder, 1990.) People brought animals to them, rather than follow them across landscapes. This entailed the bounding and interiorization of space in which to keep out, tend, manage and generally familiarize “wild” nature in human terms. In early Neolithic settlements, goats and sheep were led away from their mountain habitats and reproductively isolated from their wild counterparts. Those species selected by humans to become a separate breed were spatially confined and over time socialized into new conditions of life. As animals became drawn into human production systems and living arrangements, cultural notions of “settling”, ownership, property and possession were elaborated.

Space was significant in domestication practices not only in connection with an infrastructure of enclosure practices. Significantly, domestication involved a transition on the part of humans from predation to protection of food sources. Cultivation entailed the “husbandry” of animals (and plants). Such creatures were “reared” in a familial sphere, where they became habituated to people and people to animals. Animals were brought closer to an idea of humanity, and humans closer to a “nature” that was all the time being made more amenable to them (Thomas, 1983, Chap. 3). The most affectionate of such adoptions surrounded the raising of pets as part of a family (Tuan, 1984), but rearing extended much more impersonally and (in time) coercively, to farm animals.

Note in this context how the locus of the “house” came to lie within the parameters of a more *inclusively domesticated nature*. The gender implications of this arrangement need to be specified for precise times and places, but in even the most general terms, their importance deserves to be registered. Hodder (1990) argues that early concepts of the “domus” contained within them premises of “culturing the wild”. These twin ideas, he argues, entailed the “bringing in” of not only animals, plants, clay and death but also the energy of female reproduction. Embedded within the idea of the cultured domus, then, might have been a politics of regulating the force of reproduction which did itself entail the early symbolic and spatial identification of women with the “hearth”.

The lineage of gendered ideas and practices surrounding the house is not my concern here. Certainly the history is complex; for example, we know that in precapitalist Europe, domestic space was *not* rigidly gendered. Men and women shared more or less equally in the administration and productivity of, for example, the household (Hayden, 1984). In time, however, during the expansion of industrialism and imperialism, roles became more segregated. “Nature” that was as yet open to cultivation, discovery and rational inquiry became encoded with calls to masculinity. By contrast, “nature” that summoned forth images of things that were (either ideally or practically) tamed – the body, the home, the garden – was progressively feminized

(Davis, 1995). The European ideal of womanhood came to figure women as *domesticated*, as beings attached to the concerns of the domus.

By eighteenth century England, the notions of ideal womanhood and “the home” had become conjoined (Armstrong, 1987, 83). The cultural tendency was for womanhood to be identified (narrowly) with reproductive roles and services imparted by domestic education (Brenzel, 1980; Ryan, 1982). Of course such ideological strictures on women were never fully or wholly binding and women have struggled in many western societies and at various times to overturn their identification with home conceived as a space of privacy, stasis, tradition and connectedness (see, e.g., Johnson, 1996). Regardless, such strictures grew materially significant with the progressive devaluation of domesticated “natures” under modernity (Shammas, 1980).

The critical conflation in much eco-feminist literature of women and nature in a patriarchal world (e.g., Collard, 1989; Merchant, 1980; Mies, 1990; Rosser, 1991; Shiva, 1989) appears to overlook this more precise comparison between women and *domesticated* nature. To explain the oppression of women/nature/animals in terms of male-centered environmental practices obscures the location of gendered relations of power within a more *crucial nexus* of domesticated/nondomesticated “natures”. Other feminisms, in the constructivist tradition of the 1980s, have also overlooked the significance of domestication practices for their own concerns. They have insisted on women’s place within “culture” rather than “nature”, fearing that to position women within nature risks carrying forward deterministic equations of women with the world of animal atavism (e.g., MacCormack and Strathern, 1980). Nature has tended to be cast in terms as the *presocial* site of essentialist ideas about women (e.g., women as nurturers, women as emotional). In short, nature has been conceived as the site of the Innate from which women seek political distance (Birke, 1995, Chap. 8).

Such an anti-essentialist position has been, and continues to be, practically useful in overturning gendered inequality. But conflating the Innate with the Animal has had unintended consequences such as the following: it overlooks lines of continuity between primates (Haraway, 1989); it denies animals a cultural life (see, e.g., Masson and McCarthy, 1996) as well as politically trivializing *any* identification of women with the biological. More crucially, for my purposes here, it masks connections between the historical experiences of women and *certain* – that is, *domesticated* – life-forms.

By contrast, this article seeks to draw social relations previously conceptualized as “outside” nature into the wider network of a politics of domestication. Thinking through the lens of discursive regimes [abstract social systems which specify who can speak and what they can speak about, in what circumstances] of wildness and civility highlights trends and tensions within gendered relations that may repay further attention than is possible here.

Ultimately the focus leads beyond to the subject of human sexuality and the idea, increasingly class-based from the eighteenth century, that human “sexual nature”

did itself require “cultivating” through the medium of its own domestication (Bewell, 1996). In the ideal bourgeois world where desire would be restrained and conduct disciplined, women came to be characterized as “civilizing agents”. Their “wildness” properly reigned in and channeled into reproduction, they would be socializers of men within the domestic sphere. This was the space that came to stand ideologically as the antidote to competitive relations in nature and the modern marketplace (Armstrong, 1987). The implications of such a depoliticized concept of home space continue to resound in the problem of, and silence surrounding, domestic violence today.

Domestication as Mastery?

Talk of ideas of human transcendence of “nature” invokes [...] images of mastery and domination. In its technical meaning, domestication is a process of hereditary reorganization of animals into new forms according to human interests. It is a form of control whose subjects have undergone profound behavioral, as well as genetic and morphological, changes. (For example, the wild ancestors of cattle produced no more than a few liters of milk; the “best” cow can now yield 12,000-10,000 liters during its lactation period.) Conceived metaphorically as the drawing of wildness into a fold where it could be “improved” and “settled”, domestication also entailed some massively intrusive interventions in the circumstances of other life-forms. In so far as the metaphor applies to the “dominions” of New South Wales, Victoria and South Australia, for example, many indigenous peoples in the nineteenth century were herded on to missions where their behavioral (and indeed reproductive) futures were strictly regulated.

Yet the constitutive processes of domestication are complex on closer inspection. Domestication practices brought humans and animals into sociospatial relations of not only control but also affinity, proximity as well as distance, companionship as well as service. Converting wolves into “dogs”, tuberous perennials into “crops”, aurochs into ever-more specialized “cows”, has not always or only been a tyrannical act of domination over a haplessly subject nature. The underpinning moralities in domesticatory relations have been considerably more complex and contradictory, as I now seek to outline.

For all the calculation involved in the technical process of domestication, it is important to note that it has always been an experimental process. Neither traditional nor contemporary biotechnology is a confident imposition of mechanistic Order and Pattern, but rather involves tentative gestures of fear and hope. It is a process without guarantees of success or completion, and is subject to continuous refinement, reversal and failure.

Some species, such as gazelles, fled from efforts to confine them. Horses can become “brumbies”, cats can go feral, the Australian dingo crossbreeds with domestic dogs and becomes more or less “wild”. Even the staple domesticates on which humans

have come to depend, including sheep, cows and chickens, cannot be considered *definitively* domesticated. Domestication is no completed accomplishment therefore; the actions of humans alone maintain tameness (Digard, 1992; Davis, 1995).

Animal domestication has also been an experimental process in the sense that it has drawn on a mix of moralities; of care and control, as well as mastery and paternalism. Depending on how a species is defined – whether it is deemed edible, palatable, useful, good company, vermin, nice to touch, intelligent and so on – domestication has entailed impulses that range from consummate affection towards individual domesticates to unrestrained exploitation of whole species. The increasingly intensive conversion of animal productive capability into the bodily substances of meat, milk and wool (Benton and Redfearn, 1996; Ufkes, 1995) is the supremely coercive face of domestication. To domesticate in this form is indeed to appropriate. But contradictions run deep in the process, signaling cracks in its operation. Just as some people have always reserved their deepest commitments for their pets (Pitcher, 1996) and their most ardent affection for their gardens, one notes by today the return to small-scale organic farming in opposition to mass-produced systems of factory farming. In this move, an ethics of care resurfaces alongside – and often in conflict with – technocratic regimes of genetic engineering and sophisticated reproductive technologies (Bloomfield and Vurdubakis, 1995).

That domestication is no simple imposition of mastery is even more evident when threaded into the understanding of relations between groups of people. Certainly evidence of conflict and contest abounds in colonial and gendered relations, and need not be reiterated here. The couplet of wildness and civility that I have been foregrounding in this article, however, sheds further light on the nature of the struggles out of which such relations have been structured. For example, the disorder injected in the American governments' boarding-school regimes in the 1920s by teenage Indian girls – who adapted the tools of “domesticity classes” to their own ends (Lomawaima, 1993) – reminds us of the incomplete hold of models of domesticated womanhood on their often defiant subjects. Lines between wild and civilized are never, that is, definitively secure, and can always be transgressed, disturbed and recombined in unpredictable forms.⁵ As Rousseau (1754) signaled in his radical critique of humans' self-imposed domestication, people in apparently “civilized” societies can always take flight from the yearnings and fetters that fix them to settled home sites.

⁵ See Jacobs (1996b) for signposts to new ‘geophilosophies’ of flight and flow.

The diverse faces of domestication complicate simple conceptualizations of the process in the language of power and domination. The mix of control and care moralities also confounds the envisioning of alternative human-animal ethics that might flow from domestication's deconstruction. After all, the voices of "care" are not necessarily innately good (Plumwood, 1993, 188). Critical reflection on the process of domestication does, however, invite a less fearful recognition of "wildness" in the animal, the environment and the human Self. In a storyline that might flow from this recognition, wildness becomes scripted in terms of continuity and conversation, rather than opposition and othering [defining and securing one's own positive identity by stigmatizing others]. In such an "alter-tale" (Bennett, 1993, 251, after Haraway, 1991), knowing our place in the animal world (Baier, 1983) means relinquishing positions of control on the one hand, and the high ground of a global voice of "care" on the other, to acknowledge wildness without fear and sentimentality; to grant, in other words, "wildness" its ordinariness.

Aestheticizing the Wild in City and Home

As wildness became a residue within modernity from the end of the seventeenth century, human emotions that had been suppressed by the modern sensibility began to resurface. By the mid-eighteenth century in Europe, with the rise of aesthetics and varieties of romanticism, wild primeval nature was regularly "brought in" to spheres of human concern in stylized forms. Wildness itself became a source of nostalgia and affection, contemplation and inspiration (Cronon, 1995). Undomesticated difference became aestheticized. The wild became (in some contexts) sacred and exotic. Savages could as it suited be "noble". This notion of indigenous peoples transpired from at least the mid-eighteenth century when primitivism became cloaked to the romantic movement and woven into western constructs (see Jacobs, 1996a; Thomas, 1994).

As a cult of natural history spread through Western Europe and America (Jardine et al., 1996), so did popular efforts at creating varieties of animal (and plant) species. Amateur scientism became satisfied not only through experimentation with the breeding of old domesticates such as horses, cattle, sheep, pigs, dogs and cats (see Ritvo, 1991) but also through the selection of pigeons (Secord, 1981), aquarium fishes and plants for gardens. New varieties of "wildness" were not only brought into human living arrangements, but increasingly commercialized. In the nineteenth century, as industrialism and urbanization continued apace in western societies, the stylized wild was imported into home and city (Ritvo, 1992). Zoos and aquariums paraded "wild" animals for human audiences. Circuses transmuted fear into thrill. Models of subdued wildness also entered the home in safe (dead) form as fluffy toys for children and the likes of Constable's paintings of model gardens and cultivated countryside (Daniels, 1992). From the 1820s, in England, there was also a fad of collecting and pressing undomesticated natures, such as dead butterflies, beetles, spiders and the like into kaleidoscopic picture cases (Barber, 1984). Interestingly, these activities involved many women who – typically cast as part of domesticated nature – became natural

history artists, collectors and patrons (see, e.g., Shteir, 1995; Society for the History of Natural History, 1996).

By today, city and home are replete with more or less commodified forms of wild, vanishing nature. Witness, for example, the lobbies of upmarket hotels where privatized space is symbolically rendered “public” by the interiorization of forest displays (see Gitlin, 1979); shopping malls, in which the high street is effectively domesticated; the growth of safari parks and various other sanitized eco-creations of the tourist trade that “bring in” and remake the wild. Witness, too, the uneasy and fragile displacement of fears surrounding racialized difference into aestheticized forms, as described by bell hooks (1992) in her essay “Eating the other”.

The wilderness premise continues to carry forward the seductive notion – implicit in much contemporary environmentalism – that nature, to be natural, must be untainted by humans (Cronon, 1995). Not only are spurious oppositions of culture and nature carried forward by such rhetorics, but some parts of “nature” are privileged at the expense of others. Mountains, tigers and polar expanses – undomesticated natures – rate considerably higher in popular back-to-nature treks than do socially selected creatures like chickens and budgies. Not only that, but to be concerned about the welfare of chickens or lambs is to be concerned about the most trivial of domesticated (feminized) nature. By contrast, wild animals and mountainous terrain, as yet unconquerable, hold out a call to a still masculinized higher status (Emel, 1995). This gendered distinction of domesticated and undomesticated natures further underlines the enduring cultural foundation of nature’s production and arrangement.

Conclusion: Feral Futures?

At a time when elaborate reproductive technologies have come to deliver us – not only animals and plants whose features are chosen by humans – but also the skills to engineer our very own species, it seems timely to take more rigorous stock of the record of selection practices by humans. And yet to date, while domestication has received extensive treatment in the academic literature of the natural and social sciences, its history has largely escaped critical attention. Given the enormous environmental, commercial and social impacts of the process – arguably as material as the much more extensively critiqued social formations of capitalism, patriarchy and racism with which domestication processes interacted – this silence is indeed surprising.

In this article I have sought to begin the task of deconstructing the process by which humans reshaped the disposition and biology of animals. Contrary to evolutionist schools which see animal domestication as a corollary of the rise of Man to ecological dominance, I have conceptualized domestication as a social-symbolic process. More precisely, I have problematized it within the narrative politics of ideas about human uniqueness, savagery and civilization through which the process was

conceived and practiced from at least classical times. I have also charted how the ideological and material edifice of animal domestication became threaded through the construction of other social relations in European-derived societies. I noted that women often became defined and constructed as parts of an already domesticated nature, a coupling that historically limited the identification of women with the concerns of home, fertility and biological/social reproduction. So too have racialized groups been seen as closer to animals, an assignment that under regimes of slavery and colonialism rendered them and their “wild” lands eligible for “improvement” projects that owed a debt, I argued, to domestication practices. The notion of training and disciplining children may also have taken some of its moral direction from ideas of civilizing the wild.

Contemporary theorizations of difference are increasingly careful to note the complexity of social relations out of which class, ethnic, racially coded, sexualized and gendered identities have been constructed. The trend is to break with modernist theorizations of power in order to chart the disorganized faces of oppression, its unruly faces and its disruptions by minoritized groups. To domesticate the wild is to draw it into the boundaries of the known, to “fix” it into a (it is hoped) secure state. Yet as I have argued with reference to societies with a European cultural tradition, this is no transhistorical process of evolution’s unfolding, but a political activity embedded within concrete human practices. It has diverse underpinning moralities, contradictory manifest forms, and is open to rupture and reversal. I here offer these thoughts as contributions to the envisioning of more complex and animal-inclusive models of social relations; interventions in the more intensive forms of animal agriculture; the relaxation of rigid oppositions of civility and wildness; and ultimately, a human Self more conversant with its own wild side, dedomesticated and unbound.

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Witnessing the Animal Moment

Jody Emel and Jennifer Wolch

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Why Animals in Social Theory? And Why Now?

In a 1928 article entitled “The Culture of Canines,” sociologist Read Bain made the case for a serious “animal sociology” (Bain, 1928, 545-56). He suggested that, along with other nonhumans, dogs possessed a distinct culture that was the result of dog-dog as well as dog-human interaction and socialization processes. Canine behaviors such as responding to a whistle or giving a paw when greeting a human were “not unlearned instinctive responses, nor are they individual habits, but they are common to practically all civilized dogs in America ... resulting from the acquisition of culture traits” (Bain, 1928, 554). He described visiting white friends in Texas whose terrier, although friendly to white children barked and snarled at African American children passing their home. Observing the approbation (stroking, patting) with which the dog’s white mistress responded to this aggressive behavior, he raised the possibility of “sectional” canine culture, and noted:

I suppose the dog was no more oblivious to the import of these tonal and motor gestures than I was ... I wondered if this might be a case of canine “race prejudice.” Upon inquiry, I discovered several people who had observed similar white (sic) canine responses to Negroes. If this is true, it would seem to be a clear case of canine race prejudice, a culture trait

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acquired by all dogs socially responsive to that particular culture trait of their white masters (Bain, 1928, 555).

Chiding his fellow social theorists for failing to consider animals, Bain suggested that “the persistent attempt to set human phenomena distinctly and widely apart from all other natural phenomena is a hang-over of theoretical teleology, an instance of organic ego-centrism, a type of wishful aggrandizement and self-glorification” that belonged “in the realms of valuation, not in the realm of science” (Bain, 1928, 554). He predicted that “the denial of culture of subhuman (sic) animals is probably a phase of anthropocentrism” (Bain, 1928, 556).

At the end of the twentieth century, Bain’s prediction has come to pass. The multiple and nefarious linkages between human and nonhuman animals have become provocative and of growing, serious concern to American and European social theorists. Why are animal-human relationships suddenly so topical and central to social theory? What political and intellectual purposes are served by studies of the “animal question”?

In this [essay], we provide some [...] answers to these fundamental questions. Theoretical debates and positions are deeply engrained in the environmental, material, and political circumstances of time [and] place. We therefore begin, in the chapter’s first part, by considering economic contexts surrounding the rise of the animal question in social theory. Economic globalization, industrialization, and environmental destruction on a world scale have stimulated a politics of resistance based on vast animal suffering, loss of wilderness, and fears about the “end of nature” which we detail in part two. This politics of resistance has multiple sites of contestation, and the movement’s branches address problems of animals both as species and as individual beings. It has both inspired and been influenced by specific theoretical challenges to modernist epistemologies. In the final section, we argue that the resulting shifts in social thought have had the effect of suddenly bringing animals into sharper theoretical focus. Feminism and postmodernism, in particular, have undermined the beliefs that defined modernism, rendering the boundaries between humans and animals erected by intellectualism much more fluid and contestable. Freed from these theoretical tethers, we are now led, inevitably, to the animal question.

The Animal Economy: Environmental and Ethical Dilemmas

Over the past two decades, the animal economy has become simultaneously both more intense and more exclusive. More profits are squeezed out of each animal life, more quickly, while the reach of animal-based industries has grown to include most of the developing world. In the sections that follow, we consider animal economy, its environmental impacts, and the ethical dilemmas it raises.

A major part of this economy involves traditional uses of animals, as clothing and especially food. Due to the globalization of the animal food economy, animal-linked food production is growing rapidly as western meat consumption norms spread world-wide. The rise of factory farming, which creates pervasive environmental problems and poses profound moral choices, is one result. Meat-driven agricultural practices with devastating implications for environmental quality and habitat loss are another. In addition, however, more general modes for economic development have put enormous pressure on old and new lands, eliminating or degrading spaces critical to wildlife populations and species and calling the models' logic into question. And the wild animal trade, some of it involving smuggling and poaching, is big business that kills hundreds of thousands of animals each year, bringing some species to the brink of extinction.

Animals are also central to biomedical research, and its spin-off, biotechnology. Through biotechnology, animals in some transgenetically altered form become living commodities, the new products of biomedical research and bioengineering enterprises stimulated by heavy investments from private and public entities convinced of their profitable future. More animal-based "biologicals," continue to use huge numbers of animals for development and production of medicines, vaccines, and consumer products. The ethical implications of animal-based biomedical labs, products research, and biotechnology have loomed increasingly large, especially as the potential consequences of reconfiguring animal bodies shaped over millions of millennia become apparent.

Globalization and the World Diet

Globalization has augmented dramatically the circulation of animal bodies (whole and in parts) as western food norm and development strategies together create a "world diet" predicated on grain-fed animal proteins for the rich and starvation and food insecurity for the poor. The average meat-eating person in the US consumes 112 kilograms/year in beef, pork, mutton, lamb, and poultry; this consumer also directly or indirectly consumes fish as well as crustaceans and mollusks, silkworms, horses, goats, turkey, pigs, geese, and/or ducks, mice, rabbits, and rats. The world average meat consumption is 32 kilograms/year, with consumption steadily rising. Global meat production has quadrupled since 1950 (population has doubled), and world-wide cheese consumption has doubled since 1970 (Durning and Brough, 1991, 11).

Demand for meat has stimulated a profound shift in grain production, as animal feed grains now account for almost 40 percent of all grain production, and many poor nations which used to be grain exporters are now net importers. Demand for meat among urban affluent consumers has skyrocketed; by 1981 the Food and Agriculture Organization estimated that 75 percent of Third World grain imports went to feed animals (Durning and Brough, 1991, 14, 31). This process, which Mexican agronomist

David Barkin terms *ganaderización* or livestockization, has threatened food security throughout the 'Third World' (Barkin et al., 1990).

Some of these animal products are produced and consumed locally, but many others arrive from far-flung spots spanning the globe, for example, the "world steer" or "global steer" (Rifkin, 1992). Worldwide in 1990, 64 million tons of pork, 48 million tons of beef, and 34 million tons of poultry were "produced" – the top producers being the US, China, the European Community², and the countries of the former USSR. The aggregate size of the globalized, animal economy is enormous: the world trade in cows alone (their flesh, skin, organs, and hooves) employs 200 million people and involves approximately 1.3 billion cattle, who take up almost a quarter of the earth's landmass. In the US alone, the cow trade is a [US]\$36 billion industry (Ehrlich and Ehrlich, 1990; Food and Agriculture Organization of the United Nations, 1990).

Factory farms have multiplied to meet the expanding demand for meat in an increasingly competitive internationalizing livestock market. Agro-industrial production of animals is energy intensive: one kilogram of US pork not only requires 6.9 kilograms of grain and several thousand liters of water, but 30,000 kilocalories – the equivalent of about 4 liters of gasoline (Durning and Brough, 1991, 17-18). Factory farming also has created its own set of environmental damages, such as heightened greenhouse gas levels (with farm animals accounting for 15-20 percent of all global methane emissions) and groundwater pollution (especially nitrates). Some European countries are so bogged down by manure that they have been deemed "manure surplus" nations by the European Community.

The environmental and potential health disasters associated with factory farming have become big news. During the 1996 US presidential campaign, for example, contenders for the Republican presidential nomination faced a barrage of angry constituents in pork-belt states where huge hog factories were decimating traditional smaller scale operations. Furious neighbors have been left behind to face the air and water pollution from the vast open cesspools of animal waste mixed with drugs and food additives flowing from factory farm operations. Factory farms have also undermined the popular image of the farm homestead; as news of factory farm techniques have spread, such farms have been transformed in the popular consciousness into animal concentration camps. In this regard, the 1995 British mad cow crisis served not only to awaken the public about the health threats associated with factory farms, but to project images of bioengineered cannibalism – feeding herbivorous animals their rendered, sanitized, and granulated brethren down on the factory farm – into living rooms around the world.

² Editors' note: now called the European Union.

Economic Development and Habitat Loss

Wildlife loss and extinction resulting from industrialization and models of “development” predicated on massive exploitation of land and natural resources have been another context for public alarm, debate, and action over animals. Biodiversity loss is expected to escalate as countries join a “race to the bottom” in environmental protection in an effort to secure the economic gains of trade. Land-use intensification and frontier expansion, development strategies employed throughout the world, have generally entailed the subdual or removal of existing peoples and the elimination or control of animal populations. In European Russia and Siberia, the United States, Australia, South Africa, India, Brazil, China and other parts of the world, the outcome has been the same. “Explorers” and prospectors led the way for commodity extractors; settlers plowed grasslands or semi-arid lands, drained wetlands, built dams, and cleared forests. The forests of Brazil and Indonesia, as well as northern lands of the Arctic Circle, are perhaps the last land frontiers. The major ecosystems in the Indo-Malayan realm are estimated to have lost 70 percent of their original vegetation and 30 percent of the region’s coral reefs are considered degraded (Singh, 1995, 35-48). The US has lost over 50 percent of its coastal and freshwater wetlands and many parts of Europe have lost nearly all wetlands. Chad, Cameroon, Niger, Bangladesh, India, Thailand, and Vietnam have lost more than 80 percent of their freshwater wetlands (Tolba, 1992). Overall, nearly as much land was converted from natural habitat to agriculture from 1960 to 1980 as had been converted prior to 1960 in sub-Saharan Africa, Latin America, South Asia, and South-East Asia (Repetto and Gillis, 1988).

Historically, in some areas like the southern High Plains of the United States or most of the British Isles and the Mediterranean, nearly all of the landscape was altered following human colonization. Accompanying such development was an ecological cleansing in which large mammals (except for deer, elk, and other select ungulates) were eliminated by hunting, poisoning, trapping, and urban settlement. The litany of “last killed” animals in these European-settled lands is extensive and provocative (for example, the last Arizona grizzly was killed in 1939; the last wolf was killed in Great Britain by 1509; the last quagga (lesser-striped zebra) died in the Amsterdam zoo in 1883; the last Carolina parakeet died in the Cincinnati zoo in 1914). Rates of animal loss have accelerated rapidly. Amazon deforestation and the coincidental projections of species elimination, for example, soared in the 1980s; in 1986, Simberloff (1986, 165-80) estimated that 66 percent of plant species and 69 percent of Amazon birds would be lost by the year 2000, given current estimates of deforestation.

Hunting for ivory, fur, hides, and other animal commodities also puts tremendous pressure on animal populations, and at various times during the nineteenth and twentieth centuries has caused the near extinction of numerous species from North American beaver to South African elephants. Fishing and whaling, in conjunction with pollution, have destroyed several fisheries and caused a reduction in the number of many other species due to current net technology. Prior to the passage of the US Marine Mammal Protection Act of 1972, the US tuna fishing industry was killing over

360,000 dolphins annually (85 percent of the total) in the eastern Pacific (Constance et al., 1995, 23). Whale population was decimated by commercial whaling. Only the minke whale, the smallest species, survives in commercial numbers today. Blue whale populations have never recovered, even after twenty-five years of protection. At the height of the “taking” of blue whales, 30,000 animals were taken in one season alone (Blaikie and Jeanreneaud, 1996).

Introduction of industrial chemicals has augmented the potential and actual spatial scales of destruction. Acid rain, which poisons water and kills forests on a regional scale, alteration of atmospheric chemistry, and ozone depletion increase the threat to wildlife. The very bases of the world’s food chains – for example, phytoplankton and zooplankton – may be affected. Just which biome boundaries will remain where they are currently is highly uncertain, but the outlook for wildlife in the face of renewed and continuous human pressure upon the land from such shifts is onerous. Some estimates place the number of extinctions at 20 percent of all species by the year 2000 (Peters and Lovejoy, 1990).

The Wild Animal Trade

Hunting, trading and raising wild animals for circuses, laboratories, pets, trophies, sport, and other uses is big business. The international trade in live wild animals and body parts alone is estimated at [US]\$7-8 billion a year. Most of the business is legal, but about one quarter to one third depends upon poaching and smuggling, usually across borders (Seager, 1995, 125).

The number of animals (including fish) involved in the trade is estimated at nearly half a billion annually. Some 50,000 primates a year are on the market, as well as 6-7 million live birds and about 350 million tropical fish. Furs, leather, and ivory are also traded in huge quantities. Tusk ivory from an estimated 70, 000 African elephants is on the market annually, plus some 10 million reptile skins and 15 million pelts (Kirwin, 1994, 44-5)³.

The effects of the trade include placing some animal species in danger of extinction and causing hardships to those that are used as pets, circus animals, and laboratory experiments. African elephants, horned oryx, Kemp’s Ridley sea turtles, and northern bald ibis are some of the most threatened and endangered species. Perhaps the most endangered species are the black rhino, which has been reduced by 95 percent since 1970, and the northern white rhino, of which there are only 20 left. Asian and African rhino horns sell at [US]\$1,000 an ounce or more for medicines and

³ Based on data from the 1990 Trade Records Analysis of Fauna and Flora in Commerce, developed by the Convention on International Trade in Endangered Species (CITES), Washington, D.C.

aphrodisiacs. Traffic in pelts of endangered feline species such as jaguars, ocelots, and pumas, is contributing to the gradual disappearance of these animals from other countries, notably Mexico.

Animals do not fare well in the trade circuits. An estimated 50-80 percent of the live animals die en route to their destinations. Animals maintained in captivity may thrive in some cases, but in others do not. Elephants in the wild may live seventy years; in circuses, their average life is reduced to fourteen years because of stress, traveling in circus boxcars, and being stabled in unsuitable quarters (Newkirk, 1994). Between 4,000 and 5,000 chimpanzees are incarcerated around the world. For every infant that survives a year at the final destination, ten die in transit or on arrival, or are killed in the wild by poachers (Vines, 1993, 39). Many animals do not reproduce in captivity, a problem besieging many captive breeding programs.

The major buyers of live animals are the US, Japan, and Europe. The US is the largest importer of live primates; other big primate importers include Canada, Japan, France and the Netherlands. The Netherlands is the largest importer of live birds, and Japanese dealers purchase the biggest supplies of reptile skins. Main suppliers are located in Latin America, Africa, Asia and the Middle East. Indonesia is the largest exporter of live primates; Senegal is the largest exporter of live birds; and China is the largest exporter of reptile skins. The UK and US are also primary exporters of reptile skins. The United Arab Emirates, Taiwan, Paraguay, Bolivia, Yemen, Laos, Myanmar [Burma], Vietnam, Hong Kong, Taiwan, and China are important middlemen for illegal wildlife trade, as was Amsterdam until the Netherlands joined the Convention on the International Trade in Endangered Species of Flora and Fauna (CITES) in 1984. Hunters and cartels in French Guiana, Bolivia, and Paraguay are also movers of illegal birds and other animals (Seager, 1995, 81).

CITES has, since 1973, done a great deal to mitigate the threats to animals in trade. It has been signed by over ninety countries. Nevertheless, many animals are not covered by the convention, and even countries that have signed are incapable of policing the illegal trade. Poaching is a problem throughout the world. In US parks, poaching is at an all-time high. An estimated three thousand American black bears are taken illegally every year, primarily for bear paws and bear gall bladders (one gall bladder may fetch as much as [US]\$64,000 for Asian medicinal purposes). Current prices for ready-to-mount bighorn sheep can go as high as [US]\$10,000; grizzlies can go for [US]\$25,000. Snake poaching is a multimillion-dollar industry in the US alone, and, as we write, reptile-skin shoes, belts, and purses are high-fashion again in the spring of 1996 (van Biema, 1994).

Recreational hunting also contributes to the animal economy. Hunting-based tourism continues to earn profits, and not just in "traditional" countries in Africa and Asia where colonial sport hunting gained its highest acclaim. "Canned hunts", as they are called, can now be found in many states of the US. In Texas alone there are some five hundred ranches where exotic animals are bred for killing. With either bows or high-powered rifles, "hunters" from America and elsewhere can obtain African game

hunt trophies without ever having to endure the hardships of going to a ‘Third World’ country. A perhaps less exotic example of this type of hunting, again in the US, is the boom in prairie dog safaris. The skill it takes to down them is the attraction. These “boutique hunts” are not inexpensive, however. Just like the exotic animal hunting, which can cost up to [US]\$35,000 or more per animal, prairie dog hunting requires rifles that can easily cost [US]\$5,000. And one need not go to the prairies to be outfitted: Dog-town varmint supplies of Newport Beach, California, offers everything from hunting clothes to high-powered rifle scopes to the services of gun technicians who will answer questions by phone.

Biotechnology and the Transgenic Animal Kingdom

Biomedical research laboratories, product testing companies, and drug manufacturers have long used animals for experimentation, testing, and production purposes. Exact numbers of animals who die as a result of these uses are difficult to determine. Estimates of world use of laboratory animals in the 1970s ranges between 100 and 225 million; in the US the figure during the mid 1980s is estimated by Rowan (1984, 65-71) to have been about 71 million.

Despite an increasing emphasis on replacement, refinement, and reduction of animal use in traditional biomedical, product testing, and pharmaceutical production labs – through in vitro methods, for example – biotechnology is a fresh arena for animal experimentation and production. Indeed, biotechnology has become a major growth area in advanced industrial economies and the hot new promise of international development planners. The rise of biotechnology has upped the ante on animals to support healthy living and beautiful human bodies, and, generally, to produce more for less. Given its potential to become a bigger earner than traditional sectors such as the chemical industry, virtually every developed country and many developing countries have identified leadership in biotechnology as a national goal.

Animal biotechnology companies were expected to reach annual revenues of [US]\$150 million for US sales and close to [US]\$500 million worldwide in 1996 (Mather, 1996). Current developments, such as transgenic animals, including the patented mice bred for specific predispositions to cancer, add new twists to the old debates about animal welfare versus human health. In agriculture, genetically altered rhizobia (designed to enhance nitrogen fixation) have already been added to millions of hectares of farm land. Farm animals are targets for bovine growth hormones and more body weight with less feed. Transgenic chickens and pigs are expected to inundate the market by 2015, earning billions of dollars in the US market alone (Mather, 1996, 23).

Arguing that bioengineering improves rather than mimics nature, its proponents claim that it will remedy the failures and inefficiencies of industrial agriculture (Gibbons, 1992). New plants and animals will be created that are more resistant to the

old pests, diseases, and stresses. These new forms of life, created by transplanting genetic material, are and will be “owned” by their engineers and corporate founders, a development that has already caused a furor among people in a number of countries. In addition, the ethics of “creating” new animals is under serious scrutiny: should animals be so quick to tinker with the results of the evolutionary process, and to what end? And, looming in the background, how long until the androids arrive?

Animal Politics: Sites and Social Movements

The threats of massive environmental degradation and species extinction and the commodification of billions of animals as the economy goes global, have led to a turbulent politics surrounding animals. Animal-related issues have increasingly found their way into the public agenda, and as a result the state now plays a major role in protecting animals from suffering, minimizing species loss, and balancing economic and environmental objectives. Yet the globalization of the economy and changes in the international division of labor since the 1970s have produced or coincided with a substantial reduction in the states’ control of national affairs in both economic and noneconomic realms (Harvey, 1990).

Free trade agreements like the General Agreement on Trade and Tariffs (GATT) may be used to further weaken the ability of activist to promote animal protection through state governance. The dismantlement of dolphin protection by way of the US Marine Mammal Protection act of 1972 is a case in point. The act required tuna fleets to adopt dolphin protection programs; embargoes on imports of tuna caught by foreign fleets (from Mexico, Venezuela, and Vanuatu) were established until those fleets came into alliance. Mexico charged that the US was protecting US fishers rather than dolphins, and a GATT panel found in favor of Mexico. The Clinton administration, with the support of Greenpeace and other activist groups, quietly retreated from the dolphin protection issue. Friends of Animals, the Sea Shepherds, and other groups are opposed to the resultant changes in the act because of the impact this will have on dolphins and the precedent set for erosion of animal protection in a globalized economy.

In general, revelations about the scale of habitat loss and endangerment, and animal death and suffering, along with the unwillingness or inability of the state to stop or effectively regulate the slaughter, have catalyzed a wave of social movements. Although some have long histories (especially wilderness conservation groups), such movements can be characterized overall as “new” social movements, which address broad quality of life issues rather than purely economic concerns (such as wages, worker protection, workplace discrimination, and so on). Like other social movements, the animal movement comprises a broad spectrum of organizations that range from large bureaucratic institutions to small-scale informal collectives, and have varied political orientations and causes: wildlife and wildlife conservation organizations, animal protection societies, animal rights groups, wildlife habitat restoration projects,

farm animal protective leagues, wildlands and forest protection campaigns, and animal rescue operations. Despite this enormous diversity, to some extent all animal social-movement organizations contest the harmful human treatment of animals, and the destruction and degradation of their habitats.

In the sections that follow, we consider contested sites of animal politics. Then, we focus on two domains into which much of the organized activism has tended to fall: wildlife and wilderness protection groups within the larger environmental movement, whose primary aims are habitat and species conservation; and animal protection groups concerned with the protection of individual animals or classes of animals.

Contested Sites of Animal Activism

The sites of animal politics range from Western to non-Western, local to global. In non-Western localities, debate sometimes revolves around domestic animals, such as cattle in India, whose religious statue simultaneously protects them from slaughter and exposes them to the depredations of hunger and disease. More often, political conflict centers on how local subsistence economies can coexist with wild animals protected for their ability to attract rich Western ecotourists. Conflicts also arise between resource managers and subsistence dwellers living on or near newly created bioreserves, whose traditional practices are suddenly redefined as illegal poaching, or who are removed from their homelands to make way for bioreserve establishment. And battles erupt between Western conservation organizations and national governments intent upon cashing in on their unfungible wildlife resources, including whales and elephants (Freeman and Krueter, 1994). In northern Sulawesi in Indonesia, for example, the World Bank and the World Wildlife Fund (now called Worldwide Fund for Nature) sponsored the establishment of a reserve (destined to become a national park) which entailed the eviction of some seven hundred families from the area, many of whom were indigenous Mongoneow who had been forced into the highlands because of pressure from the resettlement and migration of other Indonesians.

Local conflicts in the US are often over how and where to manage local wildlife and how to prevent species endangerment in the context of urbanization-driven habitat loss and fragmentation. Urban wildlife, especially large predators in a suburban setting, presents a particularly troublesome and delicate problem. Bears, coyotes, deer, moose, and alligators – to name just a few – are expanding their ranges and experiencing human encroachment upon existing ranges. Eliminating and shooting such animals is not the foregone conclusion it once was, given the zoophile spirit that infuses our contemporary culture. The result is often a pitched battle between pro-hunting forces, wildlife management agencies, ordinary residents, and animal rights activists to determine how “problem” wildlife and developments will be handled.

At the regional and national levels too, the US norm is chronic political conflicts between environmentalists and animal advocates, land managements

agencies, pro-growth factions, or industry interests. The battles are over wildlife conservation, land management practices, wildlife management techniques, and the impacts of resource extraction and land development on animal habitat. Some high-profile examples include the sharpshooting of mustangs in the American West and the spotted-owl controversy in the Pacific Northwest. Continual battles occur between animal welfare and rights lobbies on the one hand, and livestock interests, rodeo and circus groups, bioengineering companies, and pharmaceutical interest on the other; these wars tend to be waged in statehouses and Congress, since legislation governing animal welfare, livestock transport, products and drug testing, and patents is written there.

Animal politics also rage in the international arena, where struggles revolve around efforts to protect endangered species and eliminate smuggling and poaching. For example, the ivory-trade ban, initiated by placing the African elephant on the Appendix I listing at the 1989 CITES meeting, is another extremely controversial issue. Undertaken to protect elephant populations, which were declining during the 1980s, the bans has received considerable criticism (and support) from Westerners and non-Westerners. One of the criticisms is that Western countries, through the World Bank and nongovernmental organizations, were directing land use and wildlife policy against the interests of the people living alongside the elephants. Consequently, more efforts are being made to share tourist dollars with people living around parks, to ensure that people are not moved off their lands and to generally try to find people-friendly and socially equitable ways to protect biodiversity.

Protecting Wilderness and Wildlife Species

One of the most sustained political efforts around animals has been the battle to conserve wildlife and prevent species endangerment. The attempt to conserve and protect wildlife species has a long and complicated history, beginning well before the twentieth century. Bird protection leagues and hunting societies in Europe and the US were among the first conservation groups to concern themselves with the protection of wild animals. The International Union for the Conservation of Nature and the World Wildlife Fund, for example, grew out of British and French interest in maintaining species within their empires. Such groups were prominent in politics during the late nineteenth and early twentieth centuries, but after achieving some successes in establishing reservations and protective legislation declined in membership and public visibility.

In the 1960s and 1970s a second wave of the environmental movement was catalyzed by the chemical insecticide killing of birds, mammals, fishes, and other forms of wildlife. Existing groups – such as the US National Wildlife Federation and the Audubon Society, the Italian League for the Protection of Birds, the French Society for the Protection of Nature, and the Royal Society for the Protection of Birds – were reinvigorated and many new wildlife-oriented organizations – Greenpeace, Friends of

the Earth, Mouvement Ecologique, and Robinwood – also sprang up to protect animals and wilderness areas.

These new groups, along with the older conservation societies, are characterized by white, middle- and upper-class, membership and white male leaderships. They tend to run the political gamut from left to right. In general, the organizations are interested in “conservation,” “ecology,” or a mixture of the two. The ecology groups have been most sympathetic to the ideas of the new left, while the conservation groups tend to split between green, new left, and several other ideological orientations (Dalton, 1994).

These groups differ in their political strategies as well. Practices of the wilderness and wildlife preservation groups range from the more staid letter-writing campaigns, to educational programs and lobbying, to illegal direct actions. One large grassroots organization, Earth First!, includes “ecotage” among its major tactics. Ecotage involves blockades, taking over equipment, sitting in trees scheduled to be cut down, pulling up survey spikes, cutting down billboards, doing damage to logging equipment and bulldozers, and destroying traps. Australian Earth First! Members have buried themselves up to their necks and chained themselves to logs in front of bulldozers. Both Greenpeace and Canadian Sea Shepherd Conservation Society, funded in part by the Fun for Animals and the Royal Society for the Prevention of Cruelty to Animals, have also taken direct action and rammed whaling and factory-fishing boats. These dramatic actions have succeeded in bringing international media and government attention to a number of issues, including sealing, illegal whaling, scientific abuse of whales, and dolphin slaughter. They have also resulted in these more militant groups (including Germany’s Robinwood) being targeted by governments as dangerous and subject to a variety of covert and official investigations.

More traditional groups – Friends of the Earth (with offices throughout the world), the US Defenders of Wildlife, and the British-founded Worldwide Fund for Nature, for example – have opted for political lobbying and public relations in their campaigns to protect wild animals. The nonmilitant groups have pursued a more litigious route towards ensuring some measure of protection from endangered species and habitats.

Pressures from these environmental organizations and the public led many countries to pass wildlife protection legislation in the 1970s. In the US, for example, Congress passed the Endangered Species Act in 1966, amending and strengthening it in 1973. The act is based on the assumptions that each life-form may prove valuable in ways not yet measurable and that each one is entitled to exist for its own sake. In 1973 the list of threatened and endangered species numbered 109; now the total is over 900 (more than 14,000 counting foreign species) and some 3,700 officially recognized candidates await review. While this legislation has been a boon to animal protection, critics claim that due to lack of funding the act has never been implemented as it was intended. During the first eighteen years of the act, annual funding for the program

averaged [US]\$39 million – “about enough to build a mile of urban interstate highway, or about 16 cents per year from every taxpayer” (Chadwick, 1995, 9).

With the slowdown in growth experienced by many of the industrialized nations in the late 1980s and early 1990s, the environmental impulse was stifled by governments that veered off to the far right. In Britain, Germany, and the US, in particular, wildlife protection legislation and other environmental regulations were scrutinized for the brakes they put on private development. These sentiments echoed those of farmers, developers, and timber industry groups that had for years tried to reverse regulation. Oppositional groups, like the Wise Use Movement in the US with its antigovernment and anti-elite philosophy, gained some prominence through their own high-profile campaigns. Anti-environmental backlash came from the populist left as well. In response, both local and global conservation groups, such as the Worldwide Fund for Nature, the International Union for the Conservation of Nature, and especially Greenpeace, have tried to become more “grassroots” in their ideologies and programs. Community-based conservation is now the word on the street; however, neo-liberal approaches that rely on the market (which means only animals that can pay their own way can stay) are also in the ascendant.

In Defense of Individual Animals and their Rights

The other major arm of the animal social movement is dedicated to animal protection, specifically the protection of individual animal lives, the reduction of animal suffering, and, in some cases, the “liberation” of captive animals. Unlike wildlife conservation and habitat protection efforts, this branch of animal-oriented activism did not originate as part of the broader environmental movement (although firm linkages now exist). Rather, animal welfare groups as a part of the animal protection movement emerged along with early abolition, suffrage, and especially social welfare and child protective societies (in fact, the Society for the Prevention of Cruelty to Animals predated, and was used as a model for, child protective associations of the late nineteenth century). In the 1820s, for example, British women held campaigns opposed to vivisection. By the 1870s opposition to vivisection and other forms of animal suffering stimulated the growth of organizations including the British Union for the Abolition of Vivisection, the Victorian Street Society, and the Royal Society for the Protection of Children and Animals. Such organizations expanded rapidly throughout the US, Britain, and other countries of the industrialized West, becoming powerful national bodies with political influence and venerable local institutions, attracting charitable donations and volunteers. Later, during the second half of the twentieth century, the protection movement expanded to include animal rights organizations. The efforts of these groups, who sought the liberation of captive animals and extended rights as well as protection for animals, were often modeled on the civil rights campaigns, as well as women’s liberation movements, and other progressive political struggles of the 1960s and 1970s.

Animal protection organizations range widely in terms of philosophy. Traditional animal welfare-oriented societies tend to perceive their activism on beliefs in the virtue of human kindness and the evil of suffering (human or animal), while animal rights groups are steeped in ethics supporting the intrinsic value of animal subjects and their rights to equal consideration. Some of these latter groups seek legal standing for animals and oppose many conventional animal practices that involve captivity (including pet keeping and animal-based entertainments). Traditionally, most animal protection groups were oriented toward domestic animals and animals hunted for sport or trapped for fur. Over time, however, animal protection organizations have also become deeply involved in the protection of wild animal lives.

The animal welfare movement is one of the biggest coalitions of activists in the West and has spread to many other areas of the world. In Britain, there are hundreds of pro-animal groups, and the Royal Society for the Prevention of Cruelty to Animals alone has five hundred thousand supporters. In the US, while traditional groups such as the Humane Society, the Anti-Vivisection League, and the Society for the Prevention of Cruelty to Animals (SPCA) are still active, among the new groups that have sprung are People for the Ethical Treatment of Animals (PETA), with a membership of around three hundred thousand), the Gorilla Foundation, the Humane Farming Association, Farm Animal Reform, Alliance for Animals, Citizens to End Animal Suffering and Exploitation (CEASE), Trans-Special Unlimited, the Digit Fund, and many more. In other places around the world, animal-welfare/rights organizations are active, for example, the Philippines' National Society for the Protection of Animals; South Korea's Animal Protection Society; and Japan's Animal Welfare Society. Similar Organizations exist in the Ukraine, the Czech Republic, Mexico, India, Russia, and many, many more locales.

Today's animal protection activism has expanded its focus from the initial targets of anti-cruelty campaigns (pets, working animals, and animals killed in blood sports) mounted by humane societies of the nineteenth century and still waged by many traditional groups today. In the US, animal experimentation and fur-wearing have become important targets of campaigning, while for British groups, factory farming and the trans-shipment of animals have loomed large. Groups in other countries illustrate a range of concerns, from trying to solve the problem of whales caught in fishers' nets (Republic of Korea), to anti-vivisection (Japan and the Czech-Republic), to enduring dog poisoning in urban areas (Peru and Portugal).

The emergence of concern and activism around so-called food animals reveals the erosion of lines that historically divided the animal world into those worth protecting because they were seen as either part of nature (wildlife) or the human community (pets), and those not worth protecting because they were neither (farm animals) and constituted sources of profit and value. The status of commodified domestic animals such as cattle, sheep, pigs, and chickens, once excluded from spheres of moral concern and legal protections, is being re-evaluated. And because of the environmental damage inherent in large-scale factory farming, campaigns around farm

animal welfare and farming practices are increasingly waged by coalitions of green and wildlife conservation groups on the one hand, and animal welfare/rights organizations on the other.

Like some wildlife conservation organizations, many of the animal protection groups engage in civil disobedience as well as educational campaigns and animal rescue/sanctuary works; some even engage in violence. The Animal Liberation Front, last Chance for Animals, People for the Ethical Treatment of Animals, Band of Mercy, and True Friends are some of the groups considered “terrorist” by the US Federal Bureau of Investigation and the New Scotland Yard (Loeb et al., 1989). Most pro-animal activists, however, disclaim violence although the scientific community and the media have tended to lump all activists together as extremists.

In the US and Britain, the vast majority of animal protection activists are middle-class women. Feminists have a long history of association with animal welfare and anti-vivisection societies (Donovan, 1993; Lansbury, 1985). Recognizing similar sources of oppression for both women and animals, ecofeminists have attempted to walk a thin line between not romanticizing nature or animals and yet refusing a reductionist reason in such considerations. Though generally considered a middle-class affair, animal protection activism has had its share of working-class collaborators. The Brown Dog riot of the nineteenth century in Britain involved trade unionists and others fighting medical students in the streets of Battersea to preserve a statue erected in memory of a terrier that was vivisected. According to Carol Lansbury and Matt Cartmill, the Brown Dog riot symbolized “the power that doctors and other men of wealth and influence exerted over the poor” (Lansbury, 1993, 142). Recently, Ted Benton and Simon Redfearn argued that the Brightlingsea protests of 1995 in resistance to live exports of animals could be seen as an opportunity for left politics. Attempting to do something – even something so apparently moderate as these campaigns have tried to do – brings protesters up against the power of capital and the full force of the law (Benton and Redfearn, 1996, 57). With few exceptions, however, the left in the US and in Britain has remained wary and dismissive of animal protection activism.

Animal protection activists have achieved some measure of success. Several countries, including the US and Great Britain, passed stronger regulations for animal care in research and on the farm during the 1980s. The cosmetic companies Revlon and Avon agreed to stop the Draize test in 1989. After PETA’s Heartbreak of America campaign in 1991, General Motors agreed to stop the world’s last animal test-crash experiments. By some reports, fur sales decreased during the 1980s but have risen again in the 1990s. Scandinavian Airlines Systems and British Airways have refused to ship animals destined for laboratory experiments. Nevertheless, the battles still rage in the face of continued vast animal suffering and death.

Critiques of Modernism: Opening Theoretical Space for Animals

Modernity and modern social theory reached their zeniths in the West during the twentieth century. Western modernity as a historical epoch was characterized by rapid developments in science, machine technology, and modes of industrial production that together led to unprecedented living standards, dependence on inanimate energy sources, the political system of the nation-states, and the rise of massive bureaucracies. Modernism as a set of values for human behavior emphasized rationalism, individualism, and humanism, while modernist norms for social order were predicated upon the possibility of liberal democracy and secular culture. Modernization (or “development”) thus entailed following a path of social and technological change that maximized these values and norms. By the 1970s, however, the legacies of modernity and modernist ways of knowing were under severe attack. Critics argued that the achievements of modernity rested on race, class, and gender domination, colonialism and imperialism, anthropocentrism and the destruction of nature. The legitimacy of modernity as a system of thought was simultaneously undermined. Given some of the more horrific of modernism’s “achievements” – namely, the twentieth century’s “age of camps,” to use Zygmunt Bauman’s term in reference to Auschwitz and the Gulag – criticism of the modernist project unfolded with exceptional force and passion, if not always with pristine clarity.

Many strands of this critique – feminist, multicultural and postmodern – have created spaces for reconsidering animals. It is not so much any one theorization that has set out to produce these opportunities, but rather discourses about several general themes have converged to make a consideration of animals appropriate if not inevitable. In the sections that follow, we consider some of the most important critiques of modernism with crucial implications for thinking about animals. These critiques have aimed to challenge the hegemony of the material as foundational to social life and, by extension, the assumed irrelevance of everyday cultural forms such as play, advertisements, and fictionalization as carriers of profound social meanings; [these critiques] question the notion of the unitary subject and expose intertwined dualisms, which together have served to silence a multiplicity of different voices, foster human conflict, and engender environmental degradation; and [they] unveil aspects of the modernist vision of social progress as inimical to global safety and security. We treat each of these elements of the critique in turn below.

Reasserting the Relevance of Cultural Forms

Traditionally, animals have been dismissed as too down home, too trivial, too close to nature for most serious intellectuals to consider, even the most avant-garde. In a reflection on animals and children’s literature, for example, Ursula LeGuin (1990, 8) claimed that

If you want to clear a room of derrideans, mention Beatrix Potter without sneering ... In literature as in real life, women, children, and animals are the obscure matter upon which Civilizations erects itself, phallogically If Man vs. Nature is the name of the game, no wonder the team players kick out all these non-men who won't learn the rules and run around the cricket pitch squeaking, and barking, and chirping!

Feminism and postmodernism, however, have managed to defy the old lines of reasoning regarding the privileged position of the material in explanations of social life and organization. What can and cannot be discussed seriously is now an open question. Postmodernism especially, with its emphasis on culture, has challenged the somberness of modernism and flung open the doors to deliberation on subjects ranging from gangsta rap and high fashion to world creation and the meaning of life. The feminist emphasis on the significance of the everyday, and the rents in modernity's materialist fabric produced by the "cultural turn," have allowed us to see and examine the rules imposed upon everyone and every life occasion. A denial of universalism lets us hear a choir of voices that sing no single melody, not even a harmonic chord; all sorts of folks now have their say, including those whose "pet" peeves and extended families include animals of myriad kinds.

Once one starts looking around the cultural landscape, the animal is everywhere. Comic strips like the *Far Side* and *Calvin and Hobbes* use animals to show us in good-humored fashions how silly, naïve and contradictory we are. Cat mysteries are hot sellers. Even a superficial review of folk traditions illustrates the prominence of animal teachers (and bad guys) in every culture. The Berenstain bears, Winnie the Pooh, Barney, Paddington Bear, Brer Fox and Brer Rabbit teach children morality, kindness, good manners, and self-respect. That animals are deeply ensconced in children's folk culture is a reality not lost upon toymakers, particularly those who manufacture soft, cuddly companions and children's books. Products for adults are equally susceptible to animal-based marketing campaigns, however. Black rhinos and vervet monkeys sell Nissan Pathfinders. Wolves and black panthers sell Jeeps, and an alligator with frogs on its tail walks off a pier with a case of Budweiser. A quick look at the movie industry's production of animal movies for family consumption illustrates a growing trend. Disney's *101 Dalmatians* is the seventh-highest-grossing film of all time. Animals, it would seem *are* serious business.

The legitimation of animals and human-animals interactions as appropriate subjects for scholarly investigation has led to a variety of feminist and postmodern critiques of the use of animals as cultural forms and the problems they pose for social relations; even the cultural politics of toys, children's culture, and TV marketing to children are now matters for serious study (Kline, 1993). Critiques of pet keeping and the anthropomorphizing of animals in cartoons, movies, books, and other media are also serious scholarship (see, for example, Shepard, 1995). Matt Cartmill's analysis of *Bambi* and the men involved in writing the book (Siegmond Salzmann, a Jewish intellectual born in Budapest) and translating it (Whittaker Chambers, a Communist

Party member who later became Nixon's star witness in the Alger Hiss case) is a brilliant example of an "animal story" in which humanized animals reveal the "truth" about human nature (Cartmill, 1993, 161). The point is that "we know by now, or ought to know, that what gets us off as entertainment is rarely simple and never innocent" (Fred Pfiel quoted in Cartmill, 1993, 161). As works like those by Cartmill and Kline reveal, cultural forms including literature, film, and other types of entertainment exert a potent impact on the formation of ideologies of human-animal relations among children and adults alike.

Decentering the Subject and Debunking Dualisms

Writers such as Carol Adams and Steven Baker suggest that the decentering of the human subject is a major opportunity to see animals and humans differently. Adams, for instance, has argued that "the tumbling away of a unitary subject opens up space for discussing other-than-human subjects" (Adams, 1995, 12-3). Baker (1993, 26) writes that "the decentering of the human subject opens up a valuable conceptual space for shifting the animal out of the cultural margins. It does so precisely by destabilizing the familial clutch of entrenched stereotypes which works to maintain the illusion of human identity, centrality, and superiority."

The unitary subject rests on foundational notions of humanity, the subject and the citizen. Most postmodern and feminist theorists argue against the fiction of the essential man or subject, identifying this subject fiction as grounded in Kantian anthropology. Taking what could be considered an anti-humanist position, these theorists deny the existence of any such human nature or essence and see humans as an "ever-varying matrix of biological, social, and cultural determinants" (Johnson, 1990)⁴. Foucault (1973), in particular, denied the transcendent in the conjunction of discursive and nondiscursive practices. Such interrogations of "man" as "subject" have resulted in a clear picture of the exclusionary and often violent operations by which such a position has been established (Butler and Scott, 1992).

The idea of the unitary subject has been in part buttressed by the dualisms so characteristic and pervasive to modernist thought. The concept of dualism refers to "the construction of a devalued and sharply demarcated sphere of otherness" that stands in opposition to an essentialized and valorized sphere of identification (Plummer, 1993, 41). The operation of dualisms, analyzed most extensively by feminists and Derrideans, has historically relied on exclusions and denials of dependency, instrumentalism or objectification, and homogenization or stereotyping.

⁴ Editors' note: the page number reference is missing in the original.

As Luc Ferry explains in his splendid exploration of radical ecology, the “animal” is the first being encountered in the process of decentering the unitary subject and thus undermining modernity (Ferry, 1995, xxix). Why? Because the animal has stood in opposition to “man,” creating the fiction that man’s humanity resides in his freedom from instinct and even from history. But through the dualist lens of “constitutive otherness” we can see animals as constitutive of humans, revealing porosity of the distinction between human freedom and animal necessity. We can see animals as constitutive of humans, revealing porosity of the distinction between human freedom and animal necessity.

As the frontier between civility and barbarity, culture and nature increasingly drifts, animal bodies flank the moving line. It is upon animal bodies that the struggles for naming what is human, what lies within the grasp of human agency, what is possible, are taking place. Biological science has stood sentinel at the frontier, reading the animal and reporting its findings to psychologists and other normative gatekeepers. But, as Zygmunt Bauman points out, biology occupies a “hotly contested spot, pregnant with profound political and *weltanschauliche* controversies” (Baumann, 1995, 168). [As Donna Haraway (1991, 1989) has shown in primatology, the process of distinguish humans from nonhumans actually brings out substantive overlaps and ambiguities.]

Some question the porosity of the line between human and nonhuman animals, or otherwise argue that the boundary has always been avidly policed. Yet the history of human oppression is replete with examples in which specific categories of humans have been grouped with, and treated like, animals. Marjorie Spiegel, for example, delineates the self-conscious parallels drawn by slaveholders, who modeled the lexicon of slavery and its systems of surveillance and physical restraint on those used with animal captives (Spiegel, 1988). The British “simianized” the Irish and the Blacks, the Croatians forbade Serbs, Jews, Gypsies, and dogs to enter restaurants, parks, and means of public transport. In a new assault on the fungible border, bushman have become the most recent exhibits in the Kagga Kamma Game Park in South Africa. *New York Times* reporter Suzanne Daley wrote that the bushpeople were rescued from the squalor of a shantytown on the edge of the Kalahari Desert: “In a country that has treated them savagely for centuries, being in what feels very much like a zoo may seem like a step up” (Daley, 1996). The tourists spend [US]\$7 to view these people; the bushmen received [US]\$1.50 for the viewing. The photograph accompanying the story shows four “bush” youngsters, mostly naked, down on their hands and knees while a white boy stands over them, staring down at them as if they were *animals in a zoo*.

Exposing Modernist Myths of Social Progress

Grand stories of progress, humanity, wealth, creation, reason, and the unity of science are, among others, critical targets of postmodern, feminist, and other theorists.

Distrust of these narratives is not exclusively postmodern and can be identified throughout history from at least the sixteenth century on. Horkheimer and Adorno's critique of the domination of nature in *Dialectic of Enlightenment*, published in 1947, is one example. Another is the critique of the Cartesian mechanism proffered in the seventeenth century by Margaret Cavendish and Ann Finch (Donovan, 1993, 178). Nevertheless, the sort of wholesale rupturing of modernity's bulk that has taken place within the last fifteen or twenty years has enabled a re-evaluation of systems of domination and the animal's place within them.

Generally, animals are part of the stories of progress, rationality, economic growth, and emancipation only by their eradication, sacrifices, bred domesticity, and genetic transfiguration. One humanitarian thread woven through the mantle of modernism had, of course, refused the Cartesianism that denied animals affectivity, sentience, and intelligence. A number of activist associations sought to reduce the gap that separated humans from animals, just as many fought scientific sexism and racism. Nevertheless, the humanitarian orientation was eclipsed by modernity's fear of death and the ascendancy of science. Death was the ultimate challenge to the modern ambition to transcend all limits and its refusal justified a hyperseparation of human and nonhuman animals. In his compelling anatomy of modernism, Zygmunt Bauman observes that "the angst bred by the inevitability of death was spread all over life-process, transformed by the same token into a sequence of death-preventing actions and lived in a state of constant vigilance against everything smacking of abnormality" (Bauman, 1995, 183).

Modern society throws enormous resources into death avoidance. Animal bodies are no exception. In fact, it is stunning to consider the extent to which animals serve to shield humans from death. The American Medical Association likes to point to the enormous importance of animals in medicine by observing that fifty-four of the seventy-six Nobel Prizes awarded in physiology or medicine between 1901 and 1989 were for discoveries and advances made through the use of experimentation on animals (American Medical Association, 1989). Neglected in the pro-experiment arguments are the billions of dollars earned by the drug companies (not to mention the medical industry) in selling the vaccines and other chemical substances derived from animal lives.

Biotechnology and genetic engineering promise to continue and heighten the human reliance upon animals for health and safety, with a Frankensteinian twist. In some ways this development in science and technology is a true transcendence of nature. *Time* [Magazine] published a story in November 1995 of a live mouse with a human ear growing out of its back, heralding the event as "the latest and most dramatic demonstration of progress in tissue engineering, a new line of research aimed at replacing body parts lost to disease, accident, or, as is sometimes the case with a missing ear, a schoolyard fight" (Toufexis, 1995, 60). Experiments creating chimeras have been done with mice, rats, monkeys, and other animals. Laws generally exist against human cloning, the creation of chimeras between humans and animal embryos,

and any trade or commerce involving human embryos or embryonic material. Memories of Nazi atrocities have prompted European legislators to be quite stringent on this issue, particularly Germany.⁵ But animal cloning and transgenics are not such a problem. As James O'Connor has so eloquently written,

(h)ere we enter a world in which capital does not merely appropriate nature, then turn it into commodities that function as elements of constant and variable capital (to use Marxist categories), but rather a world in which capital remakes nature and its products biologically and physically (and politically and ideologically) in its own image (O'Connor, 1994, 185).

Some may argue, correctly, that humans have always been dependent upon animals. What is modern, however, is the institutionalization and bureaucratization of this dependency at a scale significantly augmented from “pre-modern” dependencies. The hallmarks of this dependency are globalized commodity chains managed by large-scale industrial institutions and government bureaucracies cutting any link between animals and meat, medicine, famine, or environmental degradation. These chains are supported by powerful narratives about the centrality of food security, health, and corporeal beauty to happiness and progress. By such spatial and functional divisions of labor, and by bureaucratization and industrialization, the role of the individual human agency in producing evil is severely fragmented, eliding individual responsibility.

The modernist insistence on cool rationality and an objectifying attitude also promotes an insensitivity or indifference to suffering that makes factory farms and animal labs possible. As several students of the Holocaust have argued, such modernist codes allowed persons like Eichmann to undertake the infliction of pain on his fellows (Arendt, 1985; Vetlesen, 1984). Bauman, for instance, maintains that “emotion marks the exit from the state of indifference lived among thing-like others” (Bauman, 1995, 62). He suggests that the principal tool of the severance between moral guilt and the acts which entail participation in cruel deeds is adiaphorization: making certain actions, or certain objects of action, morally neutral or irrelevant – exempt from the category of phenomena suitable for moral evaluation. Artfully hidden behind factory-farm gates or research-lab doors, obscured by disembodiment and endless processing, and normalized by institutional routines and procedures, the thoroughly modern instrumental rationality that characterizes contemporary human-animals dependency has rendered animals both spatially and morally invisible.

When we do break through these surfaces, the resulting visibility is often excruciating. But actually seeing and understanding the vast extent of animal suffering

⁵ As a result, BASF opened its biotechnology headquarters in Worcester, Massachusetts; Baker similarly opened a lab in Berkeley, California

and death is unavoidable if we are to transcend the invisibility of animals, engage in corrective struggles, and bear witness to the animal movement.

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Rethinking Environmental Racism: White Privilege and Urban Development in Southern California

Laura Pulido

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The concept of environmental racism – the idea that nonwhites are disproportionately exposed to pollution – emerged more than ten years ago with the United Church of Christ's study, *Toxic Waste and Race in the United States* (1987). Given the social, ecological, and health implications of environmental hazards, geographers have explored environmental racism with the goal of contributing to better policymaking. Studies have sought to determine if inequalities exist and the reasons for such disparities, and to make recommendations (Cutter, 1995). While these are obviously important research contributions, studying environmental racism is important for an additional reason: it helps us understand racism.

Although the study of racial inequality is not new to geographers (Anderson, 1987; Gilmore, 1998; Jackson and Penrose, 1994; Kobayashi and Peake, 1994; S. Smith, 1993; Woods, 1998), environmental racism offers us new insights into the subject, particularly its spatiality. Unfortunately, scholars of environmental racism have not seriously problematized racism, opting instead for a de facto conception based on malicious, individual acts. There are several problems with this approach. First, by reducing racism to a hostile, discriminatory act, many researchers, with the notable exception of Bullard (1990), miss the role of structural and hegemonic forms of racism in contributing to such inequalities. Indeed, structural racism has been the dominant mode of analysis in other substantive areas of social research, such as

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residential segregation (Massey and Denton, 1993) and employment patterns (Kirschenman and Neckerman, 1991), since at least Myrdal's *An American Dilemma* (1944). Not only has the environmental racism literature become estranged from social science discussions of race, but, in the case of urban-based research, it is divorced from contemporary urban geography. A second and related concern is that racism is not conceptualized as the dynamic sociospatial process that it is. Because racism is understood as a discrete act that *may* be spatially expressed, it is not seen as a sociospatial relation both constitutive of the city and produced by it. As a result, the spatiality of racism is not understood, particularly the relationship *between places*. Yet pollution concentrations are inevitably the product of relationships between distinct places, including industrial zones, affluent suburbs, working-class suburbs, and downtown areas, all of which are racialized. A final problem with a narrow understanding of racism is that it limits claims, thereby reproducing a racist social order. By defining racism so narrowly, racial inequalities that cannot be attributed directly to a hostile, discriminatory act are not acknowledged as such, but perhaps as evidence of individual deficiencies or choices. Yet if we wish to create a more just society, we must acknowledge the breadth and depth of racism.

In this paper, I investigate how racism is conceptualized in the environmental racism literature. Using Los Angeles as a case study (Figure 1), I apply an alternative concept of racism, white privilege, in addition to more common understandings of discrimination, to explain disparate environmental patterns. I identify three specific issues that contribute to a narrow conception of racism: first, an emphasis on individual facility siting; second, the role of intentionality; and third, an uncritical approach to scale. Typically, a study may acknowledge environmental inequity if nonwhites are disproportionately exposed to pollution, but environmental *racism* is only conceded if malicious intent on the part of decision makers can be proven.²

I argue that the emphasis on siting, while obviously important, must be located in larger urban processes, and thus requires us to "jump scales" in our analysis (N. Smith, 1993). This is especially true given recent findings that pollution concentrations are closely associated with industrial land use (Anderton et al., 1994b; Baden and Coursey, 1997; Boer et al., 1997; Colten, 1986; Pulido et al., 1996). This research recasts issues of intentionality and scale, as it requires us to examine the production of

² A word on terminology is in order. In early studies, the term "environmental racism" was used to denote disparate patterns. Over time, the term "environmental equity" became popular as it was more inclusive, encompassing both racial and economic disparities. Many activists, however, also saw it as an effort to depoliticize the antiracist consciousness underlying the movement. Moreover, as Heiman (1990) has pointed out, environmental (in)equity implies the problem is with the allocation of pollution and environmental hazards, rather than with a particular economic system. Activists eventually adopted the term "environmental justice," as it was inclusive and offered a more politicized conception of the problem. While supportive of the environmental justice movement, I use the term environmental racism to highlight racial disparities. At times, I will use "environmental inequities" to refer to allocation issues.

industrial zones, their relation to other parts of the metropolis, and the potentially racist nature of the processes by which these patterns evolved.

Because of the limitations of the prevailing approach to racism, I seek to broaden our understanding through a complementary conception of racism: white privilege. My understanding of racism begins from the premise that race is a material/discursive formation. Because race exists in various realms, racial meanings are embedded in our language, psyche, and social structures. These racial meanings are both constitutive of racial hierarchies and informed by them. Thus, it would be impossible for our social practices and structures *not* to reflect these racial understandings. Given the pervasive nature of race, the belief that racism can be reduced to hostile, discriminatory acts strains logic. For instance, few can dispute that U[nited] S[tates] cities are highly segregated. Can we attribute this simply to discriminatory lenders and landlords? No. Residential segregation results from a diversity of racisms. Moreover, there is growing evidence that racial responses are often unconscious, the result of lifelong inculcation (Devine, 1989; Lawrence, 1987). Thus, focusing exclusively on discriminatory acts ignores the fact that all places are racialized, and that race informs all places. Clearly, our preoccupation with discrete discriminatory acts ignores vast dimensions of racism.

A focus on white privilege enables us to develop a more structural, less conscious, and more deeply historicized understanding of racism. It differs from a hostile, individual, discriminatory act, in that it refers to the privileges and benefits that accrue to white people by virtue of their whiteness. Because whiteness is rarely problematized by whites, white privilege is scarcely acknowledged. According to George Lipsitz, "As the unmarked category against which difference is constructed, whiteness never has to speak its name, never has to acknowledge its role as an organizing principle in social and cultural relations" (1995, 369). White privilege is thus an attempt to name a social system that works to the benefit of whites. White privilege, together with overt and institutionalized racism, reveals how racism shapes places. Hence, instead of asking if an incinerator was placed in a Latino community because the owner was prejudiced, I ask, why is it that whites are not comparably burdened with pollution (see Szasz and Meuser,

1997)? In the case of Los Angeles, industrialization, decentralization, and residential segregation are keys to this puzzle. Because industrial land use is highly correlated with pollution concentrations and people of color, the crucial question becomes, how did whites distance themselves from both industrial pollution and nonwhites?

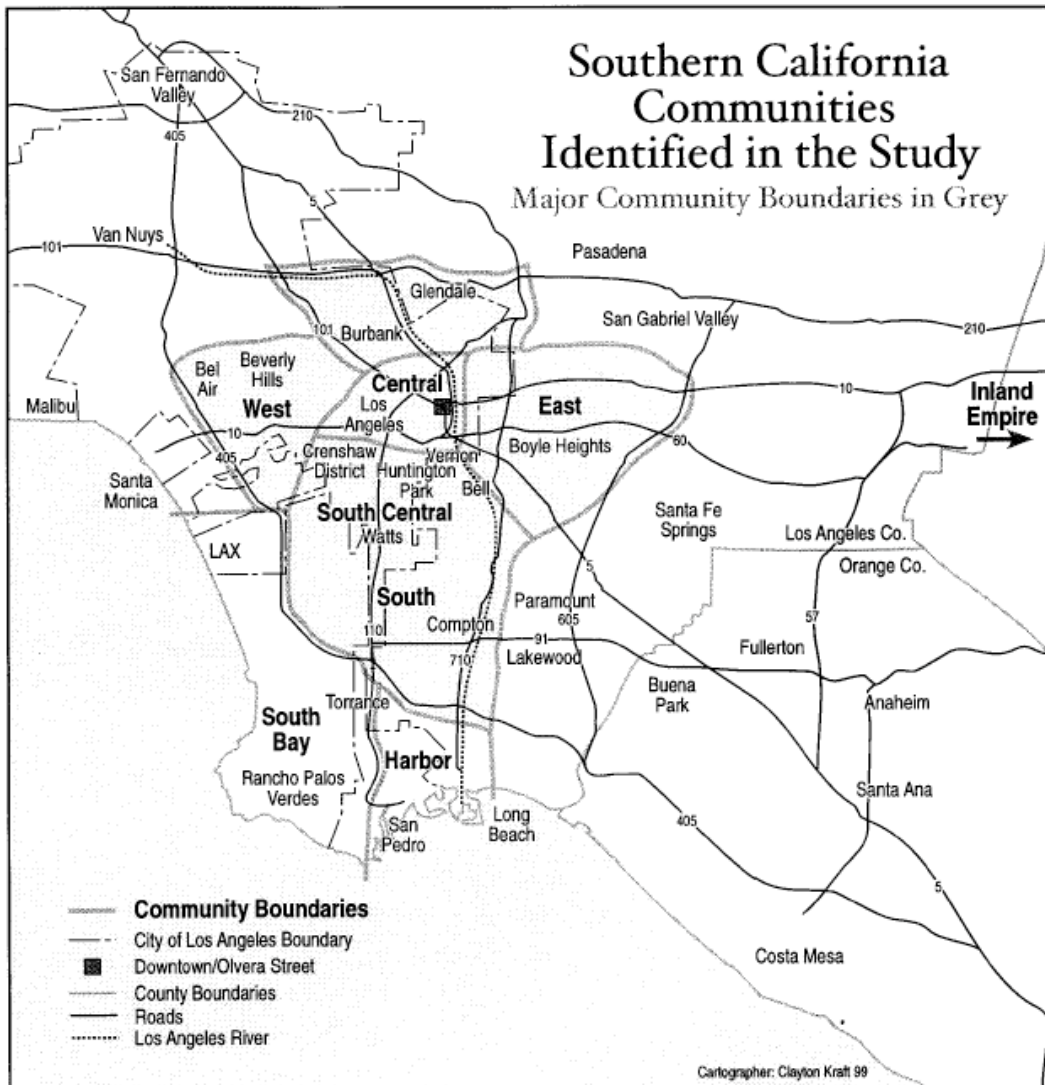


Figure 1. Los Angeles-area communities identified in this study.

This study does not attempt to prove that environmental racism exists in Los Angeles, as six studies have already done so (Boer et al., 1997; Burke, 1993; Pulido et al., 1996; Sadd et al., 1999; Szasz et al., 1993; UCC, 1987). Nor do I suggest that this particular narrative of racism, white privilege, operates in all places in the same way. Rather, my goal is to consider the larger sociospatial processes of inequality that produce environmental racism. In this paper, I first develop the concept of white privilege. Second, I review how racism and space have been conceptualized in the literature and the geography of urban environmental racism. Third, drawing on both primary and secondary sources, I examine the historical processes and their racist underpinnings that have contributed to the environmental racism we see in Los Angeles today. I conclude by summarizing my findings and their implications.

Racism and White Privilege

A clear definition of race and white racism is in order. I employ Omi and Winant's (1994, 55) idea of race as "a concept which signifies and symbolizes social conflicts and interests by referring to different types of human bodies". This definition not only recognizes the physical, material, and ideological dimensions of race, but also acknowledges race as contributing to the social formation. Specifically, it allows us to see race as more than colored bodies. It enables us to recognize the pervasive and hegemonic nature of race, its multiscalar nature, and its multiple forms of existence, including ideas, words, actions, and structures. This approach to race serves as a basis for a broader and more fluid definition of white racism. I define white racism as those practices and ideologies, carried out by structures, institutions, and individuals, that reproduce racial inequality and systematically undermine the well-being of racially subordinated populations.

Because there are multiple motives and forms of racism (Cohen, 1992; Goldberg, 1993; Omi, 1992), there are various ways of analyzing racisms. In this paper, I consider only two: scale and intention. In any attempt to understand racism, scale is an important analytical tool in that it is both defined by racism and transcends it. Consider the various scales at which racism exists: the individual, the group, the institution, society, the global. While all are distinct, there is a dialectical relation between these scales. So, for instance, an individual racist act is just that, an act carried out at the level of the individual. Nonetheless, that individual is informed by regional and/or national racial discourses, and his/her act informs and reproduces racial discourses and structures at higher scales. Thus, we can focus on a particular scale, but we must always be cognizant of its relationship to other scales of racism.

A second crucial issue is the question of intent. While most social science scholars acknowledge institutional and structural racism, popular understandings focus heavily on individual malicious intent. Indeed, this trend is reflected in court rulings that have increasingly required proof of intent (e.g., *Washington v. Davis*)³. For many, a hostile motive is considered necessary for an action or inequality to qualify as racist. While aware of the power of hostile and malicious acts, we cannot allow their reprehensible nature to obscure the *range* of racist motives that exist. For instance, in this society, there are white supremacists, those who avoid people of color, and those who advocate a "color-blind" society. Each of these positions evinces a different motive. And while they may not be morally comparable, they are all racist because they systematically undermine the well-being of people of color (Delgado, 1995).

White privilege is a form of racism that both underlies and is distinct from institutional and overt racism. It underlies them in that both are predicated on

³ *Washington v. Davis* was an employment discrimination suit in which the Court ultimately ruled that a law that produced a racially disparate impact regardless of motive is not unconstitutional.

preserving the privileges of white people (regardless of whether agents recognize this or not). But it is also distinct in terms of intentionality. It refers to the hegemonic structures, practices, and ideologies that reproduce whites' privileged status. In this scenario, whites do not necessarily *intend* to hurt people of color, but because they are unaware of their white-skin privilege, and because they accrue social and economic benefits by maintaining the status quo, they inevitably do. White privilege thrives in highly racialized societies that espouse racial equality, but in which whites will not tolerate either being inconvenienced in order to achieve racial equality (Delgado, 1995; Edsall and Edsall, 1991; Lipsitz, 1998; Quadagno, 1994), or denied the full benefits of their whiteness (Harris, 1993). It is precisely because few whites are aware of the benefits they receive simply from being white and that their actions, without malicious intent, may undermine the well-being of people of color, that white privilege is so powerful and pervasive.

White privilege allows us to see how the racial order works to the benefit of whites, whether in the form of economic and political benefits (Almaguer, 1994; Harris, 1993; Ignatiev, 1995; Oliver and Shapiro, 1995), or psychological ones (Fanon, 1967; Roediger, 1991). White privilege is distinct from both white supremacy, a more blatant and acknowledged form of white dominance (Fredrickson, 1981, xi), as well as from more individual, discriminatory acts. Rather, it flourishes *in relation* to these other forms. Because most white people do not see themselves as having malicious intentions, and because racism is associated with malicious intent, whites can exonerate themselves of all racist tendencies, all the while ignoring their investment in white privilege. It is this ability to sever intent from outcome that allows whites to acknowledge that racism exists, yet seldom identify themselves as racists.

Evidence of white privilege abounds. It includes the degree to which whites assume ownership of this nation and its opportunities, people of color's efforts to "pass" in order to access whiteness, whites' resistance to attempts to dismantle their privilege, and, conversely, even whites' efforts to shed their privilege⁴. Consider the case of white resistance. White resistance to integrating schools, housing, and the workplace has all been well documented (Almaguer, 1994; Foner, 1974; Massey and Denton, 1993; Quadagno, 1994; Saxton, 1971). This resistance is hardly surprising and is justified by any number of rationales. What is important is the fact that whites resist because they feel they have something to lose. According to Lipsitz (1998), they have a "possessive investment in whiteness," meaning, whiteness pays off and whites wish to retain those benefits. Legal scholar Cheryl Harris has observed,

The set of assumptions, privileges, and benefits that accompany the status of being white have become a valuable asset that whites sought to protect and that those who passed sought to attain – by fraud if necessary. Whites have come to expect and rely on these benefits, and

⁴ Many thanks to John Paul Jones for this insight.

over time, these expectations have been affirmed, legitimated, and protected by law (1993, 1713).

This “pay off ” can take the form of higher property values, better schools, or the ability to exclude people of color from the workplace. That whites feel they have the right to exclude others attests to the degree to which they assume ownership of this nation’s opportunities⁵. The privileged position of whites is visible in almost every arena, including health, wealth, housing, educational attainment, and environmental quality⁶.

White privilege is particularly useful in the study of urban landscapes because it is simultaneously historical and spatial. Attempts to understand contemporary racial inequality in light of white privilege must be rooted in the past, precisely because of the absence of a hostile motive or single act. Since landscapes are artifacts of past and present racisms, they embody generations of sociospatial relations, what might be called the “sedimentation of racial inequality” (Oliver and Shapiro, 1995, 5). Similarly, white privilege, as a form of racism, is spatially expressed, indeed it is partially contingent upon a particular set of spatial arrangements. Take the case of neighborhoods. The *full* exploitation of white privilege requires the production of places with a very high proportion of white people. “Too many” people of color might reduce a neighborhood’s status, property value, or general level of comfort for white people.

A brief example may demonstrate how white privilege allows us to historicize environmental racism: A polluter locates near a black neighborhood because the land is relatively inexpensive and adjacent to an industrial zone. This is not a malicious, racially motivated, discriminatory act. Instead, many would argue that it is economically rational. Yet it is racist in that it is made possible by the existence of a racial hierarchy, reproduces racial inequality, and undermines the well-being of that community. Moreover, the value of black land cannot be understood outside of the relative value of white land, which is a historical product. White land is more valuable by virtue of its whiteness (Oliver and Shapiro, 1995, 147-61), and thus it is not as economically feasible for the polluter. Nor is it likely that the black community’s proximity to the industrial zone is a chance occurrence. Given the Federal government’s role in creating suburbia, whites’ opposition to integration, and the fact

⁵ An oft-cited example of this is Senator Jesse Helm’s 1992 campaign TV ad featuring a white working-class man denied a job, what should have been *his* job, because of affirmative action (Omi and Winant, 1994, 182).

⁶ This is not to deny the vast differences within the categories of “white” and “people of color.” Whites are obviously fragmented by class, gender, sexuality, and ethnicity (Brodin, 1998). Likewise, various nonwhite groups are differentially racialized. For instance, although Asian Americans have the highest incomes of all people of color, they also are frequent targets of hate crimes. The point is that “the color line” remains a central axis of difference and inequality.

that black communities have been restricted to areas whites deemed undesirable, can current patterns of environmental racism be understood outside a racist urban history?

The final issue of white privilege is, at whose expense? It is impossible to privilege one group without disadvantaging another. White privilege comes at the expense of nonwhites. Historically speaking, suburbanization can be seen as a form of white privilege, as it allowed whites to live in inexpensive, clean, residential environments (Jackson, 1980). It was a privilege denied to most people of color, but one they also bore the cost of, both in terms of an erosion of central-city quality of life, and in their direct subsidization of white suburbia through their tax dollars (Guhathakurta and Wichert, 1998). White privilege is useful in discussing suburbanization and environmental racism because it shifts our understanding of racism beyond discrete siting acts, while also emphasizing the spatiality of racism.

Racism and Space in Environmental Racism Research

Currently, many methodological issues are being debated within the environmental justice literature (Cutter, 1995; see Been, 1995). Unfortunately, the nature of racism is not one of them. In a review of thirty recent empirical studies, only a handful attempted any substantive discussion of racism itself (Baden and Coursey, 1997; Bullard, 1990; Hamilton, 1995; Krieg, 1995; Pulido et al., 1996; UCC, 1987)⁷, although others have probed the nature of race and racism in general (Bullard, 1994; Goldman, 1996; Pulido, 1996; Szasz and Meuser, 1997; Zimmerman, 1994). Instead, the literature is largely characterized by “common sense” assumptions that reflect uncritical, popular understandings of racism⁸. A similar pattern exists in terms of spatiality. While space has received considerable attention, spatiality, meaning the relationship between social space and society (Soja, 1989), has not. Instead, spatial discussions have centered on issues of distance, location, and scale, eschewing a more theoretical conception of space (see Cutter and Solecki, 1996, 395, for an exception). An appreciation of spatiality, however, encourages greater attention to race, as it is one of the key social forces shaping our cities (and the U.S. as a whole). In this section, I review how racism and space are expressed in the literature by showing how three

⁷ The following studies included no significant discussion or problematization of racism: Adeola, 1994; Anderton et al., 1994a, 1994b; Been, 1994; Boer et al., 1997; Boerner and Lambert, 1994; Bowen et al., 1995; Burke, 1993; Cutter, 1994; Cutter and Solecki, 1996; Cutter and Tiefenbacher, 1991; Hird, 1993; Hurley, 1988; Lester et al., 1994; Mohai and Bryant, 1992; Napton and Day, 1992; Perlin et al., 1995; Sadd et al., 1999; Scott et al., 1997; Szasz et al., 1993; U.S. GAO, 1995; Yandle and Burton, 1996; Zimmerman, 1993. But Pollock and Vittas (1995), in a useful discussion, reconsider their findings in light of alternative conceptions of racism.

⁸ This does not imply that the researchers themselves are not familiar with social scientific understandings of race, but only that these ideas have not found their way into the literature.

practices contribute to an overly restrictive conception of racism and space. First, I discuss the emphasis on facility siting, second, the role of intentionality, and, third, spatial scale. I will address the first two together, as they are closely related.

Siting and Intentionality in Discrete Acts of Racism

Although an earlier generation of scholars explored the relationship between demographics and pollution (Berry et al., 1977), it was not until the 1980s that these issues were framed as environmental justice (McGurty, 1995; see Szasz and Meuser, 1997 for a complete review). The initial literature on environmental racism documented discriminatory outcomes (Bullard 1990; UCC 1987; U.S. GAO 1984), but did not delve into the processes producing them. Drawing on traditional social science understandings of racism, Bullard (1996) argued that discriminatory outcomes were evidence of racism, regardless of the mechanism (siting, housing discrimination, job blackmail), precisely because of the racist nature of the economy and the larger social formation. He defines environmental racism as “any policy, practice, or directive that differentially affects or disadvantages (whether intended or unintended) individuals, groups, or communities based on race or color” (1996, 497). Subsequent scholarship, however, has not only challenged the existence of environmental racism⁹, but has produced an overly restrictive conception of racism. As a result, siting, as a discrete and conscious act, is often analyzed solely with respect to the locations of racially subordinated groups (Bullard, 1996, 493) without sufficient attention to the larger sociospatial processes that produced such patterns. Likewise, interpretations of environmental racism are considered suspect without “proof” of intentionality.

Historical studies are a good example of how this shift towards a more restrictive conception of racism has occurred. In addition to enhancing our understanding of environmental inequities (Baden and Coursey, 1997; Been, 1994; Krieg, 1995; Pulido et al., 1996; Yandle and Burton, 1996)¹⁰, historical research has also problematized racism by asking, what if the people came first? While potentially a fruitful line of inquiry, the narrow conception of racism informing the literature has resulted in challenges to claims of racism: What were the intentions of the responsible parties? For some scholars, if people subsequently moved to polluted locales, and if the motive is unknown, claims of racism, cannot be substantiated:

⁹ In most cases, scholars simply want to establish if such inequities exist, but there has also been a move on the part of both corporations and politically conservative institutions to refute such claims (Anderton et al., 1994a, 1994b; Boerner and Lambert, 1994; see Goldman, 1996). I too, of course, am an ideologically committed scholar, one who would like to reframe the debate from an antiracist perspective.

¹⁰ I do not include Hurley’s seminal study of Gary, Indiana in this grouping because it appeared at roughly the same time (1988) as the UCC report (1987). Clearly, he was ahead of his time.

which came first? Were the LULUs {locally undesirable land uses} or sources of environmental threats sited in communities because they were poor, contained people of color and/or politically weak? Or, were the LULUs originally placed in communities with little reference to race or economic status, and over time, the racial composition of the area changed as a result of white flight, depressed housing prices, and a host of other social ills? (Cutter, 1995, 117)

This quote summarizes an oft-stated sequence of events and conception of the problem. I do not dispute its accuracy, but rather its underlying conception of racism, and the absence within the larger literature of alternative explanations. This scenario is predicated on understanding racism as a discrete and hostile act. In effect, the *siting* of environmental hazards becomes the expression of a potentially racist act. Were polluters or the state consciously targeting nonwhite neighborhoods? Geographers have, understandably, preferred to address a more narrow set of concerns, rather than the more fundamental issues of environmental degradation (Heiman, 1990) or racism (Goldman, 1996; Pulido, 1996):

An issue as controversial as environmental equity requires research that assesses the spatial coincidence between environmental disamenities and minority or disadvantaged populations, prior to an analysis of causation and the role of racial intent (Bowen et al., 1995, 655).

While a laudable position, the resulting research agenda remains theoretically weak and offers only a limited understanding of how racism, environmental quality, and urban processes intersect. The following quotes illustrate not only the emphasis on siting, but also the extent to which siting and the motive accompanying it, versus outcomes, are key to ascertaining if racism exists.

Clearly, *discriminatory siting is not the primary culprit* behind these cases of “environmental racism.” Instead, Houston’s disproportionate distribution of landfills can properly be attributed to the dynamics of the housing market (Boerner and Lambert, 1994, 16, emphasis added).

There is, therefore, significant evidence of disproportionate siting. The evidence is flawed, however, in several respects. First, the evidence does not establish that the siting process, rather than market forces such as residential mobility, caused the disparity. . . . Second, the evidence does not establish that *siting decisions intentionally discriminated against people of color or the poor* (Been, 1993, 1014, emphasis added).

A reasonable distinction is that between injustice in outcome and injustice in intent. Injustice in outcome is what most research has investigated, it can be ascertained by examining a point in time and seeing if minorities or the poor are disproportionately represented in areas where waste is. Injustice in intent concerns *siting decisions that*

are racist in intent – the actual disproportionate siting of waste in poor, minority communities (Baden and Coursey, 1997, 4, emphasis added).

There are two points that emerge from these authors' attempts to analytically sever racism from larger social processes (such as housing markets): First, they exhibit the tendency to limit racism to siting, and second, they impose the requirement of intentionality.

Siting The emphasis on siting is significant for two reasons. First, it reproduces an erroneous understanding of urban dynamics as it separates larger sociospatial processes from explanations of environmental inequity. Second, it is, unfortunately, the primary mechanism considered in terms of discrimination. This can be seen, for instance, in the way that discriminatory siting is carefully distinguished from market forces, which supposedly are nonracist. Baden and Coursey (1997) go even further by making explicit which historical scenarios are potentially racist and which are not (Table 1). They offer six scenarios to explain a community's proximity to dangerous sites. Only scenarios 4 and 6, however, suggest a clear judgment of environmental racism (1997, 14). The authors make clear that siting is the only mechanism that can be equated with environmental racism. In referring to scenarios 1, 2, and 3, they note, "if people move into an area known to be dangerous they may be able to claim racism in lending or economic inequality, but the charge of discriminatory waste siting is tenuous" (1997, 14). This is not untrue, but it is highly problematic and illustrative of a limited understanding of racism and space. Neither the narrow conception of racism, nor the fetishizing of siting helps us understand the nature of environmental racism in an urban context. In particular, it does not recognize that space is essential to the (re)production of a particular racial formation, nor does it acknowledge the fundamental relationships between racism and the production of industrial zones, pollution, and residential areas (Arnold, 1998).

Table 1. Baden and Coursey's Six Sequential Scenarios and Conclusions

Scenario	Event			Description
	1	2	3	
1	Siting	Danger	People	People move into an area known to be dangerous.
2	Siting	People	Danger	People move into an area which is later determined to be dangerous.
3	Danger	Siting	People	A dangerous facility is sited, then people move into the area.
4	Danger	People	Siting	People live in an area, then a facility known to be dangerous is sited near them.
5	People	Siting	Danger	A facility that is not known to be dangerous is sited in a region where people live and is later determined to be dangerous.
6	People	Danger	Siting	A dangerous facility is sited in a community.

Source: Baden and Coursey (1997:14).

Intentionality In the quote by Been, above, the author has clearly found evidence of disproportionate siting. Yet without using the word “racism,” she contextualizes her findings so that the reader is alerted that charges of racism cannot be fully substantiated. She does so, first, by suggesting that market dynamics have not been considered, and second, by referring to the question of intentionality. Nor, she writes, does the evidence “establish that siting decisions intentionally discriminated against people of color.” In effect, intentionality becomes the litmus test as to whether or not a racist act has been committed. Intentionality not only underlies discussions of racism, but also serves several purposes in defining it, as critical scholars of legal racism have pointed out (Armour, 1997; Crenshaw et al., 1995; Delgado, 1995). First, the requirement of intentionality reduces the likelihood of viewing collective actions as racist, as it is more difficult to prove group, rather than individual, intent. Second, the emphasis on intentionality allows for a continual contraction in the definition of racism, as seen in recent court rulings (*Washington v. Davis*). Finally, by the requirement of malicious intent, entire dimensions of the social arena are exonerated from contributing to racial inequality, including the unconscious (Devine, 1989; Lawrence, 1987). The normal functioning of the state and capitalism are thus naturalized, as racism is reduced to an aberration¹¹.

A good example of limiting the domain of racism can be seen in conceptions of the market. Instead of viewing the market as both constituted by racism and an active force in (re)producing racism, scholars have treated it as somehow operating outside the bounds of race (for a fuller discussion, see Mohai and Bryant, 1992; Pulido, 1996, 146-47). This is troubling, given the extent to which discrimination and racism have been proven in the “free market,” including in employment (Kirschenman and Neckerman, 1991), banking (Dymski and Veitch, 1996), and housing (Holloway, 1988). Do not these various forces shape a city, and influence where pollution will be concentrated? Such a limited conception of racism prevents us from either grasping the power and spatiality of racism or identifying its underlying effectivity in perpetuating environmental injustice.

Scale and Racism

In addition to siting and intent, spatial scale is also implicated in producing a narrow conception of racism, as it too reflects normative understandings of race and space. Scale is a major methodological issue in the environmental-racism literature (Bowen et al., 1995; Cutter, 1995; Perlin et al., 1995; Zimmerman, 1993). Not only have researchers examined environmental inequity at different scales, but the question

¹¹ The notion of racism as an aberration, or as an irrationality is an entrenched part of the liberal discourse on racism. For a critique, see Crenshaw et al. (1995). On the history of racism, see Goldberg (1993).

of what is the most appropriate scale has also been contested. Evidence suggests that different units of analysis, such as counties, zip codes, or census tracts, may produce different findings. For instance, county-level data may reveal a pattern of environmental racism, but a census-tract analysis of the same area may not (Bowen et al., 1995; Anderton et al., 1994a). Zimmerman illustrates how spatial scale may confound attempts to “prove” racism.

How boundaries can affect the outcome of an equity analysis in the judicial context was underscored in the *East Bibb* case. ... The court used a census tract to define the boundary around an existing landfill, and, on that basis, ruled that a predominantly white community surrounded the landfill; plaintiffs, in contrast, argued that a larger area encompassing both the existing site and a proposed waste site was predominantly black (70%). Another case, *Bean v. Southwestern Waste Management Corporation*, employed statistical analyses both city-wide and for an area more proximate to a solid waste facility (defined at the census tract level) ... The court, using statistical findings at both geographic levels, ruled that even though no discrimination existed at the tract level, smaller neighborhoods within tracts where the facilities were located are important considerations in determining patterns of discrimination (1993, 652-53)¹².

This quote not only demonstrates the problems associated with treating racism as an either/or phenomenon, but also suggests the extent to which a limited understanding of scale is tied to a narrow conception of racism. Both are conceived as discrete objects, rather than as social processes. I do not mean to suggest that courts should not rely on such findings, or that discrete acts of racism are *not* important, but as geographers, one of our tasks should be to explain patterns and processes. This requires that we critically interrogate our concepts and tools. In this case, not only must we acknowledge structural racism and reconceptualize it as a power relation, but we also need to contextualize scale. As Neil Smith has argued, we need to recognize scale as socially produced, rather than to treat it as a “methodological preference for the researcher” (1993, 96). Besides appreciating the fuzzy edges of spatial units, we must recognize that places are the products of a specific set of social relations (Massey, 1994; Soja, 1989). Moreover, the relevant social relations do not reside solely within the spatial unit under consideration. Rather, places are produced by other places, what Massey (1994) calls “stretched out” social relations. Thus, not only must our analysis operate at several scales simultaneously, but we must also consider the functional role

¹² The cases cited are *East Bibb Twigs Neighborhood Association v. Macon-Bibb County Planning and Zoning Commission*, 888 F. 2d 1573 (11th Cir.), affirmed 896 F. 2d (11th Cir. 1989), and *Bean v. Southwestern Waste Management Corporation*, 482 F. Supp. 673 S.D. Tex. 1979. In *Bean*, local residents felt that the siting decision was discriminatory but lost because they could not prove discriminatory purpose under *Washington v. Davis*.

of those places and their interconnections. This has implications for how we use scale in studies of racism. We must bear in mind that our selected scale of analysis may not necessarily coincide with the scale of racist activity. If racism is constitutive of the urban landscape and various types of racisms operate simultaneously, then great care must be taken in our treatment of scale. Racism and its consequences do not necessarily cease at the edges of census tracts or city boundaries.

Accordingly, instead of treating spatial units as if they exist in a vacuum, the study of industrial pollution requires that our focus not be limited to the individual facility, but rather should address the larger industrial zone in which it is located (Arnold, 1998). In turn, the industrial zone must be understood in relation to working-class suburbs, affluent suburbs, “inner cities,”¹³ and downtown areas. All of these places represent specific class relations that are functionally linked. At the same time, all these places are racialized, and racism works in particular ways in their formation and evolution.

Collectively, these three practices, the emphasis on siting, intentionality, and a static conception of scale, have a limited ability to explain the geography of urban environmental hazards, particularly their concentration in industrial zones (Anderton et al., 1994b; Baden and Coursey, 1997; Cutter and Tiefenbacher, 1991; Sadd et al., 1999; Pulido et al., 1996). Anderton et al. (1994b, 239), in their national study of transfer, storage, and disposal facilities (TSDFs), found “the clearest and most consistent finding across the country is the apparent association between the location of TSDFs and other industrial enterprises”¹⁴. This finding suggests the need to clarify the relationship between industrial zones, suburbanization, inner cities, and race. As Been has suggested,

Many factories and other sources of hazardous waste were traditionally located in the center city because of greater access to transportation and markets. In some cities, developers provided cheap housing for workers in the surrounding areas. As *workers moved away*, either because factories closed or because more desirable housing became affordable elsewhere, the cheap housing in the center cities became disproportionately populated by the poor and by people of color (Been, 1993, 1017, emphasis added).

¹³ I place the term “inner city” in quotes to denote both the fact that it is socially constructed and problematic as a policy and social science concept.

¹⁴ The work of Anderton et al. (1994a and b) has been widely criticized on several grounds. The authors’ finding of no environmental racism has been challenged on methodological grounds (Been, 1995), as has their participation in industry-supported research (Goldman, 1996, 132-34). Nonetheless, their [views] on industrial land use has increasingly been corroborated.

This process of how “workers moved away” is one key to understanding contemporary patterns of environmental racism. It is my task to unpack this process.

Environmental Racism, Urban Space, and White Privilege in Southern California¹⁵

Environmental Racism in Los Angeles County

There have been six systematic studies of environmental racism in Los Angeles (five at the county level and one at the city), examining three environmental hazards: uncontrolled toxic waste sites (UCC, 1987), TSDFs (Sadd et al., 1999), and air toxins based on the Toxic Release Inventory (TRI) (Boer et al., 1997; Burke, 1993; Pulido et al., 1996; Szasz et al., 1993). Table 2 summarizes these studies. All studies found that nonwhites were disproportionately exposed. Most vulnerable were working-class Latinos¹⁶.

The fact that three different hazards have been examined sheds light on distinct aspects of the urban environment. For instance, uncontrolled waste sites are often abandoned sites, thereby illuminating past industrial activities (Colten, 1986; Krieg, 1995; Newton, 1998). TRI data, which lists facilities emitting at least 10,000 pounds of air toxins annually, reflects largely contemporary industrial activities. TSDFs, despite their relatively small number, receive an inordinate amount of attention because they are high-profile projects requiring extensive permitting. In cities, they are often located in industrial zones because of their hazardous nature, as well as their proximity to waste generators.

The first study to suggest that environmental racism existed in Los Angeles was the United Church of Christ (UCC, 1987) report. Although national in scope, it examined the distribution of uncontrolled hazardous-waste sites in major cities, including Los Angeles, and found that Latinos were disproportionately exposed. In Figure 2, I have reproduced the original UCC map showing the concentration of waste sites in the eastern part of the city. Out of 57 waste sites, 35 (61.4 percent) were located in zip codes that were at least 50-percent Latino (UCC, 1987, 38)¹⁷. This area is not only one of the older industrial zones but also a longstanding Chicano barrio

¹⁵ For this study, southern California is limited to Los Angeles and Orange Counties.

¹⁶ Mexicano refers to persons of Mexican origin, mostly Mexican immigrants; Chicanos to persons of Mexican ancestry born in the U.S.; and Latinos, all Latin Americans.

¹⁷ Although the UCC study was based on 1980 census data and is therefore somewhat dated, this part of the city has only become more Latino during the 1980s and 1990s. Latinos now constitute upward of 90 percent of the population in this area (see Allen and Turner, 1997).

Table 2. Summary of Six Studies Examining Environmental Hazards in Los Angeles

Author/Year	Hazard	Unit of Analysis	Analytic Methods	Findings
United Church of Christ (1987) ^a	Abandoned toxic waste sites	City of LA (except harbor connector) Zip codes	Descriptive analysis	Latinos disproportionately impacted
Burke (1993)	Facilities emitting air toxins (TRI)	Urbanized Los Angeles County census tracts	Bivariate mapping, generalized linear modeling, logit analysis	Latinos disproportionately impacted
Szasz et al. (1993)	Facilities emitting air toxins (TRI)	Los Angeles County census tracts	Difference of means, regression analysis, comparison of means, two-way aggression analysis	Black and Latino households earning \$20–40,000 disproportionately impacted
Pulido et al. (1996)	Air toxin emission clusters (TRI)	Urbanized Los Angeles County census tracts	Descriptive and historical analyses	Latinos disproportionately impacted
Boer et al. (1997)	Transfer, storage and disposal facilities (TSDFs)	Los Angeles County census tracts	Visual analysis, univariate and multivariate analyses	Working-class blacks and Latinos disproportionately impacted
Sadd et al. (1999)	Air toxins (TRI) (facilities, size of emissions, relative toxicity)	Six southern CA counties (Los Angeles, Orange, Ventura, Riverside, San Bernadino, and Imperial) census tracts	Univariate comparisons, binomial logit, ordered logit, tobit regression analysis	Blacks and Latinos in urbanized, central Los Angeles disproportionately impacted

^aThe primary UCC study examined the relationship between commercial hazardous-waste facilities and community demographics. The study of abandoned hazardous wastes was a smaller component of the larger project and was less methodologically rigorous.

(Pulido et al., 1996; Romo, 1983; Sanchez, 1993). The area is legendary for its foul-smelling air, and includes one of the most polluted zip codes in the state (Kay, 1994).

The next group of studies examined facilities releasing air toxins (TRI). Figure 3 presents a map based on the data analyzed in the Sadd et al. (1999) study.¹⁸ This dataset contains by far the largest number of pollution events. Burke (1993) identified three key variables associated with census tracts containing TRI facilities: the high presence of minority populations (primarily Latinos), lower incomes, and high-population densities. The study by Sadd et al. (1999, 111) found that sites were concentrated in the “heavily urbanized metropolitan Los Angeles area ... in which the percentage of African American or Latino residents exceeds the mean for the study area”. They, along with Szasz et al. (1993), also found that facilities were concentrated

¹⁸ Many thanks to Jim Sadd and Environmental Data Resources, Inc. for allowing me to use this dataset. For both Figures 3 and 4, we took environmental hazards data from Sadd et al. (1999) and Boer et al. (1997) and overlaid it on 1990 census data.

in working-class areas, rather than poor or wealthy ones (see also Cutter and Solecki, 1996). The study by Pulido et al. (1996) focused on emission clusters and found that the largest concentration of sites was located in the greater east Los Angeles and south Los Angeles areas¹⁹.

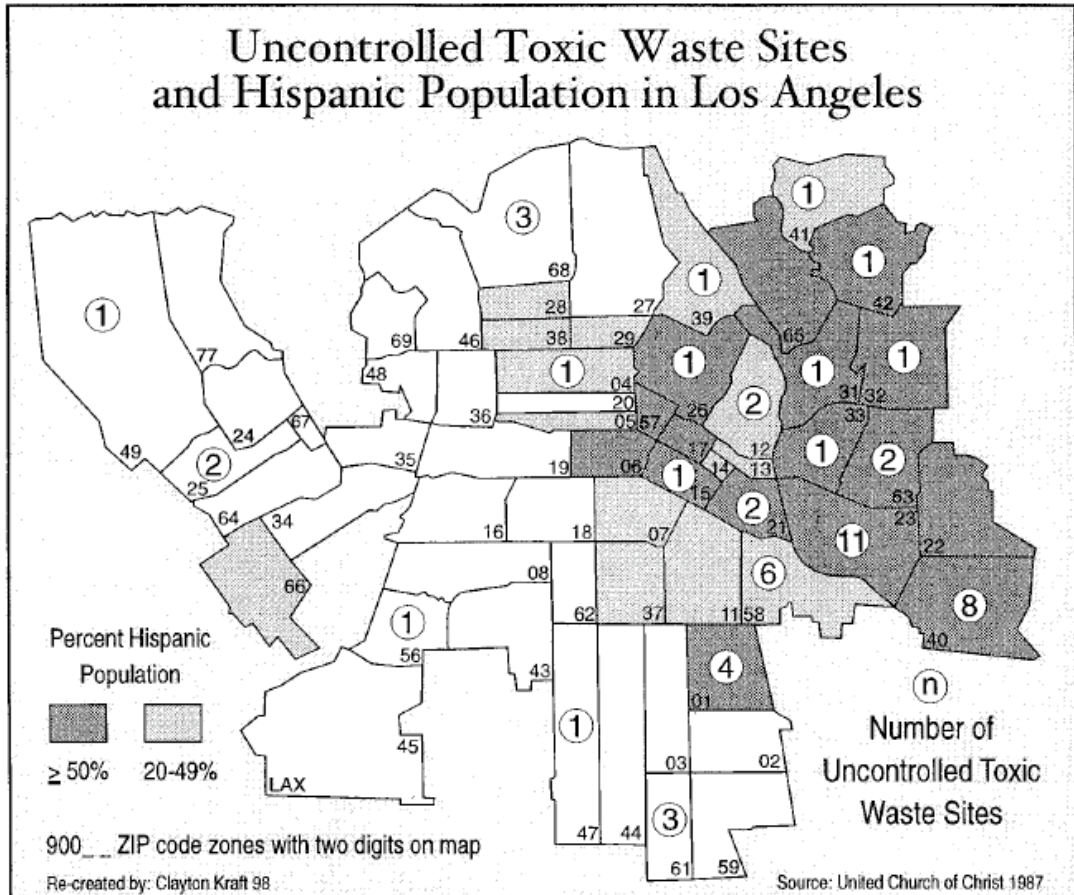


Figure 2. Southern California’s first study of environmental racism: The United Church of Christ’s study of uncontrolled hazardous wastes in Los Angeles city, 1987. The UCC study did not include the entire city – the “shoestring,” or narrow corridor connecting the main part of the city with the harbor, is not shown.

¹⁹ The single largest emitter was an oil refinery in Torrance, a mixed, middle-income city (see also Burke, 1993); at a more refined scale, however, it was found that the neighborhoods immediately adjacent to the refinery were primarily Latino.

The final hazard studied is TSDFs. Figure 4 represents data analyzed by Boer et al. (1997). In this study, the authors found a pattern similar to Sadd et al. (1999) and Szasz et al. (1993): the disproportionate exposure of working-class communities of color. Using a multivariate model, the authors found that “race remains a factor along with industrial land use and employment in manufacturing; rising income, on the other hand, has a positive, then a negative effect on the probability of TSDF location” (1997, 795). They found that 5.2 percent of blacks and Latinos lived in a census tract containing a TSDF, but only 2.9 percent of whites did.

The results of these six studies suggest important racial and spatial patterns associated with these three forms of pollution. First, it appears that most industrial hazards in southern California are concentrated in the greater central and southern part of Los Angeles County. This older core is inhabited by people of color, while whites live on the periphery. Within this large zone, one group of hazards follows a major transportation corridor, the Interstate-5 freeway and the railroad, stretching from east Los Angeles through downtown and into the eastern San Fernando Valley. A second major grouping forms a wide swath from downtown to the harbor. This distribution reflects both contemporary and historic industrial patterns. Second, as previously stated, all studies found evidence of environmental racism, even when accounting for income. This substantiates Perlin et al.’s (1995) finding that pollution is concentrated in a few large urban areas with substantial minority populations. Third, it is working-class Latinos, and to a lesser extent, African Americans, who are disproportionately impacted. This reflects both patterns of residential segregation, as well as Latinos’ historic and continuing role as the region’s low-wage working class (Morales and Ong, 1993; Ong and Blumenberg, 1993; Scott, 1996a). What is significant is the degree to which almost no whites live in these areas and therefore are not exposed to the hazards under consideration²⁰. As the maps in Figures 2-4 suggest, there is simply far less pollution in the outlying areas. I maintain that we can only understand these contemporary patterns by examining the historical development of urban space at the regional scale and that these processes are inherently racialized. While some forms of environmental racism are directly attributable to overt acts of discrimination, I will emphasize how white privilege contributed to this larger pattern.

²⁰ An important exception might be Superfund sites. Military production is responsible for serious ground and groundwater contamination, such as the Lockheed site in North Hollywood/Burbank, and Rocketdyne in the western San Fernando Valley. There has been no systematic study of this form of pollution throughout the region.

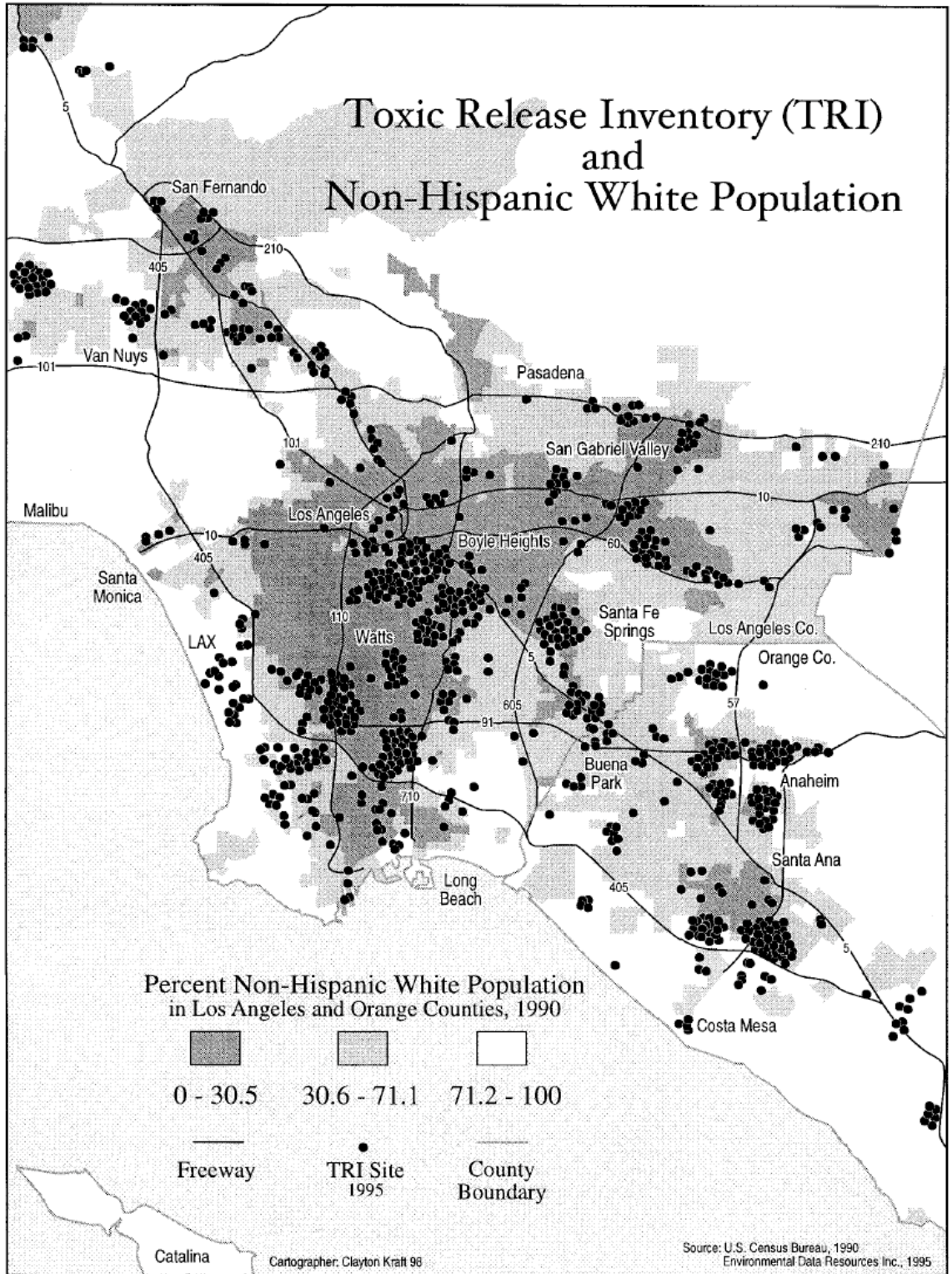


Figure 3. Distribution of Toxic Release Inventory (TRI) emission sites and non-Hispanic white population in Southern California.

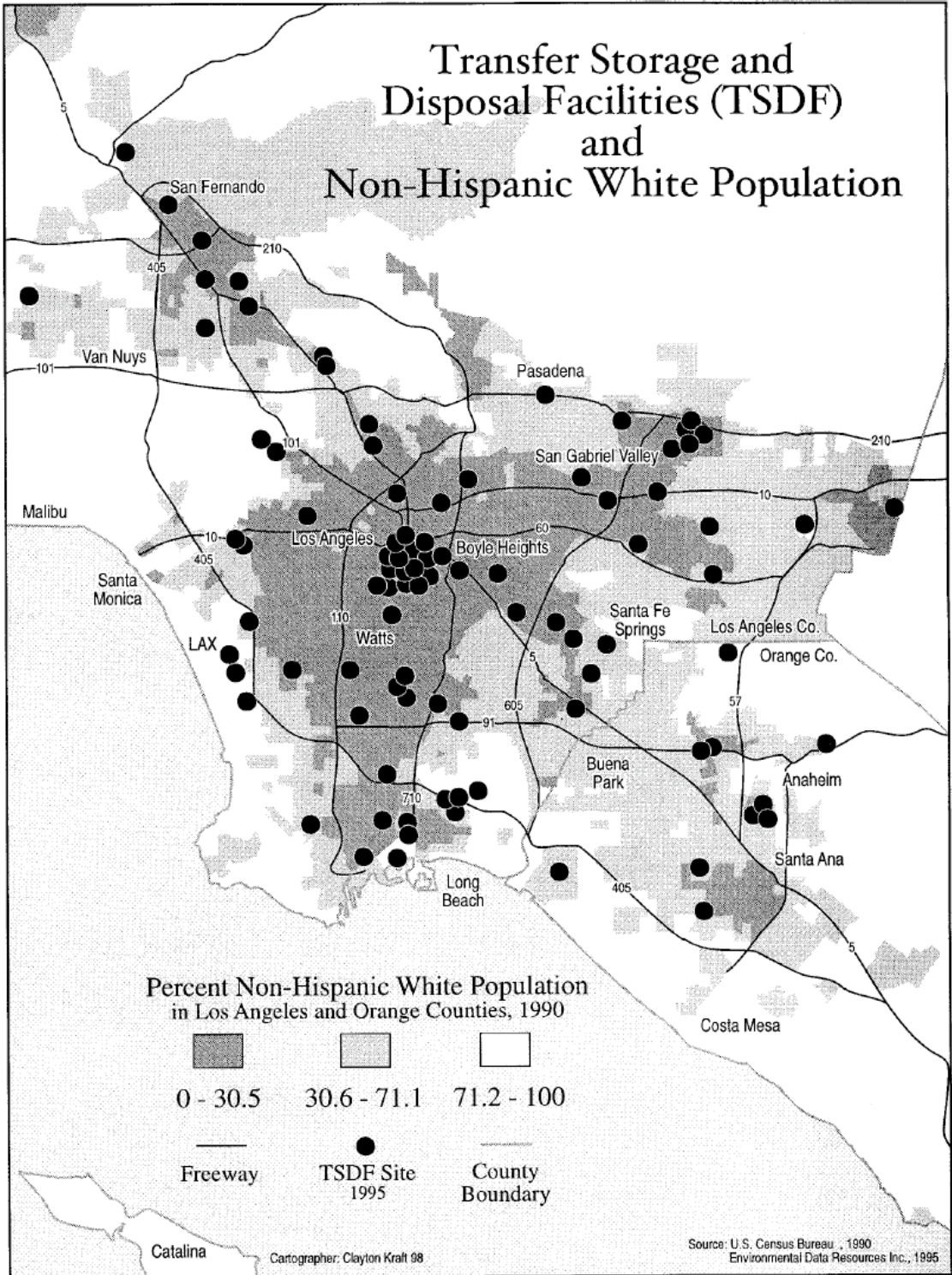


Figure 4. Distribution of Transfer, Storage, and Disposal Facilities (TSDF) and non-Hispanic white population in Southern California.

***The Historical Geography of White Privilege and Environmental Racism
in Los Angeles***

The data suggest that people of color's disproportionate exposure to pollution in Los Angeles is not by chance. Although the geography of environmental racism is the result of millions of individual choices, those choices reflect a particular racial formation, and are a response to conditions deliberately created by the state and capital (Harvey, 1985; Hise, 1998; Walker, 1981). My goal is to show the historical evolution of these patterns and how racism contributed to the spatial patterns associated with environmental racism.

Before offering this historical geography, however, it is useful to consider how Los Angeles is both similar to and unique from other urban areas. Although the nature and definition of suburbia is contested (Fishman, 1987; Garreau, 1991; Kling et al., 1995; Sharpe and Wallock, 1994), there is no denying that urban regions have undergone a fundamental restructuring over the last five decades, as whites and the middle class of all colors have moved outwards with significant consequences for inner cities. This process of deconcentration has been described as a "massive regional dispersal of population, industry, and commerce," entailing "the restructuring of both the central city and the outlying areas" (Gottdiener and Kephart, 1995, 33-34).

Los Angeles has not escaped these profound shifts, but its experience is also unique (Davis, 1992; Dear and Flusty, 1998; Soja, 1989, 1996). Unfortunately, the reality of Los Angeles is often obscured by the many misconceptions of the region (Soja, 1996, 427). For example, because of its legendary sprawl, many overlook the historical and contemporary significance of Los Angeles's inner cities. Though inner cities are often considered to be sites of poverty and pathos, this is too simple a reading. While both the eastside barrio and South Central are home to poor people of color, they are also sites of vibrant communities and an assortment of industry and warehousing. In addition, perhaps because of the influence of Hollywood and Disneyland, many do not realize that Los Angeles is the leading manufacturing county in the nation. Accordingly, the historical geography of industry has been a powerful force in shaping the region (Soja, 1989).

Suburbanization is also unique in Los Angeles, where, although not pioneered there, suburbia peaked, as real-estate speculation and "living the good life" became economic and social cornerstones of the region (Fishman, 1987, 155). Finally, while many U.S. cities have historically been characterized by bipolar racial structures (usually black/white), only recently have they become multiracial. In contrast, Los Angeles has always been racially diverse. This is important in that the long presence of various racial/ ethnic groups illustrates how nonwhites differentially experienced racism, underscoring the profundity of white privilege.

Early Residential and Industrial Patterns, 1848-1920s Early suburbanization emanated partly from the refusal of middle-class whites to live near immigrants and

people of color. Whites pursued suburbanization for many reasons, but regardless of their motives, their choice was predicated on white privilege. Historian Robert Fogelson (1993) has pointed out that soon after the Anglo takeover of Los Angeles (1848), the city was transformed from a spatially clustered community to a rapidly expanding city. This transformation was driven by several forces, including a growing population, land speculation, and the fact that many newly arrived white Angelenos were native-born and refused to live near socially subordinated groups. Fogelson (1993) has argued that because the whites who came to Los Angeles were relatively secure financially, they were more concerned with lifestyle issues, rather than economic survival, and their affluence led them to embrace suburbia. Hence, whites' residential desires and real estate interests were two of the more powerful forces that shaped early Los Angeles:

the unique dispersal of Los Angeles reflected not so much its chronology, geography, or technology as the exceptional character of its population. It was not like Chicago ... inhabited largely by impoverished and insecure European immigrants, who ... were confined to the city's teeming tenements and crowded ghettos. ... Los Angeles was populated principally by native[-born] Americans with adequate resources and marketable skills, who faced the problems of adjustment confidently because of a common language and similar background. ... Moreover, the native[-born] Americans came to Los Angeles with a conception of the good community which was embodied in single-family houses, located on large lots, surrounded by landscaped lawns, and "isolated" from business activities. Not for them multi-family dwellings ... separated by cluttered streets and ... industry. Their vision was epitomized by the residential suburb (Fogelson, 1993, 144).

In addition to the exclusionary desires of white Angelenos, suburbanization was also promoted by industrialists who sought to provide housing for the white working class as a means of avoiding labor unrest. According to one promotional brochure,

The real secret of the efficiency of the workers of Southern California may be found in their home life. ... A tenement is unknown here and the workers live in their own little bungalows surrounded by plenty of land for fruits, vegetables and flowers, and where children romp and play throughout the entire year. ... This spells contentment and contentment spells efficiency (LA Chamber of Commerce Industrial Department, 1926).

As whites moved outward, Chicanos, African Americans, Japanese Americans, Chinese Americans and the remnant Indian population were relegated to San Pedro, Watts, and the central city (including downtown and the eastside) (Anderson, 1996, 342-46; Horne, 1995, 27; Romo, 1983; Sanchez 1993; Warren, 1986-1987). Beginning

in the 1920s, residential segregation was violently enforced (De Graff, 1970; Massey and Denton, 1993). As a result, for thousands of

Mexicans, Japanese, and Negroes who lived amidst commerce and industry in the small ghettos of central Los Angeles and San Pedro{.} there were a million white Americans who resided in the suburbs sprawling north to Hollywood, east to Pasadena, south to Long Beach, and west to Santa Monica (Fogelson, 1993, 147).

These early differences in environmental quality were codified by zoning laws in the 1920s, which resulted in a concentration of industrial activity in nonwhite and immigrant areas (The Zoning Map Company, 1930).

This early process of white outmigration was characterized by various forms of racism. For one, the fact that nonwhites were considered undesirable reflects a racial hierarchy. More conscious was the exclusion of people of color from white housing developments. While most developers practiced overt discrimination by denying housing to people of color, they may have had distinct motives. Some may have opposed nonwhites living with whites, while others may simply have realized that the presence of nonwhites would reduce property values. Regardless of the motive, however, *all* these actions were predicated on white privilege and served to undermine the well-being of people of color. This is an example of how white privilege can coexist with other forms of racism in shaping residential patterns.

Until the 1920s, the industrial sector was weak and clustered downtown due to limited infrastructure. During the 1920s, however, civic leaders sought to build the region's manufacturing base in order to diversify the economy. Between 1919 and 1933, Los Angeles County rose from twenty-seventh to sixth in terms of the value of manufactured goods (LA Chamber of Commerce Industrial Department, 1934). Several factors guided this growth, including the success of the "branch plant" strategy, capital's desire to escape organized labor and zoning regulations (LA Chamber of Commerce, Industrial Department, 1929), and the coordinated efforts of industrialists, developers, and planners to transform the basis of Los Angeles's landscape from tourism and land speculation to manufacturing (Hise, 2000; Fogelson, 1993).

The resulting manufacturing and residential geographies have had an enduring influence. Mexicanos and industry were continually pushed eastwards from the central Plaza, towards the Los Angeles River (Romo, 1983; Sanchez, 1993), further cementing the barrio's role as an industrial district. Industrialists and planners chose to develop this site, given its proximity to the railroad, in hopes of generating cargo tonnage (Los Angeles Central Manufacturing District, 1923). Partly because of the existing industrial infrastructure (railroads, industrially zoned land, already-contaminated land), and the availability of a large pool of low-wage labor, the eastside remains an important industrial area.

The production of urban space in Los Angeles in the 1920s shows how race and class influenced the location of both residential and industrial districts. Affluent whites moved to residential suburbs like Pasadena, Bel Aire, Rancho Palos Verdes, and Beverly Hills, and were never seriously threatened with industrial activity. Instead, industry developed in conjunction with nonwhite spaces (the eastside and south of downtown) and the white working class. As previously mentioned, industrialists' desire to avoid labor unions (concentrated downtown), and to placate white labor through home ownership, led to the development of industrial suburbs. The creation of communities like Torrance, Huntington Park, and Bell offered a suburban experience to all whites, regardless of class (Parson, 1984). The strength of the color line can be seen in the way Bell, for instance, boasted of providing "homes for industrial workers {with} no Negroes and very few Mexicans and Chinese" (LA Chamber of Commerce Industrial Department, 1925). Likewise, Compton described itself as having "inexpensive homes of individuality, where flowers and gardens may be grown the year round. White help prevails" (LA Chamber of Commerce Industrial Department, 1925). Yet, despite the overwhelming power of white privilege in (re)producing the color line, it is also evident that this articulation of racism is predicated not only on class divisions within the white population (which allowed for the creation of affluent communities), but also an attempt to incorporate those who were previously considered to be "not quite white" (Brodin, 1998) into new forms of consolidated whiteness.

As suburbanization continued, what were once the near suburbs became the inner city, as white workers moved away, and people of color subsequently took their place, a process known as ethnic succession²¹. Consequently, wealthy whites were never systematically burdened by pollution, while over time, the white working class was able to escape by taking advantage of new housing opportunities. Thus, regardless of class differences, all whites enjoyed white privilege, albeit to varying degrees.

Residential and Industrial Expansion in the World War II Era The Depression and World War II greatly intensified the process of white suburbanization, but instead of it being a private project, the state actively subsidized suburbanization, to the detriment of people of color living in the central city (Ebner, 1987, 234-35; Guhathakurta and Wichert, 1998). Figure 5 shows the exodus set in motion by the policy and economic shifts of World War II. Not only did whites continue their outward migration, but millions of newly arrived white Angelenos settled in the suburbs. In contrast, newly arriving African Americans and Mexicanos were relegated respectively to the ghetto and barrio. And Japanese Americans, upon their postwar release from concentration camps, clustered in black and brown spaces, such as the

²¹ This is an important issue that few have seriously addressed – the historic exposure of the white working class. The fact that working-class whites may have been disproportionately exposed in the past does not detract from the argument that environmental racism exists today. Rather, it suggests the changing nature of race, and the need to historicize its spatiality.

Crenshaw area and Boyle Heights, as well as in rural communities like Gardena (Warren, 1986-1987).

The economic growth triggered by defense dollars not only provided jobs, but housing these workers created a construction boom. Hise has argued that this period is pivotal to explaining the contemporary fragmentation of southern California: “the emergence of Los Angeles as a fully urbanized region occurred around a set of decentralized industrial growth poles ... {and the} industrial and housing policy associated with the defense emergency accelerated this emergent pattern of decentralization” (1993, 97-98) (Figure 6).

Federal policies, such as Titles I and VI of the Federal Housing Act (FHA), sought to increase the housing supply (Doti and Schweikart, 1989), in an overtly racist way. Perhaps of greatest significance was the institutionalization of redlining practices by the Home Owners Loan Corporation (HOLC) and the FHA. Although these measures were intended to protect small homeowners from foreclosure, they ranked neighborhoods in descending order from “A” to “D,” with profound consequences for future urban development. “A” ratings were reserved for “newer, affluent suburbs that were strung out along curvilinear streets well away from the problems of the city” (in Jackson, 1980, 424).

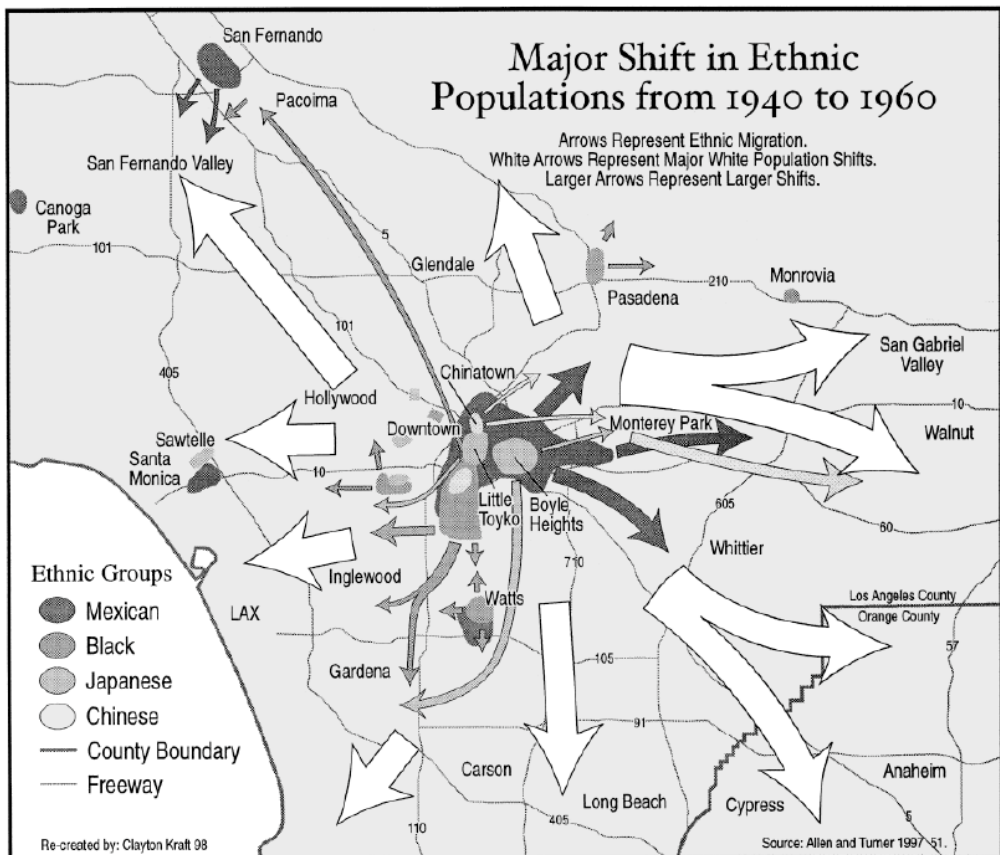


Figure 5. Racial/ethnic outmigration from central Los Angeles between 1940 and 1960.

At the other extreme were nonwhite neighborhoods. Indeed, HOLC's survey of the Los Angeles area shows the suburban communities of Pasadena, Beverly Hills, Santa Monica, and Palos Verdes as all "A" areas. Working-class white communities were "B," and Black, Latino, and Asian neighborhoods, primarily in the eastside, central Los

Angeles, and south of downtown, were "C" and "D" (U.S. Division of Research and Statistics, 1939). A confidential report by the survey team illustrates the degree to which black and brown people were considered a problem and a potential threat to white residential development:

Negroes do not constitute a racial problem in the area as a whole, for although they too have been increasing rapidly in number, their ratio to the total county population has remained constant since 1890. The Negro race is fairly well confined to a few sections within the county. They occupy one large area southwest of the business district. ... Although Beverly Hills shows a larger than average number of Negroes, these are made up entirely of servants *and they do not own property in the community*. ... The major racial problem existing in Los Angeles, and one which is not revealed by the census data, is that created by the large numbers of Mexicans, who are classed as Whites by the Census Bureau. ... While many of the Mexican race are of high caliber and descended from the Spanish grandees who formerly owned all the territory in southern California, *the large majority of Mexican people are a definite problem locally* and their importation in the years gone by to work the agricultural crops has now been recognized as a mistake (Bowden and Mayborn, 1939, emphases added).

The results of such overt and institutionalized forms of racism were evident in dramatic urban inequalities. For instance, despite the outlawing of restrictive covenants in 1948 (which Californians subsequently repealed), less than two percent of the housing financed with federal mortgage insurance was made available to blacks (Anderson, 1996, 345). Moreover, in 1955, the ratio between single-family and multifamily starts was more than nine to one in Los Angeles (Cohan, 1956, 46). Because they were largely excluded from the new suburbs, the limited production of multifamily units meant greater crowding in the barrio and ghetto. Minority

communities were also disadvantaged insofar as massive funds were channeled into suburbia²².

Not only was less money available for inner-city development, but such projects were often built literally at the expense of nonwhites. For example, Los Angeles's freeway system, upon which the suburban structure was predicated, was largely built *through* communities of color, particularly Chicano neighborhoods, resulting in severe disruption to the community and its housing stock (Avila, 1998). The result of these practices was evident in growing racial and economic polarization. In 1960, the average income in central and east Los Angeles was \$5,916, while it was \$8,575 in the outlying, newly developing areas ("Los Angeles 1965: Market and Media", 1965, M12)²³.

A related segregation tool was suburban city incorporation. The exclusionary nature of suburbanization is underscored by the fact that once people arrived, they sought to insulate their investment through incorporation. Not only did this protect their tax dollars, but it offered them more control over local land use, including industry, schools, and the ability to exclude outsiders, through, for example, restrictive covenants, advertising practices, and minimum lot-size standards (Babcock and Bosselman, 1973; Miller, 1981). Between 1955 and 1960, twenty-five communities incorporated in Los Angeles County (Miller, 1981, 22), resulting in a total of more than 76 incorporated cities ("Los Angeles 1965: Market and Media", 1965, M3)²⁴.

The issue of incorporation versus suburbanization demonstrates the multiple forms of racism shaping the region. For some, moving to suburbia might simply be taking advantage of opportunities based on one's white skin. While this opportunity is *predicated* on institutionalized racism, incorporation is potentially a more conscious and deliberate act to maintain one's privilege (often in the form of property values). In Torrance, for instance, an integration campaign led by the Congress on Racial Equality

²² This occurred through both a diversion of funds and a direct subsidy. For instance, the Bradley-Burns Act of 1956 authorized local municipalities in California to collect a one-cent sales tax for their own use. Because many urban residents shopped in new suburban malls, they in effect subsidized outlying areas, thereby allowing them to maintain low or nonexistent property taxes (Davis, 1992, 166).

²³ I reached these figures by averaging the reported incomes for the following communities as identified in the *Los Angeles Times* media market. For the inner city, I included the Northeast, East, Central, and Southeast. For the periphery, the San Fernando Valley, Glendale, South Coast, and Orange County ("Los Angeles 1965: Market and Media", 1965, 15, M12).

²⁴ An important impetus for this incorporation boom was the planned community of Lakewood, which pioneered a contract-based form of municipal government (Brill, 1996, 98). Many communities emulated this plan, what has been called the "Lakewoodization" of southern California (Davis, 1992, 166).

(CORE), a civil rights group, was fiercely resisted by whites. White opposition ranged from parades featuring Nazis and the Klu Klux Klan, to white homeowners planting American flags and signs on their lawns saying “without property rights there are no human rights” (Weeks, 1963). While the reference to “property rights” may appear disingenuous, it is quite telling in that it reveals the necessity of preserving whiteness in order to protect one’s investment and a particular quality of life.

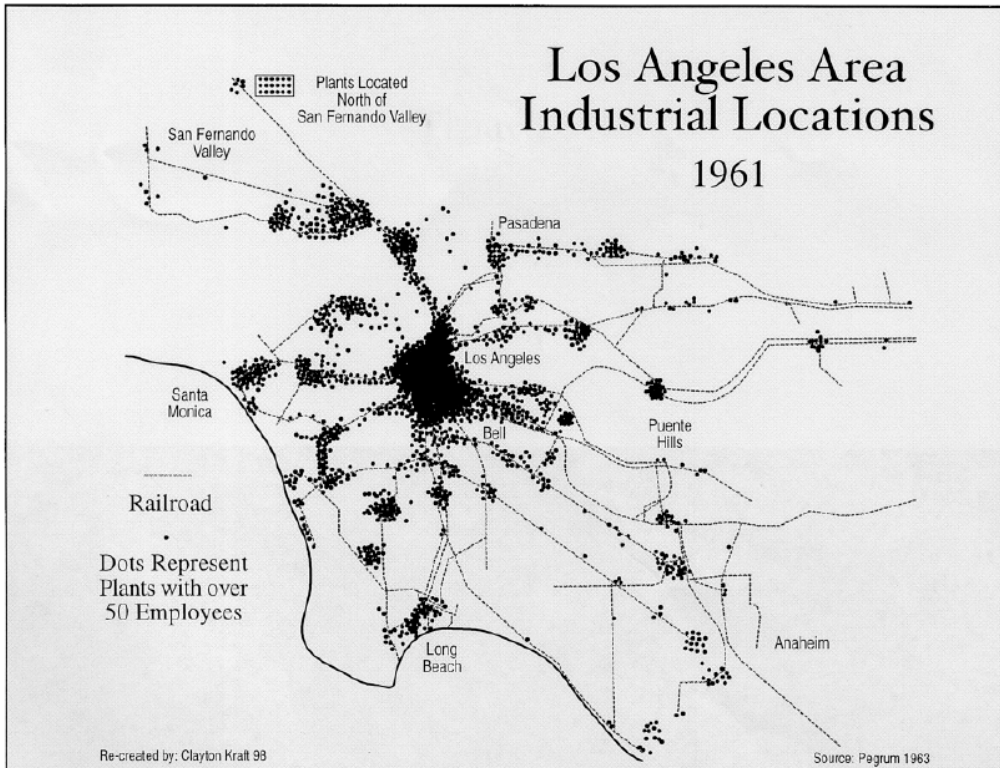


Figure 6. Distribution of industrial concentrations in Southern California, 1961.

What is significant is not that some whites refused to live among nonwhites, but the extent to which social status and a desired quality of life are predicated on homogeneous whiteness.

That suburbanites effectively wall out those unlike themselves after arriving {in suburbia}, however, suggests that a major force driving their migration is the wish to escape racial and class intermingling. In the United States, *upward mobility and social status are predicated on living apart from racial and economic groups considered inferior*. ... Thus, it is not simply the racism of individuals but also the collectively perceived threat that race and class differences pose to homeownership and social

standing that drives suburbanites to keep their territory segregated (Sharp and Wallock 1994, 9, emphasis added).

The quote emphasizes the connection between individual actions and social structures. While some undoubtedly had malicious intentions, others did not. Yet, in order to preserve and fully exploit the privilege associated with whiteness, presumably well-intentioned individuals respond to market forces and social structures in ways that reinforce racist hierarchies.

This process highlights not only the spatiality of racism, but also the fact that space is a resource in the production of white privilege. Indeed, neighborhoods are not merely groupings of individuals, homes, and commerce, they are *constellations of opportunities* with powerful consequences, for both the recipient and nonrecipient populations. Although whites must go to ever greater lengths to achieve them, relatively homogeneous white spaces are necessary for the full exploitation of whiteness (Frankenberg, 1993).

Beginning in the 1950s, the urban exodus was driven by the relocation of key industries and government services. Led by Northrop, Hughes, and Lockheed, aerospace firms left central Los Angeles in a leapfrog pattern, creating industrial agglomerations (Lockheed Aircraft Corporation, 1953; Scott, 1996b). As a result, well-paying defense jobs shifted to Los Angeles's periphery (Law et al., 1993), and racial and economic polarization became more entrenched. There was a strong relationship between the defense industry and white workers. White workers followed the industry, which moved to areas amenable to whites. For instance, a labor-market survey described Fullerton as undergoing a "significant expansion in industries related to the missile program" (California Department of Employment, 1960), and as having a labor force that was primarily "native-born white" (California Department of Employment, 1952).

Many factors contributed to this industrial and urban decentralization. Besides population growth, new production methods required larger lots, which were increasingly hard to find in Los Angeles. Indeed, 76 percent of Los Angeles's capital investment in 1955 was spent on existing businesses as they sought to expand (Banks, 1956, 63). In addition, there was a desire to escape congestion, and quality of life concerns greatly intensified after the Watts riots (1965). Consequently, new communities were built along Los Angeles's periphery, including the San Fernando Valley, the South Bay, and Orange County (Kling et al., 1993, 3; Scott, 1990, ch. 9). Between 1960 and 1965, Los Angeles

County experienced a population growth rate of 21.4 percent, while Orange County averaged 137.5 percent ("Los Angeles 1965: Market and Media", 1965, M14). Despite Orange County's exceptional growth, however, relatively few people of color moved there. While Los Angeles's population was 19.2 percent nonwhite in 1960, Orange County was only 8.8 percent nonwhite (LA Chamber of Commerce, 1964).

Besides affordable housing and well-paying jobs, white Angelenos were lured to new, attractive, segregated communities, such as Irvine, the quintessential planned community. The developer, the Irvine Company, believed that both affordable and integrated housing would reduce property values and deter desirable buyers. One official explained that a multiracial advertisement, “would scare off every white person I had even the slightest hopes of getting” (Schiesl, 1995, 68).

Nonetheless, by the 1970s, a decrease in overt racism and a strong economy allowed people of color to enjoy more housing options. The San Gabriel Valley became the path of upward mobility for Chicanos, and Asian Americans became increasingly dispersed throughout the region. Eventually, the enforcement of civil rights laws enabled blacks to move beyond central and south Los Angeles.

Contemporary Patterns Due to 150 years of racism as well as recent social and economic shifts, southern California remains highly segregated, despite a reduction in overt forms of racism. Three interrelated factors help explain why the central city remains a nonwhite place, and whites continue to dominate the periphery: immigration, residential mobility, and economic restructuring. These factors also help explain why Latinos, in particular, are disproportionately exposed to industrial pollution.

Immigration has dramatically affected both the economy and residential patterns of the region. Between 1970 and 1990, the Asian population of Los Angeles increased by 451 percent (Cheng and Yang, 1996, 308), while between 1980-1990, the Latino population rose from two million to well over three million (Morrison and Lowry, 1994, 28). Although these new arrivals settled throughout the region, many clustered in east, central, and south Los Angeles. At the same time, African Americans, while still heavily concentrated in south Los Angeles, have been moving east to the “inland empire” and even returning to the South (Johnson and Roseman, 1990). Immigrants have moved into these black and brown spaces because they are affordable and accessible. Immigrants do not settle just anywhere, however. Their decisions are informed by the geography of past racial regimes. As a result, central Los Angeles continues to be a nonwhite space (Allen and Turner, 1997, 46). This growth is juxtaposed by the loss of 352,000 whites between 1980 and 1990 (Sabagh and Bozorgmehr, 1996, 86). Not only do whites continue to move to Orange County (especially popular are the southernmost communities where whites sometimes constitute up to 90 percent of the population), but the flight of white Angelenos has spread to San Diego, central California, and throughout the West (Frey and Liaw, 1998). Even white “holdout” communities feel their days are numbered. According to one Lakewood resident,

I’ve got three blacks {families} on my block, right now ... and well, you know the problem with blacks, they have friends, and they have visitors. That is the problem. We can’t encourage our people to stay if this keeps up. Our housing stock has stayed pretty solid, but some people can’t be encouraged much more to stay” (quoted in Brill, 1996, 110).

The complexion of Orange County, particularly the inland areas, has changed considerably, as the number of Latinos and Asian/Pacific Islanders has grown. Nonetheless, blacks still constitute only 1.8 percent of the population (Roseman and Lee, 1998, 208). The net result of all these shifts is that although people of color can now be found throughout the region, they are concentrated in the mature suburbs, the eastern San Fernando Valley, and the San Gabriel Valley²⁵. Central Los Angeles remains almost completely nonwhite, and whites continue to congregate along the periphery.

As Figures 2-4 suggest, many of the industries and land-uses associated with environmental hazards are concentrated in central Los Angeles, and, to a lesser extent, along industrial arteries. Both blacks and Latinos are disproportionately exposed, but for somewhat different reasons. As the most segregated population, black Angelenos were confined to south Los Angeles beginning in the 1920s (De Graff, 1970). While many blacks have left, south Los Angeles is still heavily black (Allen and Turner, 1997, 62), and contains portions of an old industrial corridor. Despite the fact that blacks were only intermittently hired in them, south Los Angeles housed many Fordist industries, the majority of which left in the 1970s and 1980s (Oliver et al., 1993, 122). This “rust belt” not only harbors various environmental hazards but, as a politically weak and industrially oriented area, attracts projects like incinerators and the proposed Pacific Pipeline (Aspen Environmental Group, 1993). Thus, blacks’ exposure to environmental hazards is largely a function of severe spatial containment and the historic practice of locating hazardous land uses in black areas.

In contrast, Latinos’ exposure is more a function of their role as low-wage labor within the racialized division of labor and the historic relationship between the barrio and industry. Latinos have *always* lived close to industry, but unlike blacks, they have, at times, been hired in large numbers (Morales and Ong, 1993; Ong and Blumenberg, 1993). Latinos’ contemporary exposure cannot be understood outside of industrial and immigration shifts. Over the last twenty years, the region has undergone a simultaneous industrial decline and expansion (Soja, 1989, 200). While the finance and service sectors have grown dramatically, manufacturing declined in Los Angeles in the 1980s. In the 1990s, however, a selective reindustrialization was realized (Scott, 1996a) by high-technology industries and low-wage Latino labor. As a result, Latinos live near industry, since both are concentrated in central Los Angeles and industrial corridors, and they are exposed to hazards on the job (Ong and Blumenberg, 1993). Thus, their exposure is a function of their class and immigrant status, as well as their racial position. As Latinos, they live where brown and black people have historically lived, or in spaces vacated by the white working class.

²⁵ This is in keeping with studies suggesting that despite the growing presence of people of color in suburbia, they remain segregated and live in more marginal suburbs (Phelan and Schneider, 1996).

Environmental hazards are concentrated in central Los Angeles (including the inner suburbs) in several distinct ways. First, because a significant portion of these communities are industrially zoned, industry continues to locate there (Cordoba Corp., 1987, 22). Yet because of the poverty of central Los Angeles and its land fragmentation and poor services, few of the large, well-financed firms in growth sectors move there²⁶. Instead, small polluting activities and large-scale hazards, such as incinerators, are drawn to these areas, as “cleaner industries are dissuaded from locating in the area because of the toxic contamination” (LA Design Action Planning Team, 1990, 12). According to one official from Paramount, an inner suburb, “we provide a place for industry that nobody wants” (Carbajal in Flanigan, 1999). Scott has pointed out that low-technology, labor-intensive industries are now clustered near downtown; metallurgical and machinery industries are found in old industrial zones throughout the region, including the eastern San Fernando Valley, South Central, and northern Orange County; and high-technology industries are located on the fringe (1996a, 220-21; see also Kaplan, 1998).

Consider the Eastside and Southeast Planning Districts in the city of Los Angeles. In both cases, 20 percent of the land is zoned as industrial (City of Los Angeles Department of City Planning, 1988, 9; Garrow et al., 1987, 54). Not surprisingly, both of these communities were targets for incinerator projects in the 1980s. The City of Los Angeles proposed a waste-to-energy incinerator for South Central, but Concerned Citizens of South Central, a group of largely African American women, successfully resisted the project. In the second case, the city of Vernon, adjacent to Boyle Heights, proposed a hazardous waste incinerator. This time, the City of Los Angeles assisted the Mothers of East L.A. in defeating the project (Blumberg and Gottlieb, 1989).

Conflicting land uses are also a serious problem that intensifies potential environmental hazards. One planning document described the eastside as consisting of:

small, older, single family homes situated between or adjacent to large commercial and industrial buildings. ... The noise, dirt, heavy truck and trailer traffic along industrial/residential edges also severely detracts from the quality of life of nearby residents. Views from homes to loading docks, auto wrecking and repair yards, and heavy machinery do not provide the amenities traditionally associated with residential life (Garrow et al., 1987, 54).

beyond the general unsightliness, such land uses pose a severe threat to residents. Because of the lack of buffers and the hazardous nature of industry, there have been mass evacuations, school contaminations (Frammolino, 1999), explosions (Sahagun,

²⁶ Indeed, the eastside, south central, and northeast corner of the San Fernando Valley have all been designated as Enterprise Zones, in the hopes of attracting economic development.

1989), potential cancer clusters (Gold, 1999), and workers killed (Malnic and Ramos, 1997). Newer suburban communities do not have the same concentration of hazardous industrial activities, and enjoy more effective zoning and land-use regulations. Overall, there are simply fewer pollution clusters along the coast (see Figures 2-4). With the exception of the port, coastal communities are cleaner (and whiter) than the central city. Besides the fact that the suburbs house better capitalized firms more likely to have the best available technology, the coastal breeze blows pollution inland, thus further cleansing the coastal suburbs.

In short, looking at the region as a whole, it is clear that people of color are disproportionately exposed to a particular set of environmental hazards. Such patterns are not the result of any single decision or particular act. Instead, they are the result of urban development in a highly racialized society over the course of 150 years.

Conclusion

I have argued that restrictive conceptions of racism characterize the environmental racism literature. In particular, the emphasis on siting, intentionality, and scale have contributed to conceptualizing both racism and space as discrete objects, rather than as social relations. These dominant conceptions are problematic because they prevent us from understanding how racism shapes places and the relationships between places, and thereby limits our ability to detect environmental racism. I have sought to challenge this approach by employing the concept of white privilege, which offers a more structural and spatial understanding of racism. Such a shift requires acknowledging that multiple forms of racism exist, including less conscious forms not characterized by malicious intent and hostility. White privilege allows us to see how environmental racism has been produced – not only by consciously targeting people of color (as in the incinerator cases) – but by the larger processes of urban development, including white flight, in which whites have sought to fully exploit the benefits of their whiteness.

In urban areas, explanations of environmental inequality must include careful consideration of residential patterns, land use, and industrial development. The history of suburbanization reveals that although many forces contributed to decentralization, it has largely been an exclusionary undertaking. Moreover, the state has played a central role in crafting such opportunities, choices, and landscapes. Although, in Los Angeles, nonwhites have always lived adjacent to industry, people of color have recently begun moving into the suburbs, and have taken over what were once white industrial suburbs. Over time, these industrial suburbs have become part of the inner city, and are increasingly populated by people of color. As a result, central Los Angeles with its concentration of industrial hazards, remains a nonwhite space. In contrast, whites continue to move to the periphery, which is relatively cleaner. These patterns

developed over a century and continue to inform the present, illustrating how various forms of racism shape our landscapes.

This paper raises a host of policy, scholarly, and political issues. From a policy perspective, I have argued for the need to direct more attention to industrial zones and pollution clusters, rather than just the siting process and individual facilities. While the latter are clearly important, particularly in terms of future pollution, most industrial pollution does not involve new sitings, but is the product of already existing facilities, land uses, and zoning.

Scholarship on environmental racism can also be strengthened. It is essential that researchers begin to situate their work in terms of a larger sociospatial dialectic. Such a move would not only illuminate the geographic and historical context in which these patterns developed, but would also help us appreciate the extent to which places are shaped by various forms of racism. Relatedly, the fact that many geographers are hesitant to pursue these avenues of research underscores the need for greater breadth within our discipline and the limitations of specialization. As a discipline that is intimately associated with both human-environment relations and the study of space, we should be at the forefront of contributing new theoretical, empirical, and technical insights on the topic of environmental justice.

The issue of racism itself raises both scholarly and political concerns. I believe that as geographers, we need to diversify and deepen our approach to the study of racial inequality. Our traditional emphasis on mapping and counting needs to be complemented by research that seeks to understand what race means to people and how racism shapes lives and places. For instance, within the field of environmental racism, a key question that has not been seriously addressed is differential exposure. In other words, how might different experiences and histories of racism result in distinct geographies of exposure, say for instance, between the Shoshone nation, rural Blacks in the South, and an urban Asian American community in the San Francisco Bay area? Not only are such questions important in and of themselves, but they would help geography build bridges to other disciplines, such as ethnic studies.

But the question of racism within the discipline goes beyond research. And, as I have shown, our approach to the subject, unfortunately, speaks volumes about the collective politics of our discipline. What are we to make of a body of literature that purports to address the question of racism but is estranged from mainstream scholarly understandings of racism? Why do so many scholars cling to such a narrow conception of racism? What are the consequences of such an approach in terms of our research, teaching, and political efficacy? Perhaps a serious interrogation on the subject of racism is in order. At the very least, I hope that this paper demonstrates how individual scholars contribute to the reproduction of larger discourses and conceptions of race – regardless of their motives. The point is not to lay blame, but to become aware of the larger political and moral consequences of our actions.

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Tracking Invasive Land Covers in India, or Why Our Landscapes Have Never Been Modern

Paul Robbins

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Geographers and other students of land use and land cover have been hard-pressed in recent years to make sense of the rapid changes in the landscapes around them. Although analysts continue to observe well-known and generalized patterns of landcover change, many global trends, such as desertification and deforestation, are increasingly under scrutiny and reevaluation. Where arid lands should collapse from overgrazing, they recover over long cycles of change (Behnke and Scoones, 1993). Where deforestation should come from pernicious cutting, forests expand with population (Fairhead and Leach, 1996). Where population change should result in disintensification of agriculture, it sometimes leads to the reverse (Wiegiers et al., 1999). Owing to “the large variation in {land-use/land-cover} dynamics across physical and social settings,” clear pattern remain elusive (Turner et al., 1995, 12). This is especially so in the case of landscapes impacted by modernity [see below for an explanation of “modernity”].

[...]

The research described in this article evaluates these questions, using a case study from semiarid India, where state management efforts have transformed traditional land-use practices over a comparatively short period. The work follows the emergent tradition of Land-Use Cover/Change (LUCC) analysis in geography, with its concern for global land-cover change trends (Meyer and Turner, 1994; Turner and Meyer, 1991; Turner et al., 1993, 1995) and that of political ecology, with its cross-

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scale chains of explanation of environmental change (Blaikie, 1985; Blaikie and Brookfield, 1987; Turner, 1999). The research uses satellite image data, analyzed in pairwise comparison, along with historical data, household production information, and the discourse of planners and state experts, to examine change in the Godwar region of Rajasthan. Surveying the landscapes that emerge from the simultaneous intensification, conservation, and preservation of the landscape, it evaluates the environmental effects of modernist planning at the regional scale.

[...]

The study demonstrates that land-cover practice in the region has long integrated nondomesticated forest and fallow land covers into agropastoral production. These landscapes, described as “natural” or “wild” have long been viewed as separate from the social landscapes of production. Following this logic, state planners have attempted to manage and develop these landscapes through the enclosure of reserved forest areas, the intensification of fallow lands, and the introduction of conservation tree plots [...] Despite these efforts – indeed, *because* of them – hybrid and “impure” land-cover forms, which mix social and natural characteristics, have proliferated across the landscape.

The Godwar Region

Godwar is the traditional name for a rich farming belt flanking the northern face of the Aravalli Hills of India (Figures 1 and 2). Here the term refers to the southernmost part of the Pali district of Rajasthan, [...] where relatively good rainfall, high groundwater levels and reliable aboveground runoff combine to provide the basis for intensive irrigated agriculture. The hilly forest area is a semiarid tropical deciduous forest, green year-round despite extremely dry water-stress periods dominated by *Anogeissus pendula* in association with *Butea monosperma* and *Ziziphus nummularia* (Jain, 1992). The lowland plains represent a scrubby grassland ecology dominated by grasses, especially *Cenchrus spp.* and *Cynadon dactylan*, and drought tolerant trees, including *Prosopis cineraria* and *Acacia nilotica*. Since precolonial times, the region has been acknowledged as important even for distant areas in the drainage it forms. Moreover, its advantageous position has made it the site of intensive development efforts. These include large-scale preservation forestry, which takes the form of the closed Kumbhalgarh Wildlife Sanctuary, and state-sponsored agricultural intensification, which takes the form of medium-scale dam projects and subsidized well construction. Godwar is, therefore, an excellent case example of the effects of modernization – understood as a process of rationalizing, optimizing, and partitioning – on a rural landscape.

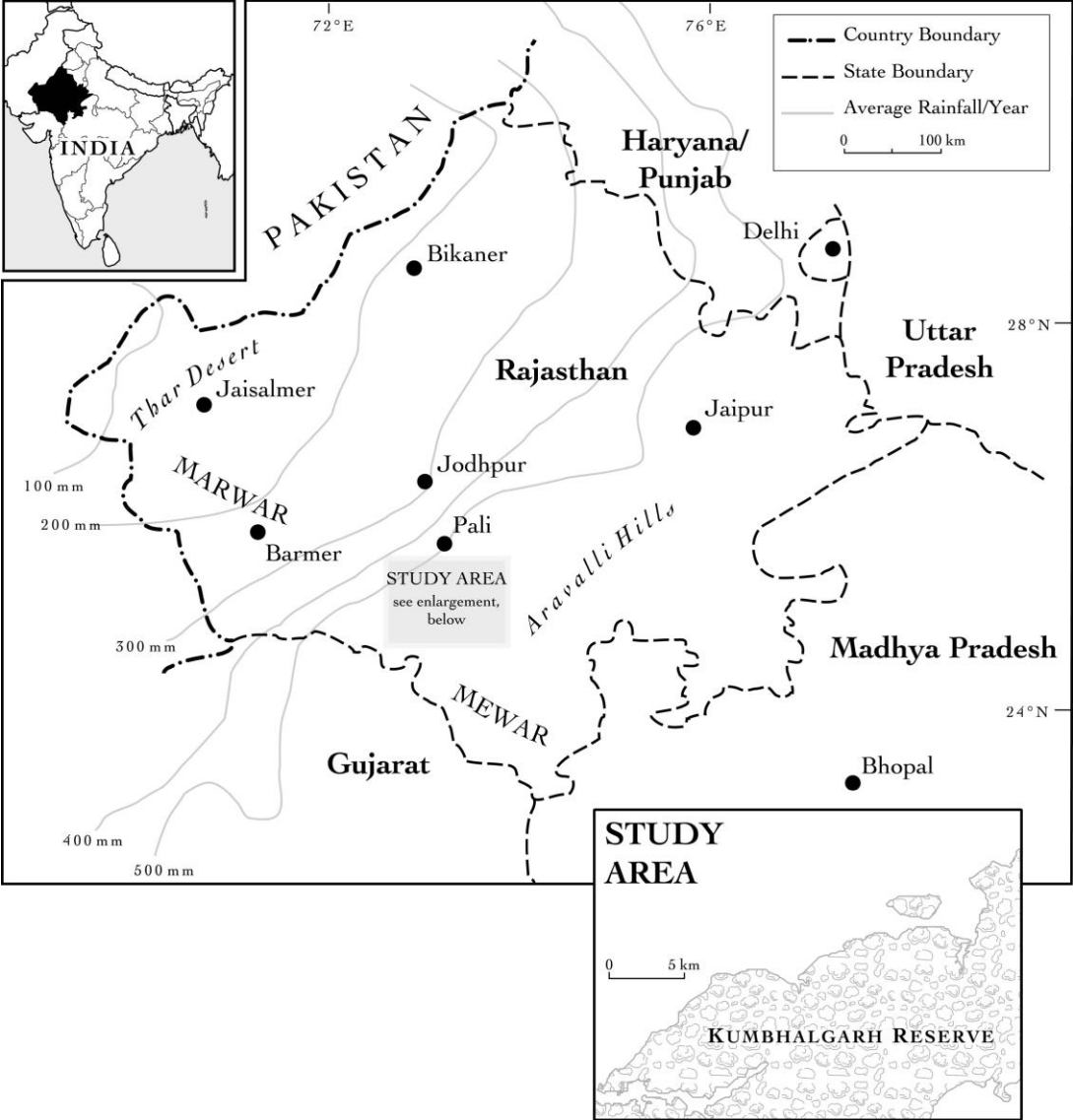


Figure 1 The study area in southern Rajasthan, India

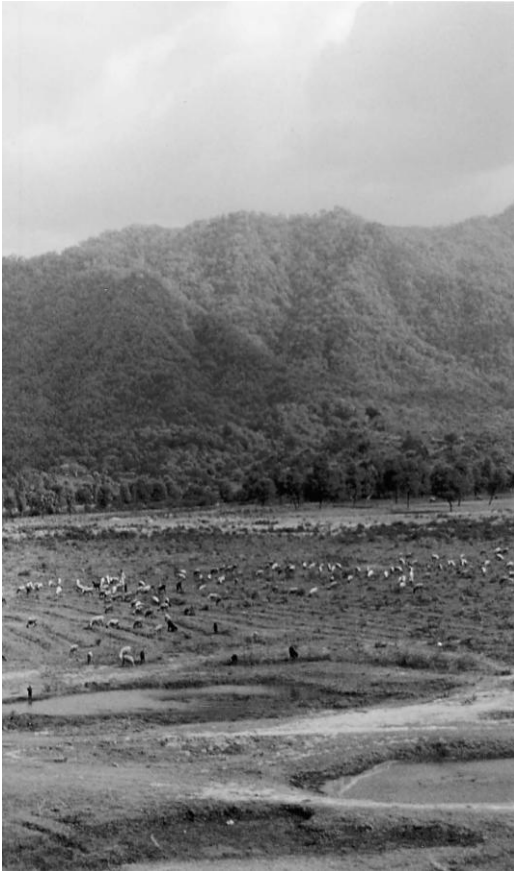


Figure 2. The Godwar region on the northern face of the Aravalli hills. The thick forest cover ends abruptly on the plains, where capitalized agropastoral production has long prevailed.

The Agricultural Economy

Though on the fringes of the saline Luni River Basin, farmers in the area have undertaken double- and triple-cropping their land since the early nineteenth century [...] Owing to land-reform measures and ongoing subdivisions amongst male heirs, the majority of the land holdings in the Pali district fall between one-half hectare and four hectares in size (Government of India, 1995a, 1998) [...] Cropping occurs not only during the monsoon (*kharif*) season from July to October but also during the dry, irrigation-dependent (*rabi*) season between November and February, when high inputs of water and labor produce cash-crop surpluses [...]

Forest and Fallow Production

Even with a long history of cash-crop production, agricultural ecology remains firmly rooted in the forest and depends heavily on the ecological subsidies that nondomesticated species provide for production. Forest fruits, medicinal bark, fodder coppice, and grasses not only supplement intensive production in the farm household – they enable it. Even in highly capitalized farm operations, with modern tractors and commercial fertilizer inputs, forest product harvesting is essential. The main source of fertilizer remains forest nutrients in the form of sheep and goat dung cycled through daily grazing in the forested hills. Even households with access to clinics and markets depend on the forest for some medicinal species, and forest species also provide the main inputs into household construction (Robbins, 2000). Table 1 shows the nondomesticated species regularly used by local households and reports the percentage of 139 randomly sampled local respondents who describe them as important in production. Of the twenty-eight [...] non-domesticated species [...] regularly used and collected by more than 15 percent of respondents [...], all but five are found in the forest, and fourteen are found exclusively there. Of the fourteen most widely used tree species, more than half are found and harvested only in the forest.

Table 1. Widely Utilized Nondomesticated Species

Species	Local Name	Fallow	Forest	Type*	Percentage of Respondents
<i>Acacia nilotica</i>	Deshi Babul	✓		T	89.21%
<i>Azadirachta indica</i>	Neem	✓		T	78.42%
<i>Ziziphus nummularia</i>	Bordi		✓	T	65.47%
<i>Prosopis juliflora</i>	Angrezi Babul	✓		T	60.43%
<i>Cynodon dactylon</i>	Dob	✓		G	55.40%
<i>Anogeissus pendula</i>	Dav		✓	T	53.24%
<i>Dactyloctenium aegyptium</i>	Manchio	✓	✓	G	47.48%
<i>Butea monosperma</i>	Palas		✓	T	38.85%
<i>Acacia senegal</i>	Khumbat		✓	T	38.13%
<i>Bauhinia racemosa</i>	Enro		✓	T	34.53%
<i>Dendrocalamus strictus</i>	Bhas		✓	G	32.37%
<i>Cenchrus spp.</i>	Dhaman		✓	G	32.37%
<i>Cyperus bulbosus</i>	Siyo	✓	✓	G	32.37%
<i>Albizia lebbek</i>	Saress		✓	T	28.06%
<i>Urochloa panicoides</i>	Kuri	✓		G	26.62%
<i>Tamarindus indica</i>	Imli		✓	T	25.90%
<i>Boswellia serrata</i>	Salar		✓	T	25.90%
<i>Commelina benghalensis</i>	Bokno	✓	✓	G	24.46%
<i>Trianthema portulacastrum</i>	Sato	✓	✓	G	24.46%
<i>Dicanthium annulatum</i>	Kald	✓	✓	G	23.74%
<i>Acacia catechu</i>	Khair		✓	T	23.74%
<i>Prosopis cineraria</i>	Khejri	✓	✓	T	20.86%
<i>Oryza sativa</i>	Sawa	✓	✓	G	20.86%
<i>Digitaria ciliaris</i>	Tarai		✓	G	20.86%
<i>Ficus religiosa</i>	Pipal	✓	✓	T	18.71%
<i>Aristida spp.</i>	Lamp		✓	G	16.55%
<i>Heliotropium raviflorum</i>	Karzino	✓	✓	G	15.83%
<i>Echinochloa frumentacea</i>	Bangti		✓	G	15.11%

* G = a grass or herb species; T = a tree or shrub species.

In much the same way, long and short-fallow fields, overgrown by apparently weedy grass and shrub species, are also crucial to sustained capital production in the region. Frequent rotation of agricultural land has historically left a significant proportion of the land in fallow annually. Moreover, even when fields are under cultivation, they often contain valuable wild shrub and grass species that bind soil, provide inputs into pastoral production, and are harvested for wood, fodder, and medicine (Figure 3). Thus, forest and fallow (Figure 4) have historically been at the center of a semicapitalized agroecology, and the landscape has been produced through the blurring of lines between what is usually described in Western natural history as “natural” and what is commonly understood as “social.”

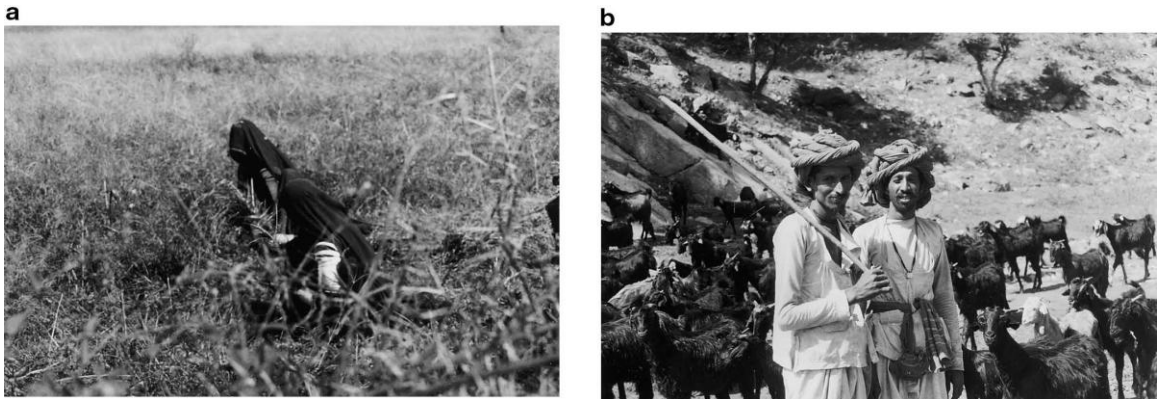


Figure 3. (a) Women harvesting fodder in fallow lands; these grasses, especially *Cynodon dactylon* and *Cenchrus spp.*, are a key input into household production. (b) Herders with large flock of goats entering the forest. Small stock depend heavily on forest browse and cycle nutrients back into agricultural production through dung.

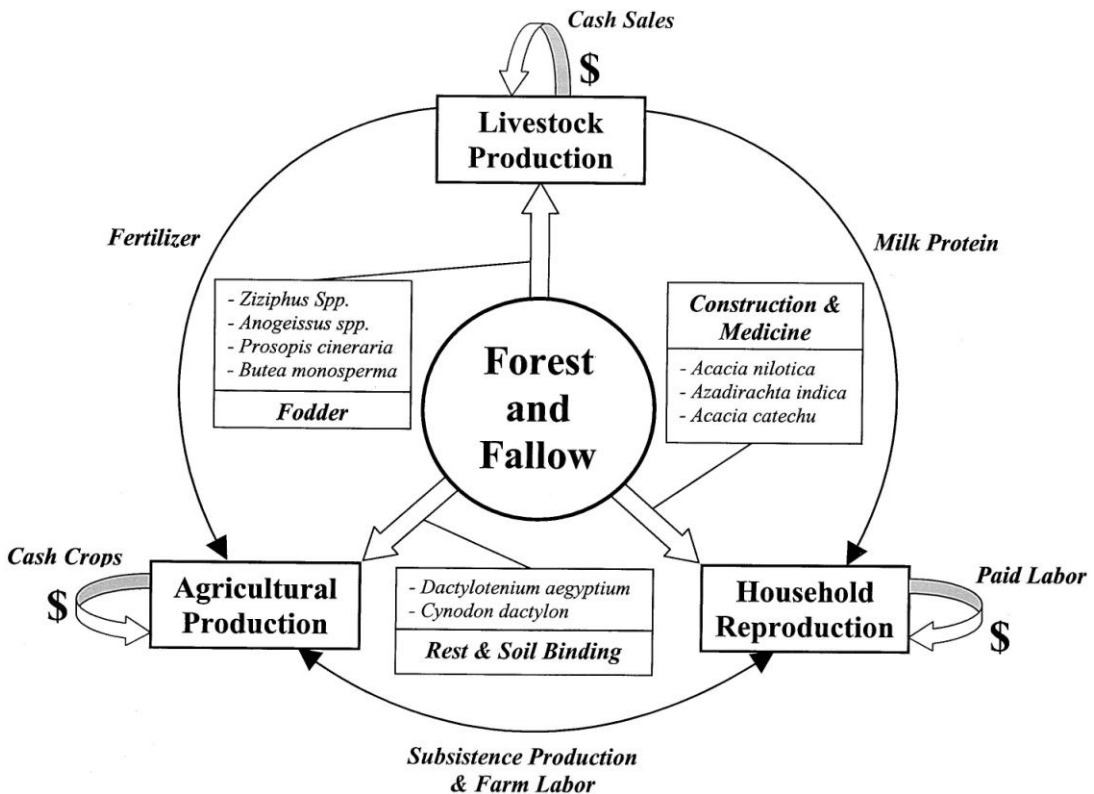


Figure 4. Forest and fallow in capitalized production.

This is not to argue that the Godwar production system is in some way pristine. Significant transformations of the landscape, both intentional and unintentional, are required to achieve current production. Fallow fields grow a carefully controlled mix of wild herbaceous species. The forest is a product of long-term fire management, hunting, and cutting. Nor is this to say that the system is “traditional” or ahistoric. The Persian wheel, which historically lifted water for irrigation, comes from the prehistoric Near East (Beaumont, 1989), and maize, the historical center of the cash-crop production system, cannot predate the Columbian encounter.

Land-Use Change: Conservation and Intensification

This land-use system had undergone transformation, especially in the last fifteen years. The central focus of planners has been the heavily subsidized effort to expand and intensify agricultural activities while meting conservation and preservation demands by creating and enclosing forest space.

Preservation and Conservation Forestry: The War against Scarcity and Desiccation

Conservation forestry in India is fundamentally modern [...]. As elsewhere in India, Rajasthani technical officials, organized into tight hierarchies, promulgate rational forest management programs from centralized offices and institutions. Unlike other regions of India, however, where the focus of forestry is largely directed at cash-crop agroforestry in industrial woods, Rajasthani forestry simultaneously concerns itself with checking the movement of a menacing desert through *preservation* while providing resources for the perceived [...] menace of population growth through *conservation*.

Preservation forestry in India was founded in the establishment of the Wildlife Protection Act of 1972. In Godwar, this meant the establishment in 1986 of the Kumbhalgarh Sanctuary, a wildlife protection park in the central Aravalli hills. [...]

The management of the hillside forest is commonly described as a wildlife-preservation technique, but is justified in terms of its role in halting the encroachment of deserts into regions further east. Despite evidence to the contrary, a generalized insistence prevails among many foresters and officials that the Aravalli range “has acted as a great check to the advancement of the sand into central India” (Bhalla, 1992b, 15) and that the dunes are spreading alarmingly towards Delhi (Dhaberia, 1984; Sharma and Kundra, 1984). [...]

The central goal of this preservation policy is the preservation of wild spaces as isolated from human ones (Cronon, 1995). To preserve and protect landscapes from desertification, human activity is restricted in protected forest belts. Kumbhalgarh has

been made into “wilderness,” from which all locals except *adivasi* (tribal) groups [...] are excluded. While minor forest collection [...] is allowed on a limited scale and some tree plantation occurs within the forest, the wilderness of the forest is maintained by excluding people.

Outside the preservation space of the forest, conservation forestry prevails. Forestry officials insist that, “for achieving the target of the prescribed 33 1/3 percent are of the country to be under forests, we need about 35 million hectares to be planted and made into forests outside the traditional forests” (Maithani, 1988, v). Plantation commonly takes the form of tree lots in village lands, with an eye towards relieving the national fuelwood crisis (Government of India, 1976; Malhotra and Sharma, 1988). In Godwar, these plantations fall under the authority of the Rajasthani Forest Department and its hierarchy of experts, whose conservation models are drawn from experimental station in distant Jodhpur and Dehra Dun.

Conservation forestry requires the plantation of a small range of species, including *Prosopis juliflora*, *Acacia nimbica*, and *Avacia Tortilis*. These species are selected for their speed of growth and survival rate under poor rainfall. *Juliflora* is a particularly favored species, owing to its tenacity and poor value as a fodder species. Unbrowsed by local fauna, *juliflora* plantations survive to green the landscape, provide a reserve fuelwood source, and protect the bureaucratic positions of lower-level managers.

In sum, forestry in Rajasthani takes the form of efforts both to preserve native canopy cover and to encourage plantation of community resources. Scientifically managed plantations are designed to provide fuelwood for growing masses while conservation forests hold back an unruly desert. However different, both of these exercises portray the traditional landscape as inconsistent, wild, and prone to scarcity. This is a fundamentally modern conceptualization, drawing as it does on Malthusian notions of demography and neoclassical notions of supply and demand (Xenos, 1989).

The accuracy of this image of Godwar is debatable. Reports from the nineteenth century describe the region as stable in productivity (Tod, 1829/1987), and no solid evidence has ever been assembled (Roy and Pandey, 1971; Sharma and Kundra, 1984) [...] some officials question the “fuelwood crisis,” arguing that human ingenuity and nature’s generosity provides fuel of some kind or another (Bachkheta, 1988, 149-50). Even so, forestry officials insist that local practices actually increase scarcity and that “all lands not fit for agriculture should be brought under afforestation programs” (Muthana, 1988) [...]

Intensification in Godwar: The Quest for Stability

Colonial preindependence accounts of Godwar describe irrigated maize and cotton production that generally was not conducted year-round. And that depended

heavily on nutrient cycling from herbaceous species in fallow lands (Rajputana-Gazetteers, 1908). In the last decade, the intensification of agriculture has required year-round production, tilling large areas of dry-season fallow land, and decoupling agriculture from nonagricultural production of wild species. [...] double-cropped land in the region increased by 17 percent between 1984 and 1992, reaching 28 percent of the total in 1992 and reducing dry-season herbaceous resources proportionately (Government of India, 1995a, 1995b).

In these irrigated, dry-season fields, cash crops account for much of the expansion in cultivation, as shown in Table 2. [...] This trend roughly follows the stagnation of maize and wheat prices globally and the opportunities provided by regional markets. This process of intensification is, therefore, in part explained by the expansion of markets for oil seed and cotton into and out of the region.

However, following Akhil Gupta (1998), to examine changes in the Indian landscape entirely in terms of the geographical expansion of capitalism is to *underspecify* the modernist nature of the problem. Agricultural change is an intentional state intervention into local practice; the increase in cropping results specifically from massive state investment into intensification through subsidization of well-drilling, dam building, and electrical power for round-the-clock pumping. The irrigated area in the district climbed from 88,280 hectares in 1985 to 228,830 in 1995, with 76 percent of that coverage watered by state subsidized wells and tubewells (Government of India, 1995b). Development capital from the Drought-Prone Areas Programme and Desert Development Programme reached a high of U.S. \$2,134,429 in the mid-1980s with funds for agricultural development climbing from 28 percent to 51 percent of the total investments over the decade (Verma, 1984). The result was a five-fold increase in the water storage capacity of state irrigation projects from 1960 and 1980, only later followed by an increase in private (albeit subsidized) tube-well drilling to tap the rising groundwater supply (Figure 5). In semiarid regions of India such as southern Pali, green revolution [capital-intensive, industrialised farming] efforts have entailed a focus on increasing irrigated cropping over the year.

Table 2. Change in Crop Coverage: 1977–1997

Crop	Change 1977–97 (hectares)	Change from 1977 (as % of 77)	Price Index 1997 (1952 = 100)
Pearl millet	–19215	–15.97	1162
Wheat	–28421	–27.59	1206
Maize	5885	26.14	1206
Sesame	–8621	–8.15	2372
Mustard	100980	465.93	2507
Cotton	15484	160.11	1223

Source: Government of India Department of Economics and Statistics (1979, 1998).

These state investments in agriculture are consistently couched in terms of progress and stability; extolling the extension services of the modern state, officials continue to insist on a “revolution” in dryland farming towards predictable and consistent yields. Technicians and institutions act in “close liaison with the farmer” to re-educate local producers in planting techniques and irrigation scheduling (Shankarnarayan, 1987, 4). [...] This requires the disassembly of traditional fallow management regimes. It also requires a change from forest inputs to industrial fertilizer.

Intensification of pastoral production has paralleled that of the agricultural sector. [...] Total livestock population has increased in the region despite serious droughts and herd attrition during the 1970s and 1980s. In particular, the number of small browsers (sheep and goats) has increased, especially relative to large stock (cattle, buffalo, and camels). Official – and therefore extremely conservative – estimates report that a total of 44,753 large stock and 124,955 small stock enter the forest reserve every year, with a high rate of annual increase in the latter number (Chief Wildlife Warden, 1996). That this increase is a result of breeding for slaughter is evident in the dramatic change in sex ratios of the regional herd; increasingly, male animals go to the butcher before they reach their second year (Figure 6).

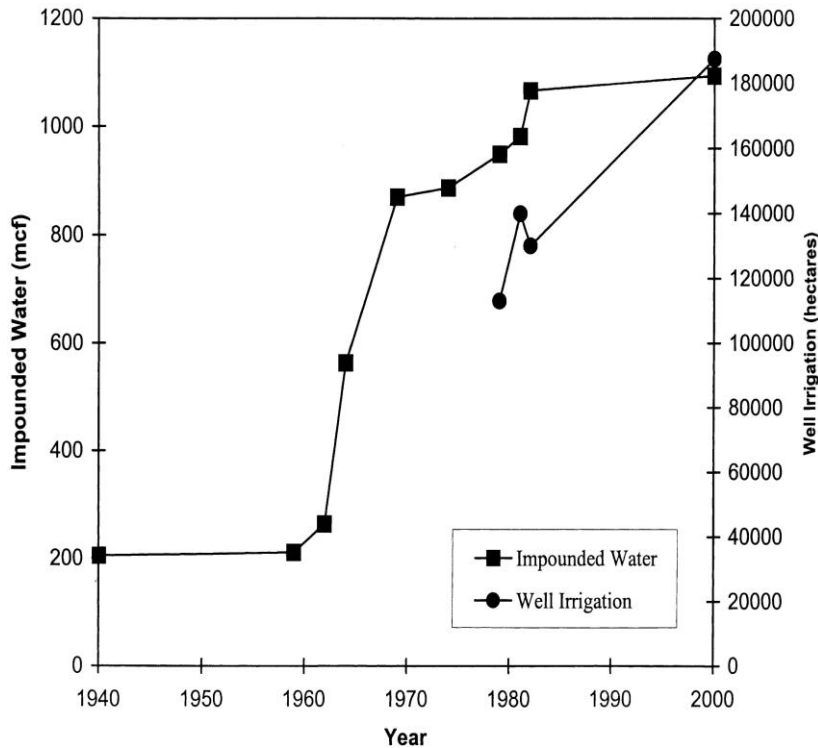


Figure 5. Water impoundment and harvesting in Godwar, 1940-2000. *Sources:* Government of India Department of Economics and Statistics (1997); State of Rajasthan (1999a).

Again, however, state planning policy for intensification depends upon a notion of separating social and natural space. Grazing in the reserve is increasingly restricted, and state veterinary support is uniformly geared to the improvement of breeds for stall-raising and stall-feeding (Köhler-Rollefson and Rathore, 1998). As in the case of intensified agriculture [farming with more inputs of labour and materials per unit of land or crops], the social practice of livestock raising is to be disjoined from the wild spaces of the hilly forest.

Like modern forestry, the intensification initiative in agriculture and pastoral production is rooted in a conceptual system that seeks to purify the messy land-use and land-cover mixtures of traditional management. State environmental managers seek consistent and exclusive land-cover types: agricultural land is to remain under crops year-round, serving social needs; forestland is to be wilderness. This effort to partition human production space from environmental conservation space, and the conceptual worldview that supports it, is a fundamentally *modernist* one.

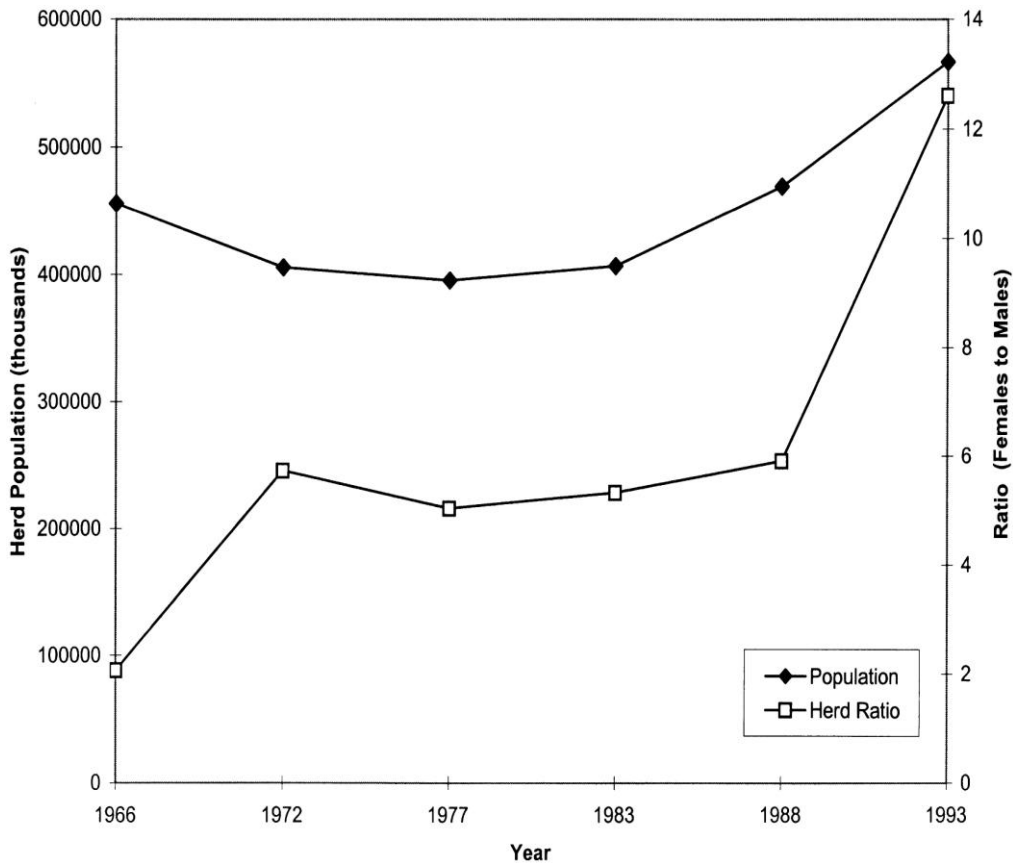


Figure 6. Livestock demography, 1966-93. Source: State of Rajasthan (1999b).

Rational Environmental Management as Capitalist Modernity

Myriad, often contradictory definitions of modernity range from aesthetic (Burger, 1984) to sociological (Bernstein, 1985) and alternatively highlight the cultural (Bell, 1976) and economic (Horkheimer and Adorno, 1972) changes in social life in the last few centuries. Nevertheless, a set of common themes is apparent in the treatment of phenomena as discrete and inviolate elemental categories (rationalization), of beliefs from the pre-Enlightenment as false confections and superstitions (optimization), and of human life as separate from the natural world, both administratively and intellectually (partitioning).

Such a definition fits the recently changing landscape practices in the Godwar region of India. Certainly some of these processes of modernity are rooted in capitalism. Even so, much of the modernist separation of nature and society has only tangentially to do with capitalism. Conservation forestry and wildlife protection were enshrined in Indian law and actively pursued before ecotourism and commodified nature [i.e. nature treated as something that can be sold in the market] were prevalent.

The Indian green revolution, with its state sponsored subsidies for irrigation and chemical inputs, has not been capitalistic by nature (Shiva, 1991, 210). Modernity does not exclude capitalism, but it does embrace something considerably larger, including and especially the power-laden science practices of a strong state and the geographical imaginary of a postcolonial cultural economy.

Predicted Landscape Change under Modernization

[...] We might predict that analysis of land-cover during the period from 1986 to 1999 would reveal (1) an increase in intensified agriculture, (2) a decrease in grass and forest scrub cover, (3) a maintenance of forest canopy cover, and (4) an increase in spatial division between agricultural and forest areas. Pairwise comparison of satellite images of the area for the winter months of 1986 and 1999 provide a test of these hypotheses.

Analysis of Land-Cover Change

To evaluate land-cover change, two SPOT satellite images were classified and compared through categorical cross-tabulation. The 22-meter resolution images were selected from January of 1986 and 1999, years of comparable rainfall for both the year of the image and the monsoon prior. Both images were taken during the winter dry season in order to highlight differences in year-round canopy cover and to emphasize differences in the extent of dry-season, irrigated agriculture, which reflects intensified production. The images were classified using an iterative isodata clustering technique on principal component images produced from raw multispectral data. The resulting twenty-eight clusters were aggregated to comparable category sets. The resulting images (Figures 7 and 8) were then subjected to cross-classification analysis to assess changes in overall coverage, as well as changes in specific land-cover types.

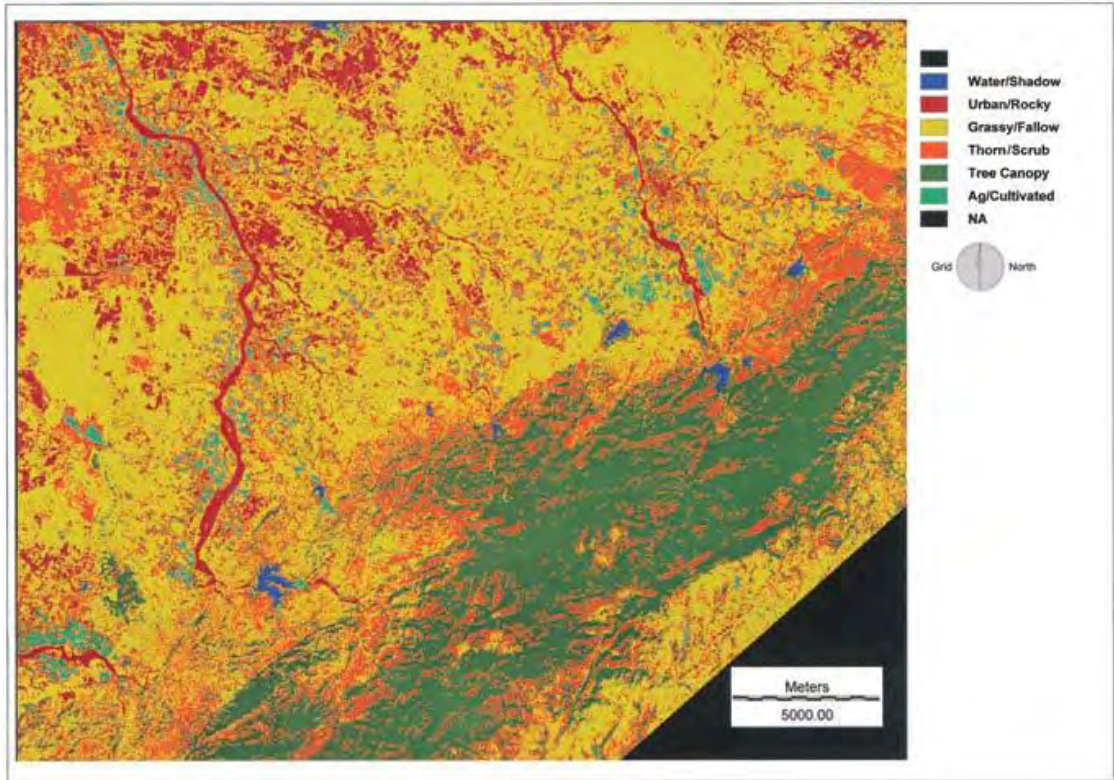


Figure 7. Sadri/Kumbhalgarh land cover, 1986.

For each of the images, six general classes of land-cover are common². “Tree canopy” refers to closed-cover forest, including a range of species mixes, including a range of species mixes, from the *Ziziphus* coverage of flood plains and bottom lands to the *Anogeissus* forests of high ridgelines, as well as plantation coverage. The “grassy/fallow” category represents herbaceous coverage of perennial grass and herb species, including the carpets of *Cynodon dactylon* in fallow fields and clumps of *Dactylon aegyptium* common to uncultivated land. “Thorn/scrub” represents open savanna coverage of tree/grass mixes that do not reach achieve full closed canopy. Bare, rocky, and urban areas are conflated in the images, since the mode of construction in the region, using native stone, makes distinction difficult. Based on ground-truthing of a spatially stratified sample of 143 points, the 1999 image was accurate to an error value of 0.18 +/- 0.06 at a 95 percent confidence interval³. The

² For the contemporary (1999) image, a finer classification scheme is possible. The inability to ground-truth the 1986 image, however, necessitated the use of aggregated categories.

³ The 1986 image could not be statistically assessed for accuracy, but it was reviewed based on historical knowledge of ground cover in the area.

systematic errors in classification derive from overestimating the coverage of grassy/fallow (commission error) and underestimating forest cover (omission error) in the 1999 image.

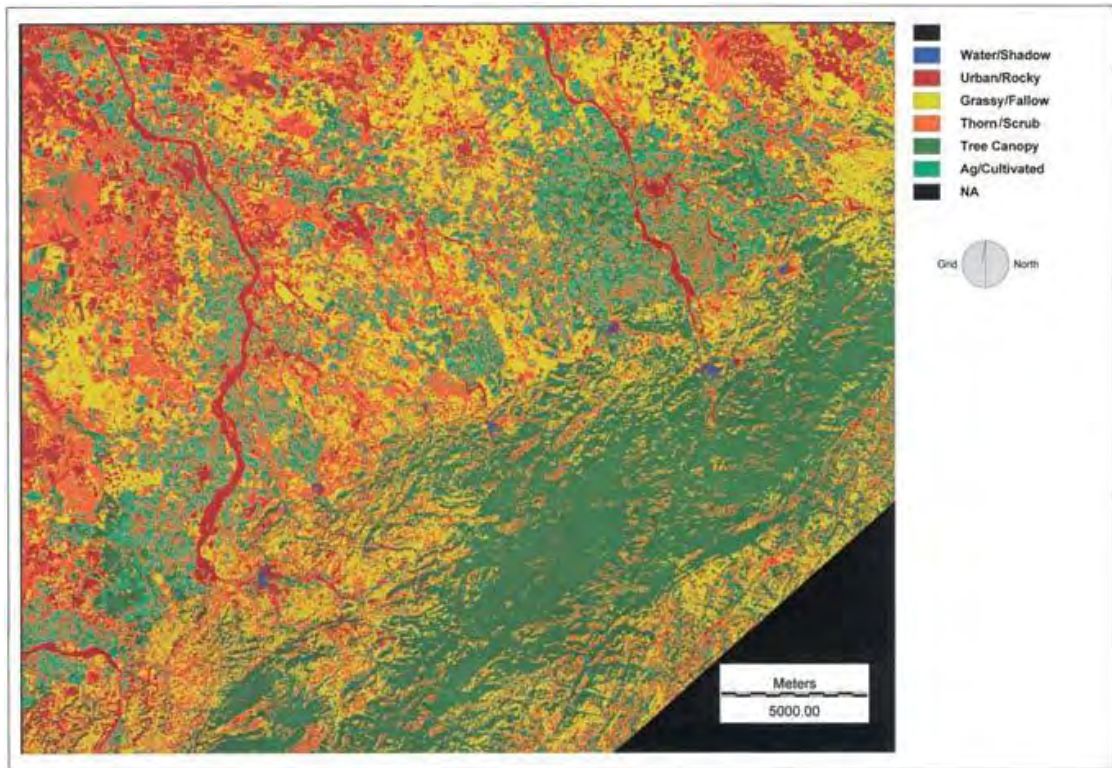


Figure 8. Sadri/Kumbhalgarh land cover, 1999.

Land Cover Trajectories

Net land-cover changes between the two images support the hypothesis that intensification and conservation have accompanied one another in the area to great effect on the landscape (Table 3). The coverage of water/shadow changes little over the period. Urban/rocky areas double in coverage over the period. This change largely reflects the near doubling of the urban population and the corresponding increase in housing construction and road coverage. The more significant changes include the expansion of cultivated land and forest canopy. Forest canopy expanded by 40 percent while agricultural coverage more than tripled. Grassy/fallow coverage fell by 45 percent. It is possible that the degree of decrease in grassy/fallow and the degree of increase in forest have both been *underestimated* and that these figures are conservative estimates of change. The interrelationship of these transformations is traced in Figure 9, which shows allcategory-to-category cover changes greater than 10

km². Unsurprisingly, the expanding coverage under cultivation in 1999 comes predominantly from fallow grasslands and thorn scrub “wastelands.” Investments in irrigation, wells, and agricultural development result in the spread of dry-season cropping, while faster rotations under irrigation replace mixed grass and thorn coverage with crop monoculture year round.

Table 3. Net Land-Cover Change in Sadri/Kumbhalgarh Region, 1986–99 (km²)

Cover	1986	1999	Change	As % 86
Water/shadow	3.85	0.57	−3.27	−85.11
Bare/urban/rocky	74.48	81.80	7.32	9.83
Grassy/fallow	336.50	185.29	−151.21	−44.94
Thorn/scrub	161.69	161.20	−0.49	−0.31
Tree canopy	183.82	274.47	90.65	49.31
Agricultural/cultivated	18.12	75.39	57.27	315.95

Notably, the expansion of agriculture is not coming at the expense of tree canopy coverage, and areas under forest cover in 1986 make up only 8.4 percent of the cultivated cover in 1999. This suggests that new agriculture is not a result of encroachments into reserved forest lands, as is often the case throughout India and the rest of the world (Williams, 1994). Farming in Godwar, as in many semiarid regions, has not depended upon forest clearing, and the enforced boundary between forestlands and agricultural space remains fairly robust.

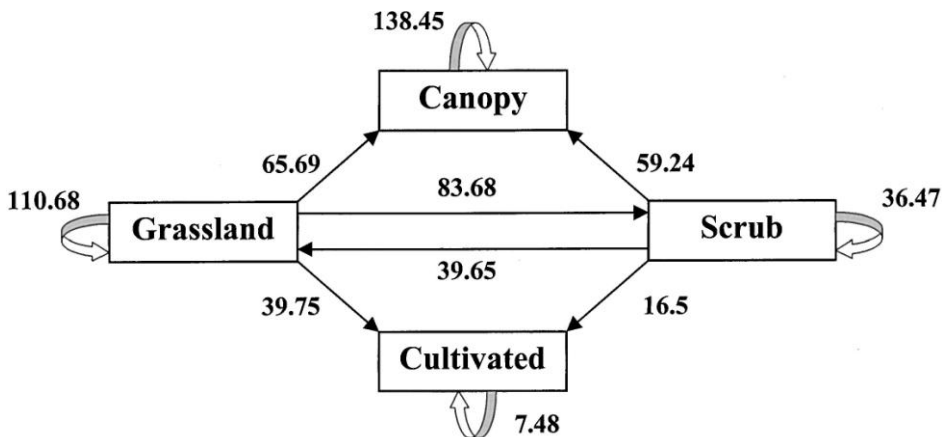


Figure 9. Land cover transformations, 1986–99 (in km²).

Though net scrub cover has remained relatively stable, specific coverage of this successional ecology has changed greatly over the period. Much of the land under scrub cover in 1986 achieved canopy cover by 1999, and half of the land under scrub cover in 1999 emerged from land under grass and fallow in 1986. Localized succession and disturbance dynamics account for much of the contradictory change. Scrub forest, especially in areas north and west of the forest reserve, is increasingly dominated by the aggressive *juliflora*, a tree that can grow from a sapling to a wide-stretching canopy in eight or ten years. At the same time, the scrub coverage in the southern and eastern part of the study area, especially in the hilly areas adjacent to the reserve, has been subject to heavy cutting. The species in this area, including slower-growing trees like *pendula* and *Acacia catechu*, have not regrown, leaving semiforested lands bare except for perennial grasses and annual herbaceous plants. This rapid decline in scrub cover along the “apron” on the northern flank of the forest is confirmed through ground truth. Along this frontier, up to the edges of the reserved forest area, extremely heavy browsing by the growing number of small stock, coppicing for fodder, and cutting for fuelwood have left denuded hillsides and plains of stumps. This decline accounts for 20 percent of thorn coverage that has degraded to open and grassy coverage in the 1999 image.

Despite this heavy cutting, however, 75 percent of the land under forest canopy in 1986 remains under canopy in 1999. In particular, the forest cover within the reserve boundaries has withstood the heavy levels of cutting along the forest fringe, as described above. The relative persistence of canopy coverage reflects the conservation and plantation efforts at Kumbhalgarh, and the stark contrast of coverage inside and outside the boundary wall regions of the reserve show the results of enclosure (Figure 10). This supports, in a general way, claims by the forest department that enclosure efforts have resulted in improved conservation since the reserved forest was given sanctuary status in 1985.



Figure 10. Walled boundary of the Kumbhalgarh enclosure. Heavy cutting and browsing at the edge of the forest reserve accounts for the precipitous decline of scrub cover — here *Acacia senegal* and *Ziziphus nummularia* communities — on the fringes of the enclosure.

The most dramatic change comes in the decline in grass and fallow coverage, which is so intrinsic to traditional household production. In 1986, this coverage constituted a third of the land cover in the area; now it represents only a fifth. Twelve percent of this cover was brought under cultivation, echoing global trends in the grassland coverage decline through agricultural and pastoral intensification (Graetz, 1994), but almost half has developed thicker scrub and tree canopy coverage. This transformation, as explained above, is spatially specific, however, and grass coverage increase in areas of heavy cutting and browsing can be observed where scrub forest has declined along the flank of the forest. These contradictory trajectories in grass coverage represent two different processes. Grassland increase occurs where scrub cover has been cut back and heavily browsed. Grass cover decrease represents both the spread of dry-season agriculture into fallow land (on some 4,000 hectares in the study region) and the expansion of scrub and tree coverage into grazing lands *outside* the boundary of the forest reserve, a phenomenon discussed in more detail below.

Taken together, land-cover changes in the region reflect the efforts of modernized landscape management; “natural” forest coverage and “social” agricultural spaces have been separated and expanded. In the process, areas where land uses have historically integrated social and natural land uses, especially pasture and fallow lands, have apparently declined. However, a spatial analysis of landscape change raises questions about the nature and direction of these trends. Unexpected coverage points to surprising contradictions in the modernist landscape; specifically, expanding canopy coverage of a new form of forest is finding its way into the cleanly partitioned landscape of modern intensification.

Spatiality of Forest Change: The Spread of an Unexpected Land Cover

Locations of new canopy cover and scrub forest are mapped in Figure 11. The original forest and scrub cover from winter 1986 is shown in black. Emergent tree and scrub cover is shown in gray. Most immediately evident, the increase in tree cover is not spatially confined to the southeastern corner of the study area, where preservation forestry is enforced. Rather, a majority of the tree-canopy increase has occurred outside of and at some distance from the reserved forest enclosure. Violating the clean partition of conservation from cultivation, canopy has expanded into the agricultural area of the plains, with nearly 37 percent of thorn scrub and 25 percent of grassland in 1986 developing canopy cover over the period in and around village lands. Neither has this coverage expanded exclusively in the small areas of conservation forestry and fuelwood plantation established by foresters. Instead, it is invading village pasturelands, long fallow fields, and *orans*, the sacred common lands of the region. This new forest cover is also beginning to encroach at the edges of the Kumbhalgarh Reserve itself, where cutting and browsing have opened new areas for succession.

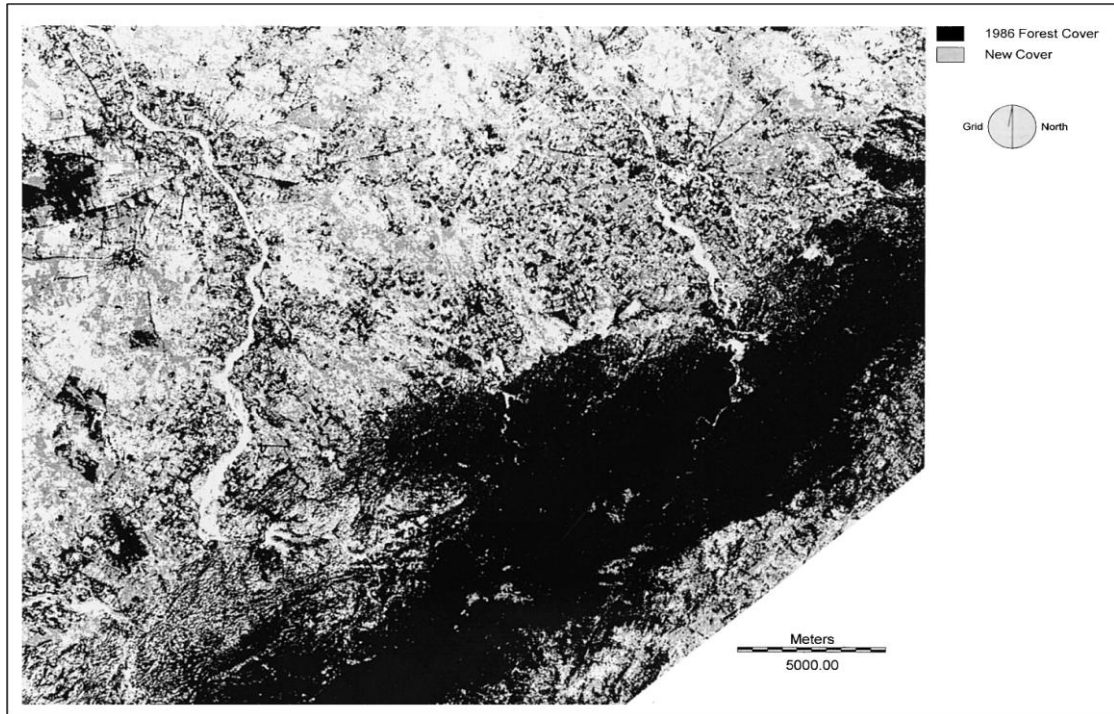


Figure 11. distribution of emerging forest cover. Clusters of quasiforest are proliferating in the agricultural hinterland of the lower plains.

A closer look at the ecological characteristics of the unexpected canopy increase reveals that this new forest is different in form and type from the original cover in the belt of hill forest. Appearing in broken clumps, these forests are quickly expanding in isolated but widespread invasions (Figure 12). The dominant species of this “forest,” *juliflora*, is an exogenous tree that is increasingly prominent in the region. In association with *juliflora*, these new clusters of scrub and canopy also include indigenous shrub species, including *Capparis seplaria*, *Grewia flavescens*, and sometimes *Lantena camera*, along with indigenous annual grasses, especially *Aristida spp.*, and other herbaceous local species, including *Heliotropium spp.* This emergent cover poorly resembles the traditional forest communities of the region described previously, and forms a kind of landscape best described as a quasiforest. Created from elements and pressures that are both social and natural, these invasive forests account overwhelmingly for the speedy increase in forest cover by nearly 50 percent over the comparatively brief thirteen-year study period; locals and foresters insist that these *juliflora* forests were nowhere in evidence even twenty years ago.



Figure 12. A *Prosopis juliflora* community, or quasiforest. Unknown in the region even twenty years ago, these trees now grow in thick, unbroken stands as large as ten and fifteen square kilometers in size.

Quasiforests Are Natural: The Ecology of Prosopis Communities

The species in this cover type share important characteristics, including drought tolerance and poor suitability for grazing or browsing by most animals. They form dense stands or thorny thickets at the edge of fields, in wastelands, and around settlements (Figure 12). The community depends primarily on the establishment and spread of its dominant member, the *juliflora* tree, known locally as *angrezi* (English) *babul*, *vilyati* (foreign) *babul*, or *sarkari* (government) *babul*. This species is notable for its natural advantages, its high rate of growth, its nitrogen-fixing capacity, and its phytotoxic leaf litter. These natural characteristics account, in part, for the success of the community.

First, *juliflora* grows quickly. As a leaf zerophyte that regulates transpiration losses and water shortages through leaf shedding, *juliflora* is extremely efficient and sustains growth under drought conditions where other species might not (Bogusch, 1951). Measured in terms of wood yield, the tree produces a remarkable five to fifteen tons per hectare per year in plantation, growing far faster than the indigenous *Prosopis* (*cineraria*) and other indigenous trees (Mann and Saxena, 1980; Saxena, 1993). Its leaves are not browsed, and the species spreads its canopy in a low lateral growth, so that it creates a dense head-high obstacle within a few years (Abebe, 1994; Lee et al., 1992). Its long lateral root growth simultaneously competes for soil moisture with other species, and enables fast spreading and invasion (Hocking, 1993).

Secondly, the *juliflora* species is a well-known nitrogen-fixer. The fast growth of lateral roots contributes to an improvement of the soil conditions extending from its base and provides a productive environment for the tree itself, along with simultaneously occurring species in the *juliflora* community (Hocking, 1993).

Finally, the most recent research into *juliflora* reveals that the leaves of the tree contain water-soluble allelopathic chemicals. Experimental work suggests that these inhibitors act to halt germination of herbaceous species under the canopy of the tree (Noor et al., 1995; Warrag, 1994). These effects are not universal, however, and some species are more vulnerable to these chemicals than others. Specifically, the chemicals have been shown to retard the growth of *Cynodon dactylon*, a crucial fodder grass in Godwar (Al-Humaid and Warrag, 1998). Thus, the carpet of leaf-litter spilled year-round by the invasive babul tree removes the competitive growth of some local grasses, making way for the herbaceous species of the hardy invasive complex⁴.

Local producers and forestry professionals agree that the growth of a *juliflora* community, once established, is extremely hard to check. The species is deep-rooted and regrows from cutting even to the stump. In association, the other unpalatable understory species of the community benefit from the *juliflora*'s nitrogen fixation and aggressive crowding of other grasses and shrubs. These species make an aggressive, fast-growing salient that can appear overnight and achieve dense canopy-cover in as few as five years.

Quasiforests Are Social: The Global and Local Networks of Prosopis juliflora

These communities also benefit both from social networks that assure the defense of the *juliflora* tree and from disturbance environments that are entirely social in origin, growing from modernist landscape partition. In the first case, the *juliflora* tree is an exogenous species, intentionally introduced into Rajasthan for specific aesthetic and social goals. Native to the Americas, the tree first appeared in the subcontinent in the Sindh province of Pakistan in 1878. The Maharajah of Jodhpur brought the tree to western Rajasthan in 1912 (Hocking, 1993)⁵. The goal at that time was the general "greening" of the landscape, an aesthetic objective to create a kingdom that, at some level, resembled the "green and pleasant" land of the colonizing British.

Since that time, the popularity of the plant has been cemented by international attention and expert excitement, as evidenced in technical organizations such as the "Friends of Prosopis" and frequent conferences such as that on "The Promise of Prosopis," sponsored by both the Environmental Defense Fund and the World Bank. The species allies itself well with such international organizations, in part because of its natural qualities, but also because of its social characteristics. As a tree with little value in traditional agriculture or pastoral production, it is valued strictly as a wood

⁴ This phenomenon has previously been observed in the nearby region of Kuch, in Gujarat, where remote sensing reveals a decline of grassland in the wake of *juliflora* growth (Jadhav et al., 1993).

⁵ Bhandari (1990) dates the Maharajah's plantation of *juliflora* to a slightly later 1914. Local history holds that the seeds were scattered from one of the earliest airplanes seen in the region.

fuel. This suits the Malthusian environmental model favored by international environmental organizations, who read land degradation as a result of the “wood fuel crisis” amongst the poor. In this way, the tree has become a prominent figure in international development circles and is favored in Indian five-year plans. It is “well networked,” with allies in development communities and scientific associations, ensconced in international groups, national-level bureaucracies, and systems of local-level experts. It is a species of scientists, ministers, and kings, and it has, therefore, had tremendous assistance in its international diaspora.

The tree is popular amongst local foresters as well, who defend it despite its acknowledged pernicious effects on local biodiversity. An increase in any kind of tree coverage bolsters forestry statistics that underpin an ineffective and sometimes corrupt bureaucracy (Kummer, 1995). Thus, *juliflora* growth supports the “rhetorical” forestry common in South and Southeast Asia (Bryant, 1996). The success of the tree in the eyes of foresters might also be seen in somewhat less instrumental terms as the emergent technological culture of modern forest management. The tree produces a wide canopy that is easily viewed from remote-sensing platforms in the air or in space. Thus, when one forester insists that *juliflora* makes it possible to “look at a forest from the air” and “see thirty percent of the land in forest,” he acknowledges an underlying goal of modernist forestry: to create a landscape that looks green from space. The wide umbrella canopy of the tree allies it with foresters and international development experts whose land-cover metrics determine the species that should dominate the landscape (Robbins, 2001). The species was never intended to spread into the farm and pasture lands of local communities or to stray from the confinements of plantation, as it has, but it was introduced into the landscape aggressively to meet the measuring standards of a modernist state. Quasiforests are clearly social constructions, forged in the dream of a green desert landscape and established as a bulwark in modernity’s quest for environmental control.

Moreover, these invasive communities appear most commonly in social spaces that have simultaneously been placed under increasing demographic pressure and institutional stress by the imposition of modernist management. Specifically, traditional village pastures and forests, which together provide a large proportion of the forest/fallow inputs lands described earlier, have been the sites of invasion by quasiforest ecologies. The reasons are threefold. First, through its *preservation* mandate, the Forest Department has placed the Kumbhalgarh forest increasingly under enclosure rules that curtail grazing, browsing, and fodder coppicing, thereby removing a significant subsidy of pastoral agricultural production. Second, the state-sponsored *intensification* of the agricultural landscape puts large areas of grassy and fallow lands under the plow. As the displaced livestock of the region are increasingly forced onto these traditional common lands, grazing, browsing, and coppicing pressures increase. Third, under modernist land *conservation* efforts, management bureaucracy has recategorized these traditional resources and placed them under new institutional authority. Defined as “waste” lands in need of development, most village community lands come under highly contested local state authority. In the process, traditional

management mechanisms collapse, as local power over the land is removed without the replacement of legitimate authority (Robbins, 1998a).

Increased harvesting, grazing, and browsing – under such conditions of decreased community resources and unstable management – lead to decreases in grass and tree cover. Local officials and producers both report that the biodiversity and richness of cover in most community lands have declined rapidly in the last fifteen years and point to enclosure and contested management authority as important factors. In this way, institutional disturbance has led to ecological disturbance.

These disturbed spaces make excellent colonization sites for the *juliflora* community, which enters open areas, free of shade trees or other species that might compete for scarce soil moisture. As a result, invaders commonly move, as a group, into collapsed village common lands, turning temporary disturbance and degradation into long-term environmental change.

Are Quasiforests Bad Forests?

Despite their generally perceived pernicious effects, *juliflora* communities command somewhat varied perceptions. Herders decry the spread of this cover type, since it holds little fodder value and some of its constituent species (e.g., *Lantena camera*) may even be deadly to browsers. Moreover, the permanent loss of grazing resources to invasive communities angers herders, who repeatedly demand the eradication of these communities. Some poor and marginal producers welcome the spread of *juliflora* and harvest the quick-growing species for fuelwood or for the production of charcoal. Sixty percent of households in the area report some use of *juliflora* (Table 1). Even so, most individuals see the invasion as a loss of otherwise valuable village landscape; some groups of producers have organized locally to attempt to have *juliflora* removed from community lands.

Foresters, who view any increase in canopy cover as largely beneficial, see the invasive communities as something of a blessing. They are nonetheless concerned about the uncontrollable spread of these landscapes and admit freely that they were entirely unplanned. These invasive communities are also increasing within the wildlife sanctuary itself, and forest officials are extremely concerned about the “pollution” of the reserve and the threat *juliflora* and its allies pose to the preservation of “natural” landscapes. Having halted plantation of the species, the Forest Department is now scrambling to develop a way to check its spread. Its recent attempts to contract out the removal of these trees from preservation areas for wood fuel, however, have been a general failure; tree-cutters harvest only mature trees, and saplings can attain full height in only a few years.

Quasiforests are not in any clear way “better” or “worse” than indigenous species communities, nor are they any more “natural” than the careful maintained

hybrid systems of earlier eras. However, their rapid spread does question the clean partition of social and natural landscapes. These ecological communities have an origin and character traditionally understood as “social”; they are dominated by an introduced weedy species and thrive on the disturbance regime of modernist intensification of agricultural and pastoral production. They also have characteristics typically understood as “natural”, operating entirely outside of the control of planning authorities, spreading through a natural process of invasion, and following predictable rules of succession. These new forests are also made up both of local “naturally” occurring species and exogenous “socially” introduced species. They are a social/natural hybrid, and are therefore viewed by many as an anomaly and a threat (Figure 13).

Explaining the Failure of the Nature/Society Partition

How might we account for such a vast land-cover change, occurring without direct human intention and planning, over a period of fiercely planned and implemented landscape controls? How did so vast a carpet of hybrid ecologies proliferate during exactly the time when such hybrids were being eradicated? Several bodies of theory suggest answers to this puzzle.

Disequilibrium Ecology: We Partitioned Nature Incorrectly

The first answer emerges from an increased concern with ecological disturbance regimes amongst ecologists, biologists, foresters, range scientists, and geographers (Botkin, 1990, 1995; Behnke and Scoones, 1993; Kepe and Scoones, 1999; Zimmerer, 1994). From this point of view, the inadvertent and somewhat undesirable effects of *juliflora* proliferation arise from a misapprehension on the part of environmental managers about the ecological stability of monocultural landscapes and forest enclosures. The simple enclosure of forestland in hopes of maintaining natural levels and types of cover is clearly inadequate for countering the dynamic changes occurring in the landscape. The fundamental problem, then, is seeing nature incorrectly, imagining it to be changeless, and attempting to enforce a state of permanence upon it through enclosure. It is this unrealistic and incorrect understanding of nature that precipitates unwanted change. For Botkin and other “new” ecologists, the key is to separate change that is *natural* from change that is *social* – to learn to live with the former and fix the latter.

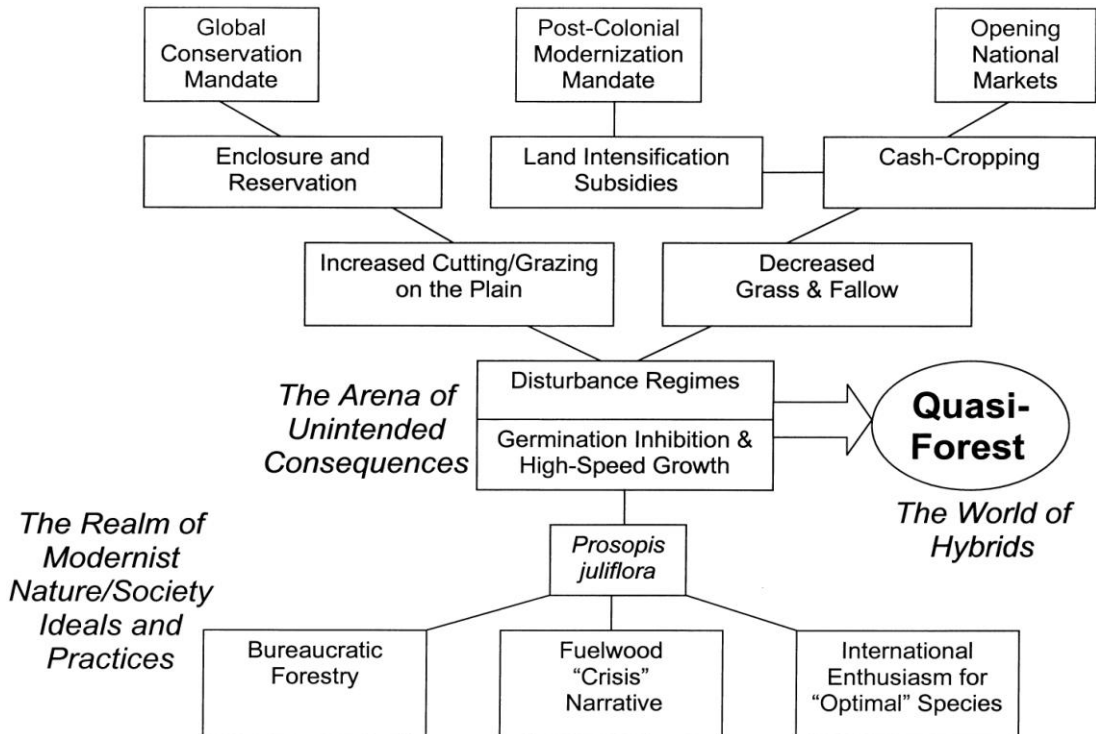


Figure 13. The social and natural origins of quasiforests.

This approach provides some insight into the dynamic nature of succession processes in Godwar. Natural succession processes clearly threaten the stability of social systems from which robust grassy fallow and hill forests have been banished. This approach also underlines the importance of people *within* environmental systems, as evidenced in traditional land-use practices in the area that, though not “pristine,” were sustainable and productive. Disequilibrium ecology, therefore, provides a window into the surprises foresters and locals are encountering.

Even so, this perspective sheds little light on the relationship between the modernist social/natural vocabulary and the specific environments that emerge from management. Indeed, by clinging to the social and natural partitions of modernist management practice, the “new” ecology insists that while previous metaphors for nature are faulty – relying on mechanical analogies to explain natural change – the “natural” and the “social” might yet be distinguished through modern science.

The Production of Nature: Capitalism Partitioned Nature Incorrectly

Critical environmental scholarship, on the other hand, offers a more thorough critique suggesting a specific cause for the poor management decision made in

Godwar. Following Smith (1996) and Soper (1995), nature is socially produced, and the recently emergent productions, chief among them contradictory images of “wild” and “domestic” nature, reflect “the contradictory nature ideologies of bourgeois modernism” (Smith, 1996, 42). Moreover, these ideologies disguise the actual social practices at work in the landscape that center on the appropriation of natural surpluses for capital accumulation, leading inevitably to the “revolt” of nature (O’Connor, J., 1994; O’Connor, M., 1996).

For the situation in Godwar, this perspective lends some needed explanation. Like similar efforts worldwide, the enclosure of the forest and the plowing of the fallow can be seen as acts of appropriation or mining of communal capital (Muldavin, 1996). Many producers who traditionally utilized these lands have been dispossessed of resources, even while production surpluses have increased (Goldman, 1991). The entire process, it might further be theorized, is disguised behind the ecofriendly ideological veil of wildlife preservation, an ecological imaginary of the capitalist development state (Peet and Watts, 1996).

At the same time, however, it is not evident that the modernist management efforts of the state provide surpluses for an economic and power elite. The division and socialized redistribution of land is intrinsic to regional development initiatives, and the southern Pali district remains comparatively more equitable in the distribution of land holdings than other districts in Rajasthan (Government of India, 1995b). Similarly, it is unclear whether the forest enclosure has in any way increased the appropriation of natural capital in the region. The Kumbhalgarh reserve, in fact, was initiated as an effort to *decrease* the large-scale removal of timber from the forest by elites. The spread of *juliflora* has also provided new resources for the poorest households, in the form of charcoal marketing. It is also unclear that the spread of quasi-forest coverage represents a “revolt of nature” in any simple way. Indeed, the equilibrium-based model of environmental dynamics that underpins such an understanding of nature is increasingly called into question by cases such as that of Kumbhalgarh, which defy the unilinear models of change, as suggested by the “new” ecology (Botkin, 1990; Demeritt, 1994; Fairhead and Leach, 1994).

Constructed Ecology: We Partitioned an Imaginary Nature

Moreover, it might be argued that the conceptual category of “nature,” which both new ecologists and critical environmental theorists attempt to preserve, itself drives the process of change in the region. In this vein, the idea of wilderness or of an undisturbed natural world that might somehow “revolt” has increasingly come under scrutiny in contemporary social theory, highlighting the discursive character of “nature.” Such ideas are more than simply disguising ideologies that obscure “real” processes. Instead, discourses of nature can be seen as constituting and being constituted by specific practices and landscape outcomes (Sluyter, 1999; Willems-Braun, 1997).

In this case, the dominant discourse is the arborocentric imaginary of the “romantic sublime,” a passion for trees as a cure for environmental crises. Since for Indian foresters, like their British, German, and American counterparts, “what we really want is that maximum trees should be planted and greenery restored at the earliest,” and since “no tree is harmful” (Bachkheti, 1988, 150), environmental change in Pali takes the form of forest proliferation. Where managers find “the ancient forest nobler than the grassland” (Cronon, 1995, 86), tree-planting continues to possess the moral authority of an “environmental panacea” (Cohen, 1999). Even as the spread of these new forms of forest does little to promote sustainability, the material practice of plantation gains momentum from the discursive practice of forestry. Using this approach, which interrogates the role of specific discourses in the partitioning of the landscape, we come closer to understanding the process of change in Godwar.

However, this account, too, seems incomplete. Clearly forest discourse and practice are intertwined, but the specific partition of the landscape and its contradictory effects are not easily explained simply as extensions of discursive practice. Why is it that an insistence on increased partitioning of the landscape leads to its opposite: increasing and proliferating hybrids? The answer does involve the relationship of environmental narratives to environmental practices, but requires a more ambitious thesis.

Nature Was Never Partitioned at All

Among ecological, Marxian, and constructivist accounts, then, we find three competing explanations for the land-cover changes in Godwar. New ecologists insist that it is *nature*, in the last instance, that explains the forest distribution pattern. Succession dynamics work in their own chaotic way, despite the machine-like plans of foresters. For critical environmentalists, on the other hand, it is modern *economy* that explains the burgeoning land covers of capitalism, realized in Rajasthan as degraded scrub forests and lost resources. For constructivists, it is the *social* construction of nature that invites invasive communities; a tree-centered rhetoric writes burgeoning landscapes of forests.

As Bruno Latour (1993) maintains, however, all of these theories are similar in that they represent a series of asymmetrical denunciations that require the conceptual separation of that which is considered social from that which is considered natural. Together, these arguments form the “Constitution” of modernism, which must simultaneously insist that nature causes society and that society causes nature, while zealously patrolling the border between.

In the first asymmetrical denunciation, the “hard” rules of succession and germination clearly defy the naïve constructions of nature offered by nonscientific observers. For Botkin and other new ecologists, we must see nature *as it is*, not as we might wish it to be. Nature is unconstructed and can adjudicate the misunderstandings

of the socially errant diagnosis of modern forestry. Truth, therefore, is explained by nature, while only falsehood (getting land management “wrong”) is explained by society. This is to ignore the very “socialness” of the scientific facts of forestry, however, formed in laboratories and – as shown here – predicated on the categories of modern invention.

In the second denunciation, on the other hand, we are instructed that it is the construction of that nature that allows our access to it and that the apparently “soft” facts of science are really created first in the “hard” sphere of society. Here, it is society that is unconstructed and that explains the natural facts of modern forestry. The power-laden social conditions of the laboratory (or in this case the tree nursery) determine the scientific rules of the “natural” world (Latour, 1986; Nandy, 1988) and social constructions determine the truth or falsehood of varying practices (getting land management “right”). Yet, this is to ignore the very natural conditions upon which this social “construction” is predicated, as well as the active participation of nonhuman objects, such as *juliflora* trees, in the transformation of the land.

Finally, Marxian analysis, falling back on the notion of dialectics, insists that it is both: nature causes society causes nature. Here, the first denunciation can be used to dispel “nonscientific” relativists (Smith, 1996), while the second can be used to castigate scientific determinists (Peet, 1985). Forests and other natural resources are “soft” insofar as they are explained by a “hard” social/ economic base – but that very base is “soft,” formed from iron laws of natural materialist fact (Foster, 2000). Such critique partitions one explanation from the other, allowing both to thrive in isolation.

Together, these three critical approaches take us a long way to understanding the complexity of dynamics of systems like that of Kumbhalgarh. However, they fail to explain the remarkable hybridity of the landscape, and, by reproducing the modernist separation of nature from society, do little to truly challenge the kind of authoritative modernist management strategies visible there. The agricultural plains of Godwar remain the social space of economic modernism where traditional social science prevails. The hillside forest is the world of nature, where hard science modeling predicts and directs change. The silent contract, as Latour observes, is never to enunciate the contradiction of these positions, and always to maintain the modernist nature-society divide that enables traditional forms of research and science. The patterns of land-cover change evident in Godwar suggest that this contract has failed. Despite the modernist image of isolated nature and society evident both in forestry practice and in the ecological and social theories that might explain it, nature and society fail to be discrete. *Juliflora*-dominated communities, monstrous hybrids networked across the “natural” and the “social,” hint at the non-modern character of the modernized landscape. They show that the dream of partition actually leads to hybridization, and that little or no real progress has been made in enforcing the constitution of the moderns on the ground. Nature was never partitioned from society, since the two are indistinguishable in the objects, such as *juliflora* communities, of the

world around us. Thus, the landscapes of Godwar *have never been modern*, precisely because of the efforts to make them so (Latour, 1993).

If the landscapes of Godwar never achieved the divisions of the natural and the social demanded in modernist ideals, it is not because its governors were not modern enough. Rather, the state's ecological experts were altogether too modern, assuring the failure of the nature/society partition by physically attempting to enforce it. The resulting hybrid ecologies could not have been predicted in their specificity, but might be anticipated whenever such a paradigm is set loose to measure and manage the land. Ultimately then, there is a need to find new ways to comprehend and live in nonmodern landscapes.

Living in Nonmodern Landscapes

While you pretend rapturously to read the canon of your law in nature,
you want something opposite . . . To impose your morality, your ideal,
on nature . . .

– Nietzsche {Addressing the Stoics} (1989, 15)

Increasing encounters with hybrid landscapes and ecologies around the world demonstrate that the phenomenon of the quasiforest is in no way unique. The zebra mussel invasion of the Great Lakes of the United States and Canada provides another example of objects that defy modern understanding. Like most invasive species, these bivalves arrived as a result of human activity, in this case shipping, but spread through complex rules, with little connection to human activity. They cause “degradation” by competing with native species (Pace, Findlay, and Fisher, 1998), even while they cause “rehabilitation” by clearing the water column of toxins and sediment (Dobson and Mackie, 1998). What do we do with such apparent anomalies? As Latour (1993, 50) asks, “Are they human? Human because they are our work? Are they natural? Natural because they are not our doing?” By answering *neither*, we take the first step towards living in nonmodern landscapes.

First, increasing evidence of such nonmodern landscapes suggests changes in the way geographers conduct analysis. For land-use and cover-change science, the world we have come to inhabit is indeed filled with changing landscapes that demand research attention. However, work that ties the landscapes of the present and future to the categories of the past – using modeling methods such as Markov chain analysis (Geoghegan et al., 1998) – ignores the multilinear, surprising, and chaotic characteristics of social/natural hybrids and overlooks the spiral loops of explanation in nature/society relationships. So, too, efforts to isolate “human impact” by finding or modeling “natural” prehuman moments from which to evaluate change are equally ill suited to the study of hybrid landscapes. It is not that landscapes are changing from

one discrete category to another – from forest to grassland, for example – as research has to date insisted. Rather, landscapes are reproducing themselves in mixed forms, grafting some species in exchange for others, creating entirely new forms poorly described by traditional definitions.

In terms of practical politics, admitting and embracing the social character of the natural landscape might also prove emancipatory. The “monsters” spawned by modernity are no more or less natural than those that came before, but they may well have different, specific socionatural effects. As Botkin (1990) notes, the fact that change is inevitable does not mean that all rates, types, and intensities of change are desirable. There is, therefore, a pressing need to study these emerging landscapes, not as deviations from natural types, but in terms of their ecological and cultural values. These too often vanish when landscapes are viewed through the lens of rational conservation (Adams, 1997). Rather than deferring to the expertise of modernist institutions, which have historically provided interpretation of the natural/social world and whose task it has long been to sort through the hybrids of the world, we might convene a more democratic body. Following Latour (1993, 142), the sorting of social and natural objects must take the form of a debate, a struggle, or a “parliament of things.”

In Godwar, this means forcing the Forest Department hierarchy to abdicate its exclusive power over declaring what state of nature might be more natural. It also means reducing the power of extension experts to declare what production system might be more social. The monocultural bureaucracies of “social” forestry and agricultural extension must encounter the hybrid ecologies of the household in open debate. In a time when such an encounter is increasingly imperative, however, development forestry remains largely tied to a “blueprint” approach that is constraining and inflexible, even when implementing social forestry initiatives (Brechin, 1997). These rely on static models that poorly reflect the role of trees and grasses as actors in local communities and landscapes. Collective and decentered institutions, it would seem, are more important than ever, as are those that adapt to social and environmental demands rather than retreat to ecological absolutes to ground management decisions (Berkes, 1996).

This does not necessarily mean an abandonment of all state environmental management efforts in India, which, however faulty, often have complex and potentially emancipatory effects (Rangan, 1997; Sivaramakrishnan, 1998). Instead, it means that the success of emergent state management institutions, like the Indian government’s proposed program of Joint Forest Management, must be judged in terms of the degree to which they act to reintegrate the landscapes and practices of local production severed in modernization, “retying,” in the words of Castree and Braun (1998, 32, following Latour 1993), rather than endlessly “untangling” the Gordian knot between nature and society. Nor is this a call to go back to some fantastical “rich, authentic, and humane premodern past” (Latour, 1999, 293) free from the taint of technology. Instead it may well embrace and demand contemporary technological

developments of all sorts, especially those non-modern ones that emphasize flexibility, mobility, and landscape diversity (Savory, 1988; Scoones, 1994).

This, then, is the ultimate lesson for geographic practice more generally from the case of land-cover change in Godwar; that hybrids are inevitable, but that their rate of proliferation and trajectory of change are products of specific planning histories. New ecologies such as these, with little or no precedent in prior natural history, are produced at a dizzying rate. The task for research is to trace these forms, their specific origins – discursive, ecological, institutional, and economic – and their specific effects. A research program that sheds the assumptions of stability, pristinity, and universal categories in social-natural process will be well prepared to blaze new trails in the science and politics of environmental change.

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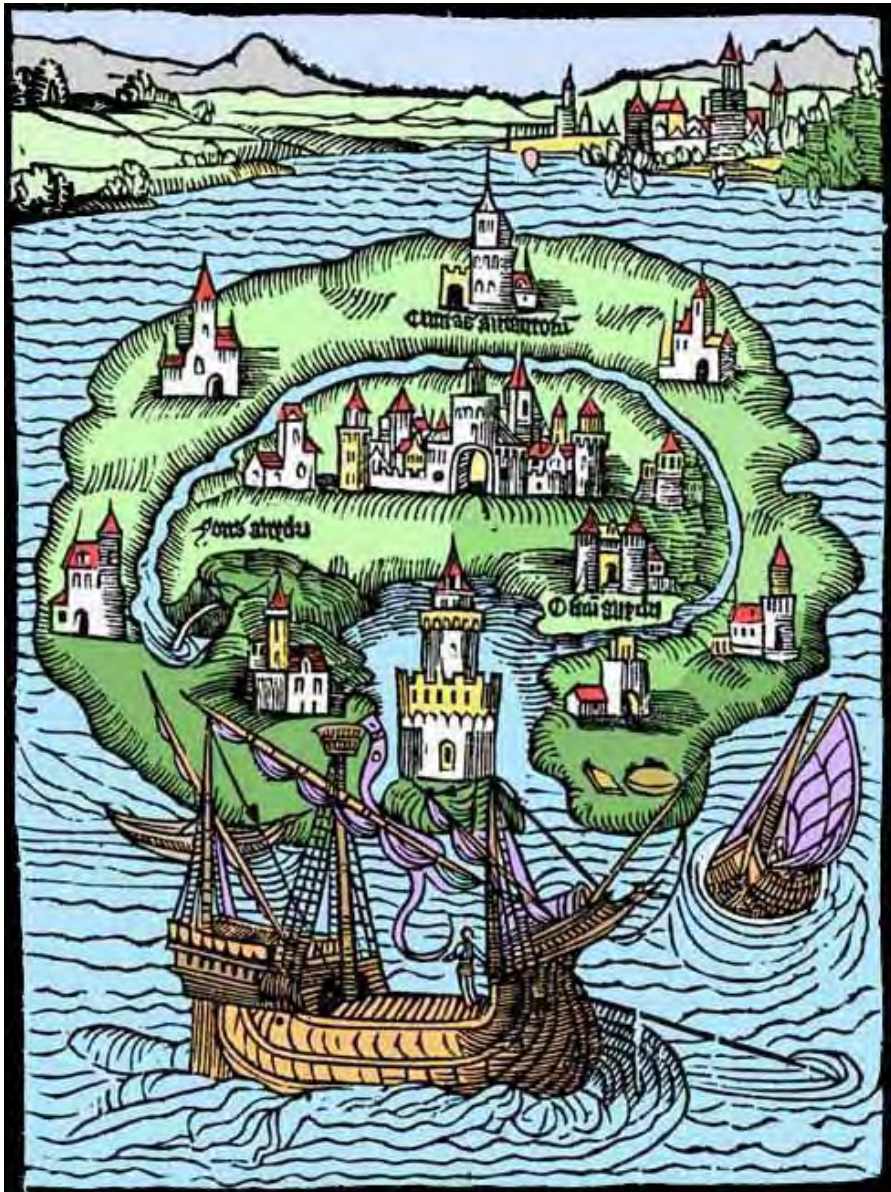
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Part IV

Representing the Earth Surface



"Utopiae insulae forma"; illustration from Thomas More. 1516. *Utopia*.
Chapter 2. De urbibus, ac nominatim de Amauroto.

Maps are often taken as an unproblematic source of information. The process of *how* Earth surfaces and their attributes are represented – through maps or other images – tends to be hidden from view. Similar to other images, however, maps assume particular perspectives, often represent certain world views and ideologies, and can affect how we think about and interpret the world (see Harley, 1989; Sparke, 1998; Wood, 1992). In addition, some perspectives and world views seem to be privileged over others. And so, as in the case of advertising or landscape paintings, what is included in maps and what sort of information is omitted from spatial representation must be subjected to critical geographical analysis, especially when these maps and spatial representations express authority, such as the material published in atlases. The chapters in Part IV address these concerns (see also the collection in Harris and Harrower, 2005).

As Yves Lacoste stresses in the first chapter of Part IV, and as Jeremy Crampton later illustrates indirectly, map-making is part of state power. Geographical knowledge can be put to destructive ends for instance, in creating maps that improve governments' capacity for waging war. This reality contrasts the claims of objectivity in spatial analysis and scientific detachment often made in cartography. Resistance to such untenable propositions has gained momentum in the 1980s (Crampton and Krygier, 2005). As the chapters by Crampton and Edney convey, historical approaches to cartography have been major contributions to introducing and refining critical perspectives on map interpretation and map-making.

Nevertheless, claims of objectivity and detachment persist and since the 1970s have become even more insidious with the computerisation of data handling, analysis, and presentation. Technological complexity and the cost of GIS¹ have distracted many cartographers and spatial analysts from critically scrutinizing the social, cultural and political biases that shape the final products of their work. John Pickles' chapter represents an early critical investigation of the truth claims of GIS users and the theoretical and social repercussions of using GIS. This critical perspective of GIS generated a heated debate within geography during the 1990s. Nadine Schuurman's chapter traces the history and context of this debate (see also Schuurman, 2004).

The chapters of Part IV indicate that the products and methods of cartography and spatial analysis should not be assumed to correspond to reality. Rather, these products and methods must be subjected to critical assessment and practice. One way to reduce the potential for human suffering and reinforcement of social injustices through the use of GIS is to make the use of cartography and spatial analysis transparent, widely accessible and democratic. Contemporary critical cartographers

¹ GIS can mean "Geographic Information System", referring to an assemblage of materials (e.g., computers, software) and methods (e.g., spatial statistics, overlay techniques) related to data input, processing, analysis, and final mapping output. In the 1990s, some geographers began referring to GIS as "Geographic Information Science" to highlight its systematic knowledge-producing nature.

and GIS practitioners are now providing many examples of how to use map-making and spatial analysis in ways that enable social justice (e.g., Dunn, 2007; Harris et al., 1995; Kwan, 2002; Kyem, 2001; St. Martin, 2001). As in other forms of critical geography, this is being achieved through the recognition of subjectivity, self-reflexivity and the awareness of social and political context.

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An Illustration of Geographical Warfare: Bombing the Dikes on the Red River, North Vietnam

Yves Lacoste

1973. *Antipode* 5, 1-13.¹

[...] Preamble

[...] Geography, as one mode of representing the world, is inevitably involved with ideological issues. Mass media continue to project geographical clichés and images; one notes, for example, how landscapes figure largely in films and advertisements. The kind of geographical knowledge taught in schools and repeated by students does not, at first glance, appear to have much practical import. Geographical discourse, influenced by the master-student pedagogical model of the late 19th century, is not the only possible form for geographical reflection. Long before it was addressed to students, geography was addressed to kings, princes, diplomats, and military leaders. As a concise method of describing space, in both its human and physical characteristics (as we conventionally classify them), geography became transposed into terms amenable to management by the State, in the form of social organization and control, and also of warfare.

It is important that we gain (or regain) an awareness of the fact that the map, perhaps the central referent of geography, is, and has been, fundamentally an instrument of power. A map is an abstraction from concrete reality which was designed and motivated by practical (political and military) concerns; it is a way of representing space which facilitates its domination and control. To map, then, means to formally define space along the lines set within a particular epistemological

¹ Reprinted with permission from Richard Peet.

experience; it actually transposes a little-known piece of concrete reality into an abstraction which serves the practical interests of the State machine; it is a tedious and costly operation done for, and by, the State. Large-scale maps (called in France the “cartes d’Etats Major”) are made by and for state officials; no wonder, then, that in many countries such maps are filed with other military secrets.

But cartography is not the only link between geography and the power structure. Since the time of Herodotus – who, after all, was not writing “history”, but doing a survey to promote the imperial interests of Athens – geographers have often, consciously or unconsciously, been information agents. Down through the centuries, they have paid particular attention to phenomena which would be of use to military and governmental leaders. Topography, for example, was described in terms of strategic and tactical interest; the distribution of population was described in terms of the administrative and political organization of space. The central notion of region, so perennially used in the discipline, derives from the Latin word *regere* (to rule). Etymologically speaking, then, a region is by definition a military region.

Many university geographers today, who regard their discipline as a science – detached scholarship dedicated to knowledge for the sake of knowledge – would no doubt be shocked to learn the military and political nature of geographic thought. Since the beginning of the 20th century [...], when geography was taught in schools, there was an effort to conceal its political and military functions. Teachers have mystified geography: they spoke of “natural” and “historical” explanations of phenomena which were really the result of political strategy of the State and the economic strategy of large firms. This kind of mystification, which makes geography an ideological discourse separated from practical life, has made a profound impact on public opinion, and also on the teachers themselves. It becomes exaggerated (though less manifestly) by the mass of geographical images and clichés propagated in the cinema, press, and television.

One could certainly claim that geography’s political and military function belongs to the past, to the discipline’s pre-scientific phase. Many geographers today honestly consider their “science” as detached knowledge – while at the same time complaining that their opinions are not considered in spatial planning: In fact, although geographical discourse is overtly unconcerned with problems of power, today more than ever it is clearly linked with practical (political and military) interests. One does not have to look to the far-distant past for examples of strategies whose design and implementation demanded the intervention of geographers. The Indo-Chinese war provides the best and most carefully-articulated example possible.

“Ecological warfare”, as the expression goes, could best be understood in geographical perspective. To achieve a limited number of political and military objectives there has been destruction of vegetation, the transformation of the physical characteristics of the soil, the deliberate precipitation of new erosional processes, the rupture of hydrological systems in order to change the level of the water table (so as to dry up wells and rice paddies), and also a radical change in the distribution of

population. Such forms of destruction are not simply the unintended consequences of the massive scale of lethal means available for technological and industrial warfare; they are the result of a deliberate and minutely-articulated strategy, the elements of which are scientifically coordinated in time and space.

The Indo-Chinese war marks a new phase in the history of warfare, and also in the history of geography. For the first time in history, the modification and destruction of the geographical milieu (in both its physical and human aspects) is being used to obliterate those very geographical conditions which are indispensable for the lives of several million people. So today, more than ever, one has to become aware of the political and military function which geography has always had since its inception. In our time this function has assumed greater magnitude, and takes on new forms because of increased information, more technically-sophisticated means of destruction, and also because of progress in scientific knowledge. The title of an article in *Newsweek* (August 7, 1972): "When the landscape is the serious Enemy" is indeed significant.

Responsibility of the Geographer and Public Opinion

Geographical warfare has been waged in the most consistent fashion (for more than 10 years) in South Vietnam. Its results are cumulative and complex. Though more information is being made available (for example, in articles by Westing and Pfeffer) about different types of disaster (e.g., the effects of defoliation and craterization), we still do not know how these disasters combine and mutually reinforce their destructive effects in space, and together aggravate the long-term consequences for the quality of life for whole populations. Only a good cartographic survey could enable us to get an estimate of the impact of this geographical warfare. We could also seek the participation of the people (who are very good geographers) to gain perspective on this historically novel destructive enterprise.

It is now possible to show the role of geographical reasoning in the massive, unrelenting operation which was involved in the bombing of dikes in the Red River delta in North Vietnam. One cannot, of course, prove that professional geographers (and geography teachers) participated actively in the systematic choice of bombing sites; however, those who did design the strategy and tactics of bombing, demonstrated a powerful mastery of geographical information and geographical thinking. A careful and precise geographical analysis, at different levels, i.e., a map showing all the bombing sites, would demonstrate (in a manner irrefutable even by Pentagon spokesmen) that the attack on the dikes followed a perfectly deliberate and systematic plan. In fact, as the map would show, the dikes were not hit at points adjacent to major communication lines, industrial developments, or large cities; they were hit at points where their rupture, given the variegated conditions of the delta, would prove a catalyst for even greater disaster and more deaths. It is significant that most of the sites bombed during the months of May, June, July, August and September of 1972 correspond exactly with the points which were hit earlier during the Presidency of Johnson.

I assert, on the basis of my professional geographic research on the Red River dikes during the summer of 1972, that these bombings were designed to precipitate a frightening catastrophe. If this catastrophe has fortunately not happened, it is not because it was not intended, but rather because the Vietnamese people made a gigantic attempt to repair the breaches (with earth accumulated after the 1964-1967 bombings), and especially because, during the summer of 1972, the floods on the river were particularly low – this is a phenomenon which occurs every 8-10 years. There is now statistical evidence from meteorological records that Southeast Asia as a whole, and particularly the highlands from which the Red River flows, experienced a comparatively low precipitation rate in the summer of 1972. In the middle of August, the time when floods are usually heaviest, the water barely reached the level of the dikes throughout the delta. I submit these arguments to criticism based on evidence which may have escaped my attention. I have repeatedly requested the publication of such aerial photographs as would prove my map inaccurate. Nothing, however, has been published.

Since geographers participate in the execution of this new kind of warfare – geographical warfare – they should surely begin to analyze it, prove or denounce it, since this is one of the most serious kinds of destruction. Its effects are difficult, if at all possible, to repair. Geographical warfare can be waged anywhere in the world, and it is not yet over in Indo-China.

It is important to note the malaise in public opinion which followed press releases on the bombing of North Vietnamese dikes. This was probably a confused way of expressing people's consciousness that this is a new and irremediable form of warfare. This should illustrate well the ideological problems which, despite appearances, are bound up with geographical representation. Indeed, among the more deadly aspects of the Indochinese war today, the bombing of the Red River dikes in North Vietnam is especially serious and significant. International public opinion almost instinctively grasped this fact. People reacted in a way that made the problem of the dikes an extremely embarrassing one for the Pentagon and the [U.S.] Government.

And yet, throughout the war in Vietnam, the U.S. military establishment made no attempt to conceal the particularly deadly nature of certain forms of tactical or strategic action that became daily routine, ranging from the systematic use of napalm and various types of "anti-personnel" weapons, to carpet bombing by 852 planes. Indeed, a large proportion of people who, witnessed, through the mass media, the greatest deluge of fire and steel ever known to history, frequently had the reactions of a slightly bored theater audience as it watched the deployment of the subtlest and most terrifying methods of destruction.

This relative habituation was suddenly interrupted by information that there was the possibility, not to say certainty, of air attacks aimed at the North Vietnamese dike system. Many well-known persons felt it their duty to publicly express apprehension on a subject, which soon assumed such importance that the President of the United States himself felt obliged to challenge the testimony of people who had

been able to see for themselves, that the bombings had indeed taken place. For the eminent men and women who had expressed feelings of growing concern were simply lacking in perception and were an easy prey to communist propaganda.

But shortly afterwards, in the face of increasingly numerous eye-witness reports, the White House on July 30 issued a statement in which it was acknowledged that a few dikes, because of their proximity to military objectives, might have been hit; at the same time they insisted that the damage could only be slight. It was pointed out in reply that this information was quite vague and that such documents as aerial photographs which could have proved the truth of the official assertions – at least in some cases – were lacking.

Hence the matter of the “bombing the dikes”, so far from becoming a dead issue, assumed ever-greater importance: public opinion became alerted before the exact facts of the case were known. It was as though people were intuitively aware that destruction of these dikes symbolized a new form of warfare, as though they considered, for very profound reasons, that the fiercest of conflicts between men should remain quite distinct from the centuries-old struggle between the human species and the most formidable forces of nature.

Public anxiety and the embarrassment of the authorities would no doubt be just as great if, as a means of strategic action, it were a matter of unleashing typhoons, earthquakes or volcanic eruptions against civil populations. In fact it would appear that, when faced with the forces of nature, solidarity between [people], whatever their differences, is among the fundamental, implicit values upon which all cultures are based. Consciously or unconsciously, for thousands of years, [humans] have seen the hand of God or fate in natural catastrophes; still today the willful unleashing of natural forces appears to be the sacrilegious act of a sorcerer’s apprentice.

But it is important to go beyond the symbols and the profound, subjective motivations the problem presents, in order to clearly examine the facts. These are essentially of a geographical nature; that is to say, they correspond to the interaction of “physical and natural data” and the “human factors”. Even before the global crisis of our time became dramatically focused on this small part of the earth’s surface, the Red River delta had for centuries, been an area in which the geographical interactions between “natural factors” and “human factors” were especially complex, and presented a sort of dramatic tension. In fact, there are few regions in the world where, in such a limited area, there exist so many human beings who have evolved such an efficient, subtle culture (compared with most non-industrial cultures) under such difficult conditions: that is with their stability constantly threatened by the forces of nature.

Why the Dikes?

The Red River Delta (which under the French colonial regime, was called the Tonkin plain) forms an almost equilateral triangle of 90 miles to a side in which live some ten million people; in a number of places the population density is over 800 inhabitants to a little over a half square mile.

This plain is dominated by large mountains which, in summer, receive the very heavy rains of the monsoon. Because of this, the rivers flowing onto the plain are frequently subject to sudden and very heavy flooding. In high water, the Red River becomes an enormous stream, with a flow greater than 110,000 cubic feet per second [$3,080 \text{ m}^3/\text{s}$] – a volume comparable to that of the Mississippi (120,000 cubic feet per second [$3,360 \text{ m}^3/\text{s}$]). The risings of the Red River and its affluents are not progressive and regular, but take place suddenly and quite irregularly in the middle of the summer. They are due, in fact, to the enormous quantities of rain that falls during heavy storms on the relatively close mountains; the water runs rapidly down the steep slopes and suddenly flows onto the plain.

Such rivers running down from deeply-eroded mountains transport vast quantities of alluvium – this explains the characteristic color of the Red River, which is filled with various kinds of reddish silt are also most of its affluent streams. The mass of material detached from the mountains is so great that these alluviums tend to be deposited on the bottom of the rivers and, little by little, the river-bed is progressively raised. Quite naturally therefore, the rivers flow above the general level of the plain, on a sort of alluvial cushion (or natural levee). This situation also exists in the Mississippi valley, with the difference that the Red River transports a relatively greater amount of alluvium and flows above a natural levee that is appreciably more pronounced than that of the Mississippi (20 to 25 feet [6.1 to 7.6 m] higher than the level of the plain).

When the rivers rise, congestion by alluviums of the river-bed and the progressive elevation of the levees tend to make the river flow into the lower parts of the bed and sometimes important changes in course result. The principal stream divides into several branches which also flow on cushions above the plain and have a tendency to overflow into it at high-water time.

The implantation of human beings into the Red River delta, a marshy, malarial region periodically under water, was therefore particularly difficult. Even though this area combined natural features that were particularly negative (as regards human beings), it also held great potentialities. In the tropical zone the soil is usually subjected to bio-climatic processes that reduce its fertility and make it extremely fragile (lateritization [...]). However, the alluvial areas do not present this very serious inconvenience: constant deposits of silts and material resulting from erosion of mountains which, because of their height, are not subject to tropical conditions, compensates for the process of impoverishment of the soil. Thus the broad valleys and delta plains offer exceptionally favorable pedological conditions in the tropics. It is possible to expect a number of consecutive harvests with good results, the silt

deposited during high water serving to restore fertility of the soil. On the other hand, outside the alluvium-treated zones it is not possible to cultivate the soil for more than two or three years consecutively, because of its poor agronomical potentialities and the violence of the processes of deterioration that set in as soon as the forest covering has been cut away.

The historical task of the Vietnamese people (like other peoples in tropical Asia) has therefore been to progressively confront the negative features of the geographical milieu. Little by little they have achieved mastery over the high water in order to profit by the positive features – i.e. the relative richness of the soil.

The dikes are thus a primordial geographical condition of existence for the people. The vast undertaking represented by construction of some 2,500 miles [4,023 km] of dikes started principally during the Middle Ages. In order to accomplish a task such as this under extremely difficult conditions (every year the flooding threatened to wipe out the work that had been done during the dry season) the Vietnamese not only had to be able to deploy a large number of workers, but also needed an efficient organization that made it possible to group the workers in certain places and to see that they were cared for. Also needed was a profound understanding of the science of hydraulics; for the works were constructed with limited means, in such a way that they would resist the thrusts of the river. Once the dike was built, it had to be supervised and regularly kept up to combat cracks and to check the effects of erosion caused by rain, the river, or burrowing animals.

The realization of this network of dikes not only is evidence of extraordinary organization in each village community, but also on the part of the government, which was the only agency capable of concentrating great numbers of workers at strategic points in the area.

Today this area is organized on different levels: the big dikes following the course of the important rivers have a function that includes the entire delta, since a break at one point could bring about flooding of wide regions. In the event there is a break in one of the principal dikes, dikes running perpendicularly to the rivers have been built across lower-lying regions. Coastal dikes have been built to prevent flooding by sea-water, particularly when it is propelled by the extraordinary violence of typhoon winds.

But inside each division bordered by these major dikes, secondary dikes have been built to channelize the rain water towards points at which evacuation is possible. If the rain water falling on the surface of the rice-fields were allowed to accumulate, the rice-plants would rapidly die under water that is too deep. Control of hydraulic conditions, an essential feature of intensive rice culture, means controlling the water-level not only at the different points of the area under cultivation, but also from the standpoint of time (as dictated by the different stages of agricultural work and the growth of the rice plant). This water-control is accomplished in the cultivated area of each village by means of a network of small dikes and canals located inside the larger

meshes organized by the secondary dikes which are laid out in accordance with the main lines of the major dikes.

Historically, the conquest of the delta must have begun with limited man-power in the upper parts of the delta, near where the rivers leave the mountains to emerge onto the plain. Gradually, as new rice fields could be laid out, due to the construction of new dikes, new manpower appeared, making possible increased construction, then increased agricultural progress, and so on.

The Red River delta is not the only alluvial plain in North Vietnam. The other plains, those of Thanh Hoa and Vinh for instance, followed a similar evolution. But these plains are much more extensive and the rivers that cross them are much smaller than the Red River. Hence the problems presented are less difficult to solve, and although they have been subjected to particularly intensive bombing, it is the Red River delta on which attention is concentrated at present. For undoubtedly the risks of catastrophic flooding are the most serious in the plain of the Red River (because of the river's powerful current at high-water time) and the number of human beings [threatened there] is the greatest.

Where Have the Dikes Been Bombed?

In the controversy between the people who denounced the bombing of the dikes in North Vietnam and an American administration which denied that these attacks were deliberate, it is possible to furnish documentation that may serve as lasting and easily-verifiable proof. Since the dike network forms an ensemble of a geographical nature it is logical to undertake a geographical analysis of the points at which the network has been hit by bombs. I made this investigation during a visit to North Vietnam with the International Commission of Inquiry into War Crimes, which took place from July 29 until August 13, 1972. During this period I was able to visit the principal zones in which bombing of dikes took place, and to verify, at various points, the correctness of a map of the damage done to the hydraulic installations (figure 1). This map was very precisely made, at my request, by technicians from the Ministry of Hydraulics of the Democratic Republic of Vietnam. It can be easily verified from the frequent photographs taken by the U.S. Air Force.

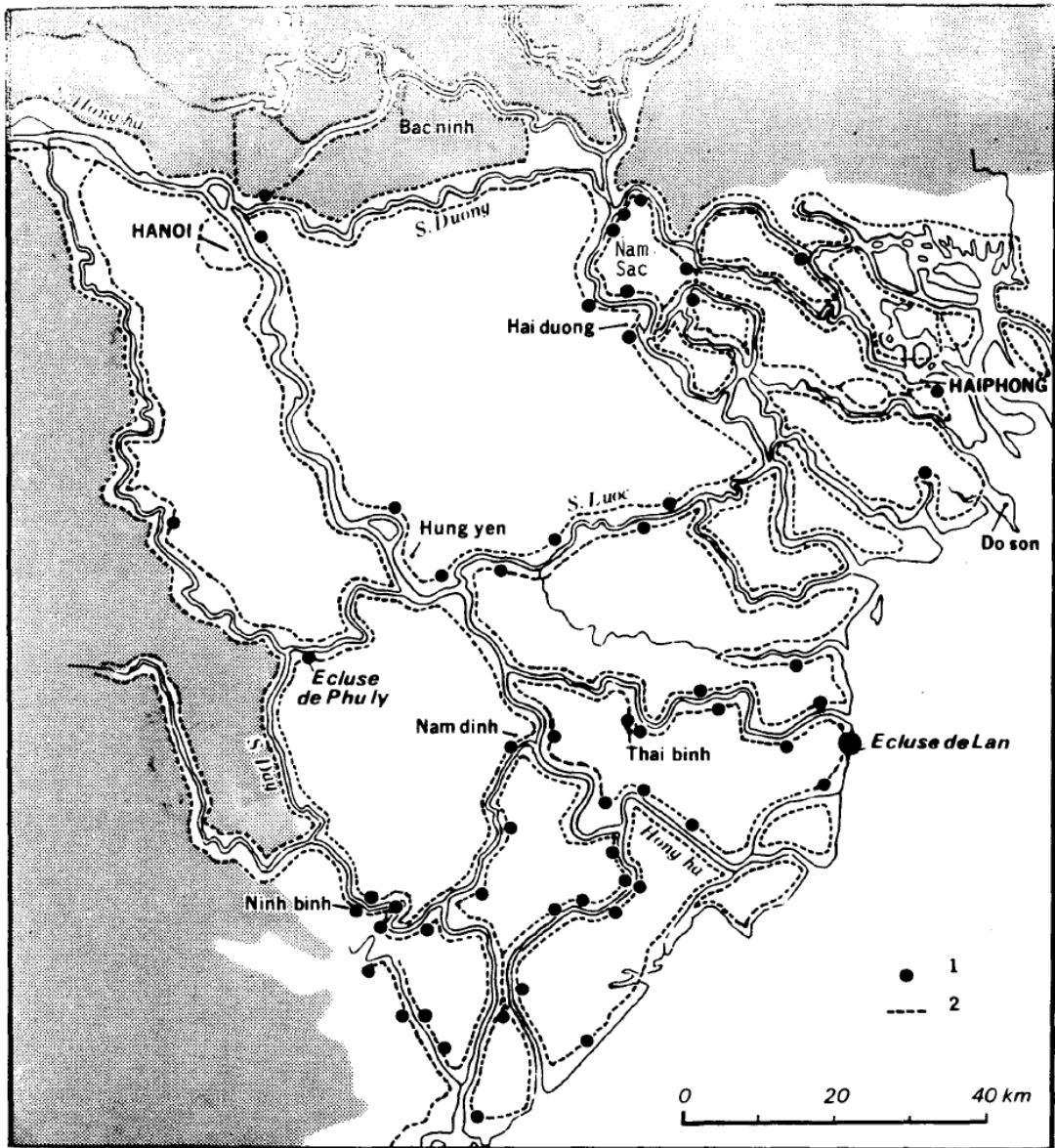


Figure 1: Bombing points May-August 1972; 1 = bombing points on dikes, 2 = line of principal dikes

During the period April 16 to July 31, 1972 (bombing of the dikes continued later) the hydraulic installations in North Vietnam were the objective of over 150 attacks from the air, and they were hit in 96 different places. The International Commission of Inquiry into War Crimes decided that it would be preferable to concentrate its investigation on the Red River delta. The bombings that took place in the southern provinces of North Vietnam were so concentrated, on such a restricted

area, that it is difficult to distinguish the ones that aimed at a hydraulic installation from those that had another type of objective.

The Bombing of the Dikes in the Eastern Part of the Delta.

Out of the 96 places at which the dikes were hit by bombs, 58 are situated in the Red River delta. If we examine the map of these places attentively, we immediately notice the following situation: almost all of these places – 54 out of 58 – are located in the eastern part of the delta, from the district of Nam Sachs in the north, the province of Thai Binh in the center, to the regions of Nam Ha, Nam Dinh and Ninh Binh in the south. Four bombing points on hydraulic installations lie outside this area: that is, two near Hanoi and two by the Phuly Locks in the Day River.

The American administration in fact acknowledges this pinpointing (which on the contrary had not been mentioned thus-far by the Vietnamese authorities) and claimed that it furnished a favorable argument for their line: the American administration declared in fact that if the bombing of the dikes were intended to bring on serious floods, they would have aimed at the western part of the delta, that is to say upstream just the part that was, for the time being, spared.

A more careful examination of the geographical conditions permits us to draw opposite conclusions. In point of fact, the Red River delta can be divided schematically into two quite different parts: the western part in the upper delta, where the rivers emerging from mountainous valleys contain lots of alluviums and where, before they were diked, the rivers had progressively built up a large number of alluvial cushions, as the course of the river changed; and the eastern, lower delta, where the rivers carry a lesser quantity of alluvium (since it has been deposited upstream) and flow above natural levees that are less high (figure 2). These rivers diverge toward the sea, like the spokes of a wheel. Because of this fact, there are wide, easily-flooded flats between the alluvial cushions. These differences of configuration between the upper and the lower delta have important consequences for the topographical localization of the villages: in the upper western part the villages have been built above these easily flooded areas on top of the alluvial cushions which, as we have seen, are particularly numerous and involved. In the eastern part of the lower delta most of the villages are located below the level of the rivers, in areas easily-flooded should a break in the dikes occur.

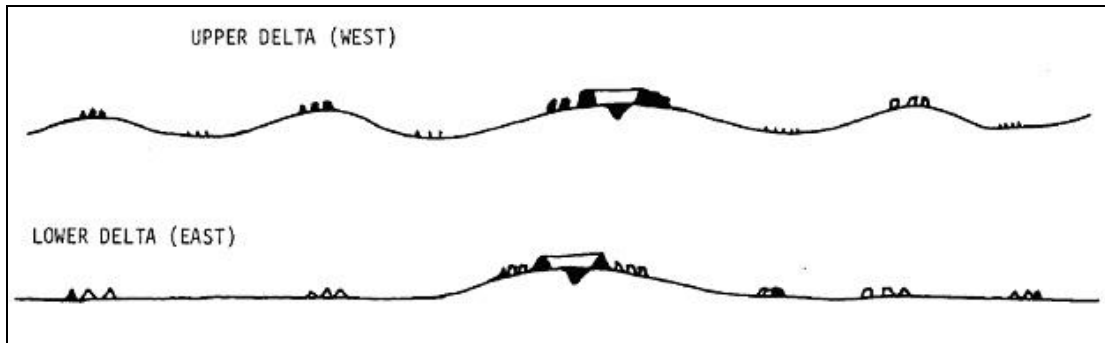


Figure 2

It just happens that a large majority of the bombed dikes are situated in the eastern part of the delta, where most of these easily-flooded villages are to be found. It may be argued that these were aimed at military targets located near, or on, the dikes. If this were so, they could not have avoided more frequent hits on the dikes situated in the upper delta, near Hanoi, for instance, where military objectives were often attacked, without harm to the dikes. The dikes in the lowermost region, which is situated between Nam-Sach and Haiphong, have thus far hardly been bombed at all. Actually, in this part of the delta, the rivers cease to flow above natural levees, having deposited most of their alluviums upstream. This no doubt explains why the dikes in this zone have not been bombed; the effect of destroying them would be less disastrous than in other places.

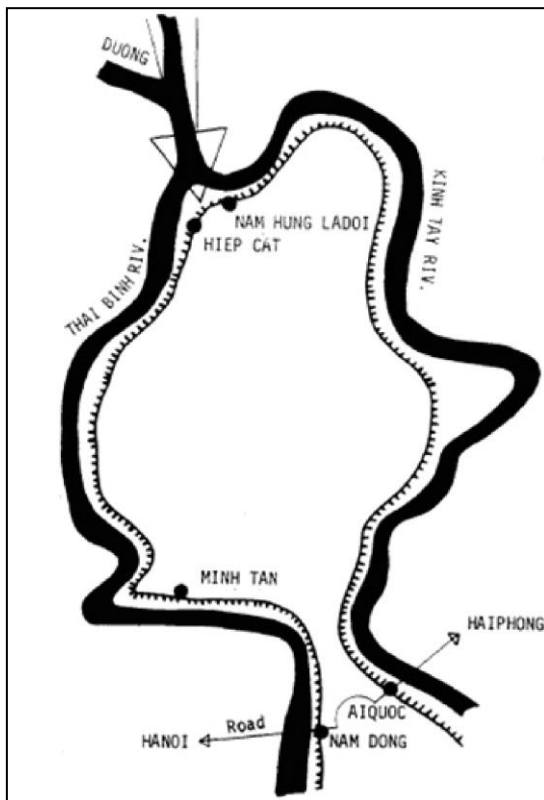
Thus, it is possible to conclude that the bombing of the dikes was concentrated in the eastern part of the delta, which is also the most densely populated and the most important from the standpoint of agricultural production. This is proof of the deliberate and systematic nature of these attacks, since they were localized exactly in the area in which their effects could be most serious and where most of the easily flooded areas are to be found.

A More Detailed Analysis of Bombing Points

Another level of geographical analysis consists in observing, in a very precise manner, the bombing points within this eastern part of the delta. For the most part, these points of destruction are not the result of random hits, but points at which absolute soundness is of special importance to the organization of the hydraulic system. In fact, the most frequently hit points on the dikes are the ones that, at high-water, are subjected to unusually strong pressure by water. The dikes have been attacked in the concave part of the bends or, as in the northern part of the Nam-Sach district, at points where they are subjected to the perpendicular pressure of an especially powerful current resulting from the confluence of six rivers (figure 3). It is

literally impossible for there to have been “military targets” at all of these points, which are precisely those essential to the water-defense system. It should be emphasized that except in the Hanoi and Haiphong areas (where it is true that there are highways using the roadbed formed by the dikes) the greater part of the dike network would not be capable of standing up to automobile traffic. In the ten or so places that we visited to determine the effects of bombing on the dikes we were able to note that they had not been surfaced with a round-base material that would make automobile traffic possible. Similarly, at none of these points of observation were we able to detect the presence of an objective other than the one constituted by the dike (at an especially essential point). The fact that the dikes were hit at particularly sensitive points far from any other target is another argument in support of the hypothesis that there existed a deliberate, systematic strategy of destruction of the network of defense against high water. Relatively frequent use of time-bombs against hydraulic installations gives even greater credence to this hypothesis, since it is impossible to see what use time-bombs would offer against convoys or mobile military installations.

One of the most striking examples of proof that a methodical strategy was carried out against the dike network is furnished by an examination of the attacks against different types of hydraulic installations in the southern part of the Thai Binh province.



(a) *The Nam Sach district* is entirely surrounded by dikes and it looks in fact like an island hemmed-in by a peculiarly involved hydrographic network. In the north spreads a net of rivers, the Thuong, Luc Nam, Cau and Duong Rivers which join together within a few miles and form the Tai Binh River. Shortly after it breaks up into two branches, Tai Binh and Kinh Thay, which enclose the district in its whole area, the dikes of the Nam Sach district were hit in six various points:

Figure 3: Nam Sach District

- in the south, the dikes were hit on May 10 and 24, 1972, near the Aiquoc and Nam Dong villages; both localities are situated near the main Hanoi-Haiphong road, and it may be that the dikes were not the targets of these attacks (more than 150 bombs).
- the dikes were hit near Nocti and Ninh Tanh on July 9, 1972. At Nocti, the hit is in the concave part of a bend, that is to say, at the point where the pressure of the current is the strongest at high-water time. At Minh Tanh, 24 bombs destroyed the dike over a 300-foot [92 m] long section (more than 75,000 cubic feet [2,124 m³] of earth had to be moved to carry out the repair). The choice of that point is certainly explained by the fact that it is peculiarly difficult to repair the dikes at this point, for the surroundings are very low and marshy and it is hard to find anything other than water-soaked soil, quite an improper material for making a good repair.
- the dikes of Nam Sach district were especially hit in their northern part near the villages of Hiep Cat and Nam Hung, on July 9 and 21, 1972. The reason why the U.S. Air Force chose these points is quite obvious since they are situated exactly where the waters have just met and flow almost perpendicularly to the dikes, thus exerting a peculiarly high pressure. Should the dikes break at that point, the stream need only go straight on to flood the whole district and to inundate the some 100,000 people who live there.

It is important to point out that the dikes situated near the village of Nam Huong were, because of its importance in the hydraulic system, attacked in July 1967. This is not the only example of attacks being performed against points previously bombed between 1965 and 1968.

(b) *The northern part of the Thai Binh Province*: This region is bounded on the south by the Red River and on the north by one of its branches, which forms the Traly River. These two waterways, both of which flow above an alluvial cushion, border a sort of long gutter which gives on to the sea in the east, became possible to make this “plot”, or gutter, inhabitable – today over 600,000 persons live there – when dikes were built along the Red River and the Traly River, as well as along the coast. However, at low tide, the rain that falls in this vast gutter has to be drained and this is the role played by the important Lan locks.

The bombings have targeted the most essential points of this complex hydraulic organization[. T]o begin with, the Lan locks (figure 4). This installation is located far from any other target. Between May 24, 1972, and July 29, it was attacked nine times and, in spite of the existing destruction, three new raids were carried out during the first week of August no doubt to make repairs impossible. Prevented from flowing towards the sea, the waters began to accumulate in the rice fields where a considerable part of the harvest may be considered lost.

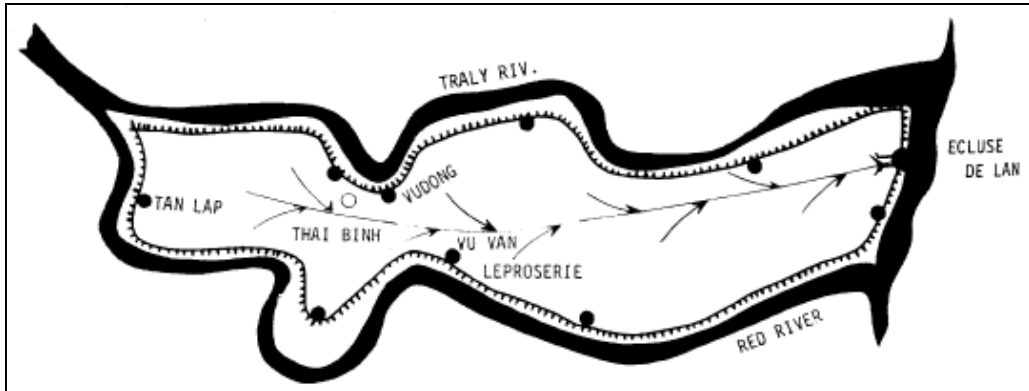


Figure 4: Southern part of the province of Thai Binh

We visited the Lan lock on August 3 (we went up a very small track) and we were able to verify that it was located very far from any other target, far from inhabited areas, between large coastal swamps and big rice fields. This lock which plays a decisive role had already been attacked in 1968. We were also able on August 3, to visit the part of the dike on the Traly River, attacked on July 21 near the village of Vu Dong (Kien Xong district): 11 bombs made craters close to the dike (less than 150 feet [46 m] away) thus creating severe cracks over a 600 feet [183 m] long section. One bomb dug a crater directly into the dike. During this bombing, which hit peasant dwellings located near the dike, 9 persons were killed, 9 severely injured. At the time we were there, most of the damages had been repaired, but the sections of the dikes which had to be reconstructed could be easily detected.

On August 4, 1972, we were able to verify the damages caused on the Red River dikes near the village of Vu Van (Vu Thu district). During the attack on July 31, 20 bombs were dropped on two points situated about 1,500 feet [457 m] from each other: the first was near a school which had been partially destroyed, and whose director was killed; the second was near a big leper-hospital, the second most important in the Democratic Republic of North Vietnam: 1,100 lepers were warded there when the bombings took place: 5 of them were killed, 10 others injured. The buildings of this hospital – which was created quite a long time ago (4 big buildings bordered by 3 big churches) – are extremely easy to locate and it is logical to think that the dike was attacked at this very point in order to make the mending work as difficult as possible. For, rightly or wrongly, the Vietnamese do peculiarly fear contagion (I noticed it myself that the Vietnamese who were with me were worried about the fact that I had wandered among the buildings of this leper hospital in order to complete my notes). Is it a consequence of this collective fear that they had not yet started to repair this dike section even though it suffered serious damages (a succession of large cracks in a radius of 150 feet [46 m] around the craters)?

The attack on July 11 against these two sections of dikes was directly eye-witnessed by a group of about twenty European journalists who had come to verify the damages made by the attack that took place on July 9. I have taken the deposition of Mr. Jean Thoraval, an A.F.P. [Agence France-Presse] correspondent. The journalists (who had come to observe the damages to which the dikes were subjected saw about ten Phantom F4 planes approaching: at first they kept flying very high, then they went down to 1,500-1,800 feet [457-549 m] and started bombing the dike. The journalists could verify that there was no other possible target (no road, no structures), as well as no anti-aircraft defense.

I visited the Nam Hung and Hiep Cat dikes on August 9. I noticed a large number of craters made on both sides of the dikes (which had been repaired). During the time I was there, along with Doctor Aarts from Amsterdam and his wife, I witnessed the explosion of a time-bomb (August 9, 1972, at 10:15 a.m.). It dropped near the village of La Doi, half-way between Hiep Cat and Nam Hung. This bomb was one of the six delayed-action devices dropped on July 11: three of them exploded during July, one on August 9; two others had not exploded at that time.

In addition there have been four bombings on the northern dikes of the Traly River and three on those of the Red River in the South. It should be pointed out that the bombs are especially aimed at the concave parts of the dikes' bends where, at high-water, the strongest pressure from the current is concentrated. It should also be pointed out that in two places time-bombs were used and that of 14 bombs dropped July 14 on the Red River dike near the village of Tan Lap, 13 exploded at different intervals (some of them 6 hours later, and others up to 21 days later).

Thus the "operation" on the southern part of the Thai Binh Province can be summarized as follows: On the one hand, it was intended to make breaks in the dikes at the most strategic points which, repaired or not, would risk breaking open again at high water (actually it is very difficult to properly pack the soil, which already contains too much water as a result of the summer rains, so that places that have been repaired remain very vulnerable): and, on the other hand, it was intended to block the locks to disturb water evacuation towards the sea. At the very least, part of the rice-fields is flooded and the food sources of 600,000 people are jeopardized. The maximum effect would be felt if there were severe flooding in that a great number of villages situated below the level of the alluvial cushions would be in danger of being flooded in case of a sudden break in the dikes (either at points where they have been repaired in a way that could not be perfect at this time of year, or at points where further bombings have taken place). These bombings continued to hit not only the river dikes but also the coastal dikes, which were constantly pounded by Seventh Fleet artillery. The locks constituted especially frequent targets since their destruction could bring about either the accumulation of a considerable volume of water in the inhabited and cultivated areas, or sea-water flooding, which makes the soil unfit for cultivation for several years.

Finally, a more complete understanding of the systematic, action carried out against the hydraulic system of North Vietnam may be had if, in addition to what has been described, it is pointed out that the Nha May Gho Khi factory (near Hanoi) which furnished the material required for repairing the locks and other hydraulic installations was razed to the ground on August 5 by particularly intensive, precise bombing.

The fact that bombing of the dikes was localized in the Red River delta proves the deliberate and carefully premeditated nature of the operation. If it were not in the logic of the bombing to hit the dikes at points most vulnerable during high water, points at which their protective role is essential, and in the regions in which the greatest number of villages liable to be submerged are located, these bombings would have been differently located; the dikes situated near the big traffic centers and in the neighborhood of the big cities would have been hit much more frequently.

Meta-Analysis of Bombing Targets

The American administration, after admitting that the dikes might have been hit, declared that the resultant destruction was minimal. It is therefore important to examine closely the effects of the bombings on these installations. The most frequently used bombs in this kind of attack weighed between 500 and 1,000 pounds [227-454 kg]. When such bombs hit the dike directly, they make craters from 20 to 22 feet [6.1 to 6.7 m] deep and about 35 feet [11 m] in diameter (figure 5). But the consequences of bombing are not limited to these craters, which are the most spectacular but not the most serious aspect. The shock caused by explosion of the bomb causes a series of fractures and cracks, over a radius of 50 yards [46 m], which seriously jeopardizes the resistance of the dike. Frequently bombs falling on both sides of the dike, about a hundred feet [30 m] from it, have more dangerous results than holes made in the dike through direct attacks. For the cracks are not all immediately visible; the risk is that they will appear suddenly as a result of pressure from flooding. As a general rule, in order to prevent sudden bursting of a dike as a result of water pressure, or its collapse following what is termed the "fox" phenomenon (water gradually digs a sort of tunnel under the dike, at the point of the crack), one must remove all the earth from places where cracks might have been caused by the explosion of a bomb. It is not enough, therefore, to fill in the craters. A segment of the dike that is three-or four-times larger than the excavation caused by the explosion must also be rebuilt.

During the rainy season, repairing a section of ripped open or cracked dike is difficult work and necessarily imperfect. Actually, the clay-and-sand-mixed silt used for constructing and repairing dikes at that time contains too much water for it to be properly compacted. The repaired sections remain fragile, therefore, and the risk exists that they will give way under the pressure of particularly severe flooding. The closer the bombings took place to the period of approaching high-water, the more dangerous were their effects: on the one hand, the river may immediately rush through the

opening and rapidly widen it; on the other, it becomes more and more difficult to repair the dike with water-soaked earth.

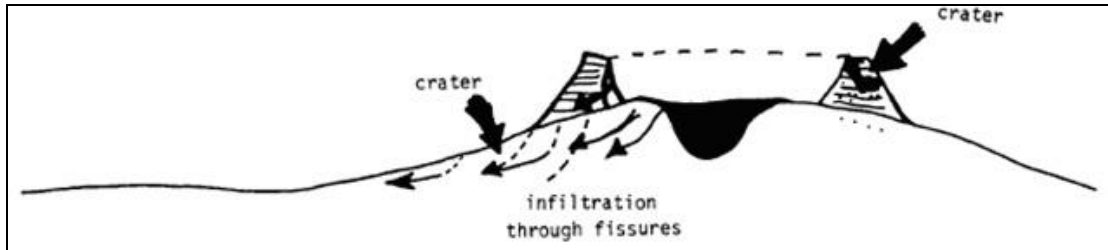


Figure 5

Unlike the bombings carried out against the dikes in 1965, 1966 and 1967 which were interrupted before the heavy rains and high-water, the attacks that began in April 1972 continued not only into July but also through August. Because of this fact, the risk of severe breaks in the dike network remained considerable, in spite of the immense effort made to repair the damage. For not only could the rebuilt sections give way because of fragility, but continuation of the bombing seemed destined to cause irreparable breaks, if one takes into account the high-water. The threat of flooding existed for the greater part of the areas under cultivation (rice is a plant that dies if it is under water longer than four days) and it may be estimated that 1,500,000 to 2,000,000 people could have been drowned in case of a particularly violent water-rise in the lower regions. This estimate corresponds to the prognosis made several years ago by certain American military experts, to the effect that “bombing the North Vietnamese dikes would produce an effect comparable to that of a hydrogen bomb: the entire delta would be flooded, the summer and fall rice crops would be destroyed, and two to three million of the population would die of drowning or of hunger”.

Representations in an Electronic Age: Geography, GIS, and Democracy

John Pickles

1995. In, *Ground Truth: The Social Implications of Geographic Information Systems*.
New York: The Guilford Press, pp. 1-30.¹

The slow, uneven decline of these interlinked certainties, first in Western Europe, later elsewhere, under the impact of economic change, “discourses” (social and scientific), and the development of increasingly rapid communications, drove a harsh wedge between cosmology and history. No surprise then that the search was, so to speak, for a new way of linking fraternity, power, and time meaningfully together. Nothing perhaps more precipitated this search, nor made it more fruitful, than print-capitalism, which made it possible for rapidly growing numbers of people to think about themselves, and to relate themselves to others, in profoundly new ways (Anderson, 1983, 36).

Defining GIS

Defining geographic information systems (GIS) is not a straightforward matter. Even the use of the term “GIS” can be problematic. “GIS” refers to geographic information systems in the plural, yet “GIS” is often used as an acronym for a single system. Some writers choose to refer to “GIS systems,” as a system of systems, while others have resorted to terms like “GISers” to refer to those with some strong commitment to GIS as a disciplinary enterprise.

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GIS itself has a poorly developed archive and virtually no critical history of its own production, a fact recently emphasized by Coppock and Rhind [...]:

A variety of information indicates that the field of GIS has expanded rapidly in recent years and agencies would certainly help. As yet, however, few organizations have given any thought to formalizing the history of their involvement in GIS and at least one major player (Ordnance Survey {...}) has refused to let its detailed records be examined by external researchers (Coppock and Rhind, 1991, 21).

Moreover, the definition of GIS varies depending upon who is giving it, and whatever definition we do give it is likely to change rapidly as digital spatial data and computer graphics spread rapidly into engineering, medical, earth science, design, planning and other fields.

Central to each of these possible definitions is some relational system of spatial information handling and representation. GIS is a special case of information systems in general, in which information is derived from the interpretation of data “which are symbolic representations of features” (Goodchild et al., 1991, 10). The designation GIS is also “frequently applied to geographically oriented computer technology, integrated systems used in substantive applications and, more recently, a new discipline” (Maguire et al., 1991, 12), to the mapping of information using digital technology (Newell and Theriault, 1990, 42), or to any kind of automated geographic data processing (Clarke, 1986).

These competing definitions are reflected in differences in interpretations of the central principles of GIS. Maguire et al. (1991, 13-4) suggests three such undergirding principles: that GIS focuses on the cartographic display of complex information; that GIS is a sophisticated database system; and that GIS is a set of procedures and tools for fostering spatial analysis. However, “the recent origin and rapid rate of progress has not been conducive to the analysis and definition of GIS” (Maguire et al., 1991, 9). Part of the reason for this is said to be the commercial nature of commodity, which leads sellers and developers to produce a “great deal of hyperbole and rhetoric” and to offer conflicting advice and information. Part of the reason has to do with the ways in which GIS has developed within different disciplines and research contexts (in agriculture, botany, computing, business, photogrammetry, geology, zoology, surveying, engineering, and geography), for each of these fields puts its own peculiar stamp on the claims it makes for GIS. Thus, “together these factors (those mentioned above plus others) have conspired to obfuscate an issue which has never really been satisfactorily discussed or analyzed in any detail” (Maguire et al., 1991, 10).

Two of the central defining characteristics of all geographic information systems are the role of digital electronic data and the production of electronic special representations of those data: GIS is a product of computers in particular and of electronic information technology more generally. When we turn to such electronic media, to what objects do we turn? Do we turn to objects themselves, the artificial

neural networks that facilitate data entry, capture, and reproduction? Do we turn to the speed with which new devices allow us to operate and communicate? Do we turn to new forms of representation that are allowed and disseminated by new devices and apparatuses? Or do we turn to new practices that are not intrinsic to the new media, but are permitted and facilitated by them: technologies of the body, of the social, of the economy, by which bureaucratic, business, or military functions (and others) can be extended effectively across new territories with effects that previous technologies did not permit? I think we must admit that in our enthusiasm and confusion, we refer to all of these at once; that is, that (like geographic information systems themselves) the new electronic media produce multiple overlapping effects with which it is analytically and politically difficult to deal.

GIS thus operates at several levels and the term “GIS” refers to several distinct types of object: a research community that transcends disciplinary boundaries; an approach to geographic inquiry and spatial data handling; a series of technologies for collecting, manipulating, and representing spatial information; a way of thinking about spatial data; a commodified object that has monetary potential and value; and a technical tool that has strategic value. Academic developers and users of GIS have a tendency to focus primarily on the technical and organizational issues raised by the use of electronic information and imaging. But because of the high cost of its development and use, GIS has emerged above all as a tool and product that changes the ways certain groups and organizations operate. That is, it is a technology (like all technology to one degree or another) closely tied to the concrete material and ideological needs and interests of certain groups. As such, it is an important element in changing social relations in market economies; in producing new demands, commodities, and forms of domination in the workplace; in developing new systems of counting and recording populations; in defining, delimiting, and mapping space and nature; and in providing new tools and techniques for waging war. In each of these domains GIS is part of a contemporary network of knowledge, ideology, and practice that defines, inscribes, and represents environmental and social patterns within a broader economy of signification that calls forth new ways of thinking, acting, and writing.

Despite this ambiguity and the absence of coherent definition, the development and adoption of these new information and imaging technologies is increasingly being referred to as a revolution – almost Maoist in form – in which new technologies succeed each other in ever shorter periods of time, and as a result of which speed of interactions is increased, unit costs are reduced, and new methods are applied to old (and new) problems. Already “projections for the 1990s indicate that projected the GIS field will grow by as much as 35 to 40 percent, based on projected sales of GIS-related hardware, software, and services” (Huxhold, 1991, 12), and boosters are already proclaiming the emergence of a new profession, the GIS profession. But in this emerging profession the question “Is a geography degree the ticket to GIS success?” (Huxhold, 1991, 20) is posed alongside the questions “What is the GIS profession, what does it take to be a part of it, and what does it pay?” (Huxhold, 1991, 22). As Maguire et al. (1991, 17) point out, “GIS are clearly big news” and “it is not fanciful to

suggest that by the end of the century GIS will be used everyday by everyone in the developed world for routine operations.” What is not yet clear is, what forms of change and what kinds of distortion will result from these patterns of adoption if the discipline strives to retain a central role in [the] emerging “profession”?

GIS is a set of tools, technologies, approaches, and ideas that are vitally embedded in broader transformations of science, society, and culture. These contexts are wide-ranging and as yet little studied in the literature surrounding new mapping and analytical technologies including GIS. But the questions are gradually being raised in the broader contexts of mapping generally (Hall, 1993; Harley, 1990, 1989, 1988a, 1988b; Pickles, 1992b, 1991; Smith, 1992; Wood, 1992), virtual reality (Rheingold, 1992; Wooley, 1992), and cyberspace (Benedikt, 1991; Crary and Kwinter, 1992; Penley and Ross, 1991).

[...]

[The] complex of technologies [electronic media, cyberspace, virtual reality, new disciplinary practices] has been poorly defined within a language and framework that weakly reflects its impacts on issues such as individual autonomy, privacy, access, systems of governance, marketing strategies, and military tactics. We are, that is, entering a potential new phase of ways of *worldmaking* for which we desperately need new ways of *wordmaking* (see, e.g., Luke, 1993; Olsson, 1992; Pred and Watts, 1992; Ronnel, 1989).

The task of definition in this sense is too important to be left only to experts. As GIS enters into the fields of public policy, regional planning, business, the military, and private lives, its effects are wide-ranging and the issues its application raises are important. However, with notable exceptions, such as the resignation from [the United States] Congress in 1987 of Congressman George Brown in protest against the almost exclusive use of satellite technology for reconnaissance purposes and the fact that a ban existed on public discussion of the issue (Barry, 1992, 571), the development and application of GIS have rarely been treated as having serious political and social implications. Moreover, for the most part, GIS users themselves have failed to address these wider contexts of practices and meaning within which their own activities are located.

Thus, it would be wrong to see new informational databases as merely efficient counting machines. The effort that has gone into their development and production signals a broader restructuring of the economy of information within which they are put to use. In this sense, the recent thrust to develop and diffuse institutional and professional foundations for these new technologies and tools also signals the wider instantiation of this new economy of information in society – an economy of accounting, recording, archiving, overlaying, cross-referencing, and mapping information. If we are to seriously engage in disciplinary and social roles played by GIS, it must be contextualized within broader (and in some ways more dynamic and problematic) developments in representational technology generally.

The Technology and Its Possibilities

Insofar as it has enlarged our vision of how data and information can be linked in new and interesting ways, GIS has brought about far-reaching and significant changes within scientific research, public and private agencies, and the disciplinary structure of geography. Like the market-oriented communications and information systems that are currently gaining ground within liberal democracies, GIS technologies and programs of research and teaching are being sold to the geographic profession and to the broader public “on the promise that it will enlarge people’s choices and increase control over their lives, that is, that it will be both liberating and empowering. This emerging order is the product of two major processes: technological innovation and convergence, and ‘privatization’” (Murdock and Golding, 1989, 180).

In *Mapping the Next Millennium: How Computer-Driven Cartography Is Revolutionizing the Face of Science*, Hall (1993, 8) suggests that, fueled by new facts and new systems of instrumentation, we are in the middle of “arguably the greatest explosion in mapping, and perhaps the greatest reconsideration of ‘space’ (in every sense of that word)” since the times of Babylon, and that this redefinition requires a rethinking and broadening of our conceptions of maps and mapping:

With stunningly precise new instruments of measurement developed over the last half century and with the tremendous graphic powers provided by computers over the last two decades, everyone from archaeologists to zoologists has been able to discover, explore, chart, and visualize physical domains so remote and fantastic that the effort involves nothing less than the reinvention of the idiom of geography (Hall, 1993, 4-5).

Part of this redefinition involves the corporation of technically precise methods. These methods encourage concern for the “perfect GIS” in which the base map would be accurate and geodetically correct, data would be available in compatible forms and formats, the GIS would be maintained and current, and all sorts of information – from state boundaries to 3-D models of grocery stores – would be included (Abler, 1993, 132; Keating, 1992, 32). The integration of the technology of accurate location – in this case an integrated GIS/GPS (Global Positioning System) – would permit an improved geography to be developed, a three-dimensional representation (a geography in depth) accurately pegged to the material world around us. The modeling of human and environmental interactions in this new global geography and “global geography machine” will be possible if GIS is tied to GPS, and mapping is rescued to the accurate representation of the materiality of the earth and to the accurate determination of position (Abler, 1993).²

² For a critique of the assumptions behind this view of mapping, see Wood (1992).

Abler's (1993) discussion of GIS/GPS exemplifies the current concern for data and accuracy at the core of data collection and management techniques. But such claims also have the effect of directing the attention of geographers away from the broader field of spatial representations with which the new global imaging systems have already been merged, specifically the world of virtual, not "real," realities. Ted Nelson (1992, 158), in contrast, has argued strongly that "our world becomes increasingly virtual, as its appearance departs more and more from depending on the structure of physical reality." And this notion, it seems to me, captures more effectively the spatiality of GIS – a virtual space of data manipulation and representation whose nominal tie to the earth (through GPS and other measuring devices) is infinitely manipulatable and malleable. The Newtonian world of Abler's GPS/GIS fusion, although technically necessary, seems a skeletal form compared to the virtually chaotic, complex worlds of fractal space, hypertext, and GIS.

In this new world of cartographic experimentation, technology generates its own appropriate concepts of scale:

My approach is to try and get people to *drop* human scale completely. And when they think of something, they go into *that* scale. If you're going to think of galaxies, you've got to be galaxy-like {...} If you don't expand yourself to that scale, I think it's hopeless (Interview with Alan Dressler, Aug. 28, 1989, in Hall, 1992, 5).

Digital spatial data and GIS permit the infinite manipulation of data layers, the construction of an infinite sequencing of new views on the data landscape, new angles of view, multiple overlays, and correlations of spatial data landscapes. Space and data have become fully manipulatable in this virtual environment.

One of the more popular recent expositions of this wider perspective is David Gelernter's (1992) *Mirror Worlds or The Day Software Puts the Universe in a Shoebox ... How It Will Happen and What It Will Mean*. *Mirror Worlds* is a popularized introduction to the goals and visions underpinning the development of virtual worlds, but it provides a useful point from which to view the epistemological assumptions and social claims within this broader field of virtual spatial realities. *Mirror Worlds*

describes an event that will happen someday soon. You will look into a computer screen and see reality. Some part of your world – the town you live in, the company you work for, your school system, the city hospital – will hang there in sharp color image, abstract but recognizable, moving subtly in a thousand places (Gelernter, 1992, 1).

The mirror world of virtual reality and spatial images is a "true-to-life mirror trapped inside a computer – where you can see and grasp it whole" (Gelernter, 1992, 3). These images "engulf some chunk of reality" [...] and the mirror world "reflects the real one" [...]. "Fundamentally these programs are intended to help you *comprehend* the powerful, super-techno-glossy, dangerously complicated and basically indifferent man-

made environments that enmesh you, and that control you to the extent that you don't control them" (Gelernter, 1992, 6).

How is this to happen? How will the "place" of the mirror world permit one to enter, stroll around, and retrieve archival and live-medium information?

The picture you see on your display represents a real physical layout. In a City Mirror World, you see a city map of some kind. Lots of information is superimposed on the map, using words, numbers, colors, dials – the resulting display is dense with data; you are tracking thousands of different values simultaneously. You see traffic density on the streets, delays at the airports, the physically condition of the bridges, the status of markets, the condition of the city's finances, the current agenda at city hall and the board of education, crime conditions on the park, air quality, average bulk cauliflower prices and a huge list of others {...}

This high-level view would represent – if you could achieve it at all – the ultimate and only goal of the *hardware* city model. In the software version, it's merely a starting point. You can dive deeper and explore. Pilot your mouse over to some interesting point and turn the *altitude* knob. You are inside a school, courthouse, hospital, or City Hall. You see a picture like the one at the top level, but here it's all focused on this *one* sub-world, so you can find out what's really going on down here. Meet and chat (electronically) with the local inhabitants, or other Mirror World browsers. You'd like to be informed whenever the zoning board turns its attention to Piffel Street? Whenever the school board finalizes its budget? Leave a software agent behind (Gelernter, 1992, 16-7).

The elaboration of new virtual worlds and spatial images extends our own world and thinking about that world in remarkable ways. In this context, GIS is merely one part of a larger tradition of digital data handling and spatial representation. Part of this wider tradition includes multimedia and hypertext. Mark Poster (1990) has perhaps provided the most thorough theorization of the new revolution in visualization brought about by new electronic information systems, but it is in the work of G. P. Landow (1992) that poststructuralist ideas are brought directly to bear on an interpretation of multimedia and hypertext. For Landow, critical social theory promises a way of theorizing hypertext, and hypertext embodies and tests theories of textuality, narratives, margins, intertextuality, and the roles and functions of readers and writers. In Roland Barthes's term, hypertext produces "writerly" texts that do not dominate the reader and insist on particular readings, but instead engage the reader as an "author" and insist upon the openness and intertextuality of the text – that is, its openness to other texts and readings.

When designers of computer software examine pages of *Glas* or *Of Grammatology*, they encounter a digitalized, hypertextual Derrida; and when literary theorists examine *Literary Machines*, they encounter a deconstructionist or poststructuralist Nelson. These shocks of recognition can occur because over the past several decades literary theory and computer hypertext, apparently unconnected areas of inquiry, have increasingly converged (Landow, 1992, 2).

Such information-handling and imaging technologies place the visual at the very center of the known, and raise important questions about the nature of the image. As Walter Benjamin (1968, 233-4) has shown us, there are important differences between the image produced by the camera and the image produced by the painter:

The painter maintains in his work a natural distance from reality, that cameraman penetrates deeply into its web. There is a tremendous difference between the pictures they obtain. That of the painter is a total one; that of the cameraman consists of multiple fragments which are assembled under the new law.

With the emergence of spatial digital data, computer graphic representation, and virtual reality, the law has changed again. The principle of intertextuality common to both hypertext and GIS directs our attention to the multiple fragments, multiple views, and layers that are assembled under the new laws of ordering and reordering made possible by the microprocessor. Some have even suggested that virtual reality signals the end of photography as evidence for anything, or that virtual representations will produce illusions that will be so powerful it will not be possible to tell what is real and what is not real.

Such claims are deeply disturbing and at root problematic. Nonetheless, GIS and informatics do open virtual spaces for “real” social interaction, new communities of dialogue, and new interactive settings for which we currently have only poor language and no architecture. The electronic airways are, in this view, interpreted to be foundational for the reemergence of a civic culture, a community of dialogue, and a global village. They are also the potential source of new powers for marginalized groups to whom traditional media have been inaccessible. In this view, the electronic airways and systems of informatics provide a potential source of counter-hegemonic social action, and GIS – as a specific form of data handling and imaging – offers a diverse array of practical possibilities. In both cases (the resurgence of civic culture and the potential for counter-hegemonic action) informatics are seen as a potential liberator of socially and politically marginalized groups, and thus a source of democratizing power for these newly networked groups. If information is power in this sense, and if community is built through dialogue, then information permits both to emerge for those who would otherwise have no voice and no space for collective action.

Uses of communication systems for politically progressive purposes and for the defense of speech against totalitarianism have recently taken on a character of mythic proportions, as users extol the progressive uses of fax machines by students in China during the 1989 Democracy Movement, or the use of e-mail by those opposed to the coup against Gorbachev to maintain contact with each other and the outside world (Penley and Ross, 1991, viii). Like Pancho Villa, who captured the trains and used them to attack government troops and gain access to the very heart of the cities during the Mexican Revolution, new informatic democrats and revolutionaries are eulogized as examples of progressive power, and as counterexamples to the more widespread business, state, and military uses of the technology.

Even though the funding for research and development of the hardware and software used in GIS and other imaging systems has come primarily from business, state, and military sources, advocates of the progressive potential of information and imaging technologies argue that access is hard to deny, networks are quite difficult to control information is readily accessible and used by individuals and groups with limited budgets and expertise, and the ability to use the technology in depth permits groups like environmental organizations to counter claims by polluters about their environmental impacts, by developers about likely effects on groundwater, and so on. In this view, GIS enables communities to make better decisions by providing access to more and better information. It provides more powerful tools for local planning agencies; it offers exciting possibilities for data coordination, access, and exchange; and it permits more efficient allocation of resources and a more open rational decision-making process.³

Epistemological Inertia and the New Imperial Geography

It is not fanciful to suggest that by the end of the century GIS will be used everyday by everyone in the developed world for routine operations (Maguire et al., 1991, 15).

The discussion in the previous section detailed elements of a socially and critically engaged role for GIS. It is built largely on the claims of proponents of GIS and informatics generally about the possibilities inherent in the technology and/or the use of the technology. Not all geographers have been happy to accept any of these claims made by GIS users, and in this section I ask whether such claims are sustainable given questions about the underlying assumptions, ontology, and politics of GIS and its use. If we determine that all these claims are not sustainable, do we know what a critical use of GIS and imaging technologies would require? If the claims between GIS

³ Of course, all these matters are contingent on the types of regulatory framework that emerge to govern development, property rights, access, and so on.

users can be sustained, what should be the relationship between GIS and critical science, and what effect would such a situation create for critical studies of geography, particularly in those branches of the discipline (and of many other disciplines) where “the positivist assumptions embraced by GIS have long since been jettisoned” (Lake, 1993, 404)? Can we transform GIS and other imaging technologies to make them compatible with the premises and commitments of critical science? Or can we rethink our understanding of the new information and imaging systems in ways that will allow their productive potential to be deployed in new ways?

The self-understanding of GIS itself can be readily observed in the two-volume *Geographical Information Systems* (Maguire et al., 1991). This publication – the most thorough synthesis and analysis of GIS to date – is a vast compendium of the history, principles, tools, and methods of GIS: an encyclopedia and handbook for GIS, a marker of the state of the field at the present time, and a workbook for teachers and student to deepen their awareness of the field. Maguire et al.’s text provides the first solid support for the claim that GIS is entering into a new phase and approaching the possibility of creating a separate discipline – a claim made by the editors of the book (particularly in the Introduction) and boosters within the commercial sphere (such as *GPS World*). Indeed, the work reflects the emergence of strong research agendas within GIS over the past two decades, as well as the close integration of academics, public, and commercial developers and users of GIS.

This book is also a marker of another aspect of disciplinary history. It is perhaps the most comprehensive statement to date of a branch of geographic scholarship that has systematically pursued a vision of the geographic, with an epistemology and belief in method quite different from that pursued by large parts of the rest of the discipline. While within geography and the social sciences generally the period from the 1960s to the 1990s saw the emergence of new paths and principles, which – from the critique of objectivist science in the 1970s to the impacts of postmodernism and poststructuralism in the 1990s – have transformed the central questions and approaches of the discipline, the epistemology and method that underpins GIS emerged in the 1960s under the auspices of positivist and empiricist versions of science and reemerged as a result of the collaboration between, and a revitalization of, spatial analysis, cybernetics, and computer developments of the 1970s.

Taylor’s (1990, 211-2) trenchant critique of GIs as the new imperialist geography suggests that GIS has emerged as a two-part strategy on the part of unreconstructed “quantifiers” who have “bypassed” the critiques levied against the empiricism of spatial analysis, and at the same time have captures the rhetorical high ground of a progressive modernism (or naïve postindustrialism) by readily accepting the switch from knowledge to information:

Knowledge is about ideas, about putting ideas together into integrated systems of thought we call disciplines. Information is about facts, about separating out a particular feature of a situation and recording it as an autonomous observation {...}. The positivist's revenge has been to retreat to information and leave their knowledge problems – and their opponents – stranded on a foreign shore. But the result has been a return of the very worst sort of positivism, a most naïve empiricism (Taylor, 1990, 211-2).

In this (re)turn the geographical is defined as the study of anything that is spatial⁴:

GIS is a technological package that can treat any systemic collection of facts that are individually identified spatially. These facts may be medical statistics, remote-sensing images, crime files, land-use data, population registers or whatever. In terms of the package, spatial patterns can be produced irrespective of what the information is about {...}. Such quantifiers can be produced a maverick geography dealing with crime one week, bronchitis the next, and so on (Taylor, 1990, 212).

The colonizing aspirations of such claims and such an approach are – as Taylor points out – transparent. Many GIS users undoubtedly see these claims as exaggerated at best and false at worst, or, as Openshaw (1991) has argued, they represent reductionist assertions and derogatory and confrontational language, “knockabout stuff” that emerges from a reactionary desire to protect a particular system of order and power. Thus, for Openshaw, the crisis to which Taylor points is redefined as “contrived” and should be replaced by a notion of “creative tensions” between at times complimentary, at times competing, but equally productive, intellectual projects. Openshaw [...] describes the possibilities of GIS:

A geographer of the impending new order may well be able to analyze river networks on Mars on Monday, study cancer in Bristol on Tuesday, map the underclass of London on Wednesday, analyze groundwater flow in the Amazon basin on Friday. What of it? Indeed, this is only the beginning (Openshaw, 1991, 624).

According to Openshaw [...], this new-order geography needs GIS in order to “put the pieces of geography back together again to form a coherent scientific discipline.” He continues:

It would appear then that GIS can provide an information system domain within which virtually all of geography can be performed. GIS

⁴ For the critique of paradigmatic thinking and an argument for post-paradigmatic science, see Pickles and Watts (1992).

emphasizes an holistic view of geography that is broad enough to encompass nearly all geographers and all of geography. At the same time it would offer a means of creating a new scientific look to geography, and confer upon the subject a degree of currency and relevancy that has, arguably, been missing (Openshaw, 1991, 626).

This imperialist, reductionist, and technicist view of GIS (and geography) is further illustrated in Martin's (1991) *Geographic Information Systems and Their Socioeconomic Applications*.⁵ The book is important because it is one of the few to explicitly address the role of GIS in socioeconomic applications, and because it does so explicitly from an understanding of GIS as a spatial analytic and applied science. Martin begins with a discussion of the absence of any clear theoretical structure guiding the developments of GIS, and argues that "to an outsider GIS research appears as a mass of relatively uncoordinated material with no core theory or organizing principles" (Martin, 1991, 44). In order to overcome this absence of theoretical work, Martin defines "spatial data" and "geographic data" by using definitions developed for spatial analysis in Abler, Adams, and Gould's 1971 volume *Spatial Organization of Society*: "spatial data" is a general term used to refer to measurements that relate objects existing in space at any scale, and "geographical" data is a term used to refer to data relating to objects in the range of architectural up to global scales. Geography is the analysis of objects and patterns in space (not, coincidentally, exactly the subject matter of GIS), or as Martin (1991, 45) says, quoting Abler et al. (1971), "Almost any substantive problem a geographer tackles can be fruitfully considered as a problem of describing accurately and explaining satisfactorily the spatial structure of a distribution." Martin builds upon and revitalizes – as the basis for a theory of GIS – these theoretical concepts of space and geography, but he does so in a way that they remain disengaged from any consideration of the broader discussions and theoretical debates that have transformed the discipline in the past 20 years, and even from those efforts that sought to rethink concepts of space within spatial analysis (see, e.g., Gatrell, 1983). These debates about the nature of space, spatial objects, and what constitutes geographical objects [is] ignored here in the interest of reconfiguring "theories of GIS" in terms of purely abstract spatial objects and the relations between them.

Representing the natural and social world is, in this view, only a technical problem: analog models or real maps of the real world provide a model that is "an 'accurate' representation of the world and ... embodies the spatial relationships necessary for the solution of any particular problem" (Martin, 1991, 48). In an attempt to ground the special category of representation that deals with socioeconomic phenomena, Martin turns to the theory of maps and lays out the traditional cartographic model of the relationship between the real world and the map as a model of the real world. In this model, "the cartographer's task is to devise the very best

⁵ This discussion of Martin is based on Pickles (1992a).

approximation to an ‘ideal’ transformation involving the minimum information loss” (Martin, 1991, 45).⁶ In struggling with the problem of representation, Martin resolves the matter by recourse of a traditional positivist interpretation of maps, in which the relationship between reality and image is an unproblematic one of representation, and error is merely a result of lack of technical skill or unintentional distortion (for a wider discussion of this model of cartography, see Pickles, 1992b). The result is a book that represents (in spite of its clarity and careful definition, among other strengths) the kind of theory of GIS that leads geographers to argue that GIS can be seen as a form of unreconstructed (or only partially reconstructed) spatial analysis operating with the assumption derived from a positivist tradition. Its concepts and epistemology of space, objects, and reality are taken directly from the spatial analytic tradition. Martin argues for a straightforward observer epistemology and a view of theory as definition. To this spatial analytic tradition are added computers, power, and flexibility. But many of the old problems remain. This is reflected in Martin’s conception of the socioeconomic application for which GIS is particularly well suited:

Unlike a road intersection of a mountain summit, we are rarely able to define the location of an individual simply by giving their map reference. This has far-reaching implications: socioeconomic phenomena such as ill health, affluence, and political opinion undoubtedly vary between different localities, but we cannot precisely define the locations of the individual which make up the chronically sick, the affluent or the *politically militant*. If GIS are to be used to store and manipulate such data, it is crucial that much care is given to ensuring that the data models used are an acceptable reflection of the real world phenomena (Martin, 1991, 5, emphasis added).

GIS may become invaluable to the efficient functioning of organizations (Martin, 1991, 40).

The growth of these data and their use in relation to socioeconomic phenomena has become known as “geodemography.” Many organizations, including health authorities, retailers, and direct-mail

⁶ Several conceptions of representation and reality underpin this understanding of “socioeconomic applications.” GIS is concerned with the representation of spatial data. Such representational practices are made distinct by the “ways in which data are organized in GIS to provide a flexible model of the real world” [...]. These new computer-generated representations – “virtual maps” – are distinct from “real maps” in that they offer a greater degree of flexibility [...]. Martin does stress the filtering effect of this representational act, suggesting that all remotely sensed images are but poor representations of the real world [...], and that classification systems may bear little relationship “to the ‘real world’ classes of land cover which we hope to discover” [...]. The “real” here is that which is naturally given in unmediated form: a land surface to be captured as a raw image to be classified [...]. The task of the GIS user is to represent and manipulate a model of geographic reality as accurately as possible (Martin, 1991, 8, 13, 21-3, 27).

agencies have become very interested both in the description of geographic locations in terms of their socioeconomic characteristics, and the identification of localities containing people of specific socioeconomic profiles (e.g., poor health, high disposable income, etc.) (Martin, 1991, 41).

The prospect of socioeconomic application of GIS permitting efficiently functioning organizations such as insurance companies to develop “geodemographical” insurance rate schedules based on identification of zones and localities of risk, the targeting of civil rights groups (the “politically militant”) for particular police or vigilante attention, or the extension of direct-mail solicitation to exact market targeting based on recorded purchasing and general expenditure records (already a reality, of course), seem actually to be applauded in Martin’s eagerness to “sell” to the reader the potential socioeconomic applications of GIS. Martin takes as unproblematic what has become naturalized practice within the GIS community. Thus, for example it is difficult to distinguish between the unabashedly boosterist claims of the academic Martin from the unabashedly boosterist claims of the business authors in the October 1991 issue of *GIS World* which lauded the role of “GIS in Business” (Francica, 1991; Maffini, 1991) with fluffy articles dealing with socioeconomic applications ranging from real estate, energy delivery, agribusiness, tourism, and communications (Dangermond, 1991), to the insurance industry (Runnel, 1991), to retailing (Moloney and Dellavedova, 1991), to market areas analysis for car dealerships (Clark, 1991), to fleet management (Barry, 1991), to delivery services (Heivly, 1991), to direct marketing (Moncla and McConnell, 1991; Cook and Plumer, 1991), to telecommunications (Gusso and Lasala, 1991), to fast food location strategies (Kirchner and Thomas, 1991).

In writings concerned with the spatial and economic applications of GIS the absences and silences are particularly instructive. Whole domains of praxis within which GIS might make some contribution are elided, and Martin (and much GIS) remains silent about them. Instead, the gaze of the strategic planner, the commercial manager, or the military strategist is presented as an appropriate application – this is the kind of technocratic myopia that led Gunnar Olsson from 1972 on to charge that spatial analysis was an inherently conservative form of analysis (Olsson, 1974, 1972). In this myopic vision, there is rarely room for insurgent GIS, or for GIS socioeconomic applications other than those that permit us to gain greater levels of clarity and control over the social and economic domain.

Moreover, Martin (as do many others writing about GIS) fails to ask questions about current trajectory of GIS research and practice. No attention is given to the question of the scale and cost of technology and its relation to the specific types of socioeconomic application. No reference is made to the growing amount of Third World literature on pc-based GIS for local action groups, or the use of computerized databases to monitor and control polluting state enterprises in centrally planned economics, or to the flourishing of disparate efforts by progressive GIS users to develop networks of local, small-scale systems to provide information that challenges

corporate and statist interest that Martin seems to see as major users of “socioeconomic applications.”

Martin’s book typifies a strong thread in the emergence of GIS as a disciplinary discourse and social practice. The book represents only an implicit and indirect picture of the representational economy emerging within the contemporary GIS and its relationship with an economy of control. In this economy, socioeconomic applications are aimed at organizational efficiency and control of geographic territory (be it the jurisdiction of a health, police, or military authority, or the market area of retailers or direct marketing agencies). Implicit is the view that if data and technology availability permit the manipulation of spatial data for particular ends, then the ends themselves are justified (or of no concern to the geographer). Missing is any analysis of the ethical and political questions that emerge as GIS institutions and practices are extended into socioeconomic domains. That Martin’s book is intended to be a text on the socioeconomic applications of GIS for students and GIS users (like the bulk of texts dealing with GIS), but lacks any treatment of ethical, economic, and political issues, raises serious questions about the possibility for the emergence of critically and socially responsible behavior within the particular episteme and its associated practices.

Like Martin, GIS authors more generally have grounded their analyses in terms of value-neutral observation, science as the mirror of reality, and theory and the product of data collection and testing, and have not chosen to engage in disciplinary and social theoretic debates of the past two decades that address the intellectual, social, political, and technological impacts of this form of instrumental action. In speaking about planning and applied geography, Robert Lake (1993) explicitly ties the development of GIS to this “resurrection” of a rational model of planning and a positivist epistemology:

The unrelenting embrace of the rational model by planning and applied geography is not adequately described merely in terms of the tenacity and inertia of convenient and familiar practices. The rational model has been actively resurrected and rehabilitated by the ascendance of Geographic Information Systems to a position near or at the core of both planning and geography (Lake, 1993, 404).

Lake’s claims that positivist epistemologies have been resurrected and rehabilitated can, I think, be sharpened even further. While it is certainly the case that many critical theorists in geography see in GIS a rehabilitation of positivist epistemology, from a different perspective it is clear that positivism was never forsworn, nor was the critique of positivism seriously engaged by GIS scholars. Empiricist and positivist assumptions continued to ground spatial analytic work throughout the 1970s and 1980s, and they were not seriously challenged either by the turn of behaviorist and behavioral geographies in the 1970s or by the turn away from analytic traditions toward humanism and subjectivist epistemologies in the 1980s (see Pickles, 1985, 1986). Instead of a thorough engagement with the epistemological debates that emerged in the

social sciences in the 1970s and 1980s, or with the linguistic turn in the 1980s, geographers working in the field of GIS merely sidestepped into the research tradition of artificial intelligence, whose heritage of cognitive simulation and semantic information processing provided a compatible intellectual and professional home for work on automated cartography and GIS software.⁷

From this perspective, it becomes clearer why Lake's (1993, 405) review of the literature finds few publications on the part of GIS proponents that consider the epistemological, political, and ethical critiques of positivism, or any serious engagement with what he terms the "fundamental disjuncture growing at the core of the disciplines." That disjuncture is perhaps even more severe than Lake suggests. Such attempts to ground geographic research methods (and for Openshaw, 1992, to ground geography as such) in automated data handling seem to many GIS critics strangely distanced from contemporary theoretical debates about geographical method, epistemology, and ontology. In the 1980s, human geography developed strong critiques of the reductionist ontology of spatialism and turned to questions of contextual knowledge; contingency and necessity; society, space, and nature; the (social/political/gendered) construction of space; and the production of scale – each of which in various ways problematized the dominance of natural science methodology in the study of social phenomena, and raised questions about the underlying ontology of objects, location, and application on which spatial analysis was predicated. Lake's disjunction is, in this sense, grounded in a fundamental epistemological divide between positivists and postpositivists [between those that think human knowledge is founded on certainty and those that think of it as based on conjecture], between Kantians [those who follow the theories of Kant] and those who heeded the extended debates generated by the linguistic turn and the interpretive turn, and – as Derrida has coined it – between those whose feet are firmly planted in the soil of logocentrism [western cultural ways of understanding] and the metaphysics of presence, and those who have taken on board the implications of the critique of logocentrism and ontotheology [belief in existence of original being without need of experience]. The former claim to stand on the critical tradition of empirical science, while the latter calls for a critical theory that engages the logic of limits, the marginal, and the liminal [intermediate, transitional]; that overturns many of the epistemological assumptions on which such a science can be built, and that locates a new understanding of power at the heart of claims to knowledge (Derrida, 1976; Norris, 1987).

Perhaps more troubling is the likelihood that consideration of these issues will be even further obscured by the popular momentum, technological complexity, and sheer scale of financial investments represented by the ascendancy of GIS. Once that investments is made,

⁷ See Dreyfus (1992) for critical reflections on this issue, Fontaine (1992) for an uncritical example, and Dobson (1993, 1983), Pickles (1993), and Sheppard (1993) for reflections on this issue in geography.

the focus is more likely to turn to expanding applications that to reconsidering philosophical foundations (Lake, 1993, 405).

Brian Harley, (1990, 8) has made exactly this point in his review of contemporary computer cartography: “We can glimpse here that unconscious process of myth-making, though which the invention of a progressivist positivist past is used to justify a progressive positivist present.”

From Saber-Rattling to Engagement

The essence of technology is by no means anything technological. Thus we shall never experience our relationship to the essence of technology so long as we merely conceive and push forward the technological, put up with it, or evade it. Everywhere we remain unfree and chained to technology, whether we passionately affirm or deny it. But we are delivered over to it in the worst possible way when we regard it as something neutral; for this conception of it, to which today we particularly like to do homage, makes us utterly blind to the essence of technology (Heidegger, 1977, 4).

GIS technology has, from its early days, been big business. Currently it is huge business, and the scale and scope of this business is not hidden in the market place. The power of data handling now means that GIS and related data handling and imaging systems have become central elements in demographic and infrastructural accounting systems; international, national, and regional monitoring and management projects, business organizations, design activities; and military weapon and strategic planning. Since electronic information technologies provide more information and faster access across broader spans of space, they are presumed to be technologies that are liberating. Such a mythos of public benefit accruing from the *ability* to gain access to new and broader forms of data, and to represent this data spatially in a wide array of images, has been instrumental in the adoption of the new telematics within universities, planning agencies, environmental bodies, and the corporate and business world.

Given these goals, why is it that parts of the geographic profession display such distrust of the developments in GIS and remain skeptical about the motives, potential value, and political consequences of its adoption?

If the modernizing impulse of electronic technology is interpreted by some as liberating – as creating new opportunities for civil society to forge “communities” of correspondence, such as through the emergence of computerized e-mail networks and bulletin boards within universities and large corporations – others are more sanguine about the rationalizing effects of such modernizing technologies. The new systems of knowledge engineering raise many questions about freedom, civil society, and

democratic practice, whether, for example, from a Marxian analysis of the differential impacts of technology adoption across race, class, and gender, a Weberian interpretation of technological modernization as part of a broader rationalization of social life, a Habermasian critique of instrumental rationality and the colonization of the lifeworld, or a Foucaultian account of the normalizing effects of new power/knowledge practices embedded in the discursive and nondiscursive practices of computerization.

As Hall (1993, 369) reminds us, “Reading a map represents a profound act of faith. Faith in the mapmaker, in technologies of measurement, (and the science that underlies them), in the idea of the map – space in what we like to call the real world.” Yet the map and map-maker have often been implicated in profound acts of betrayal:

With centuries of distance and historical hindsight, we can see that error and bias, exploitation and colonialism, self-serving centrism and ecological harm can so easily be read into the subsoil of old maps and that they may as well be listed with symbols and explained in the legend [...].

It would be foolish to ascribe that unspeakable tragedy (the Great Dying of the New World brought about by Spanish conquest) ... to the maps that chartered the New World; but it would be equally foolish to ignore the intricate weave of social and cultural nerves that connect discovery, exploration, and mapmaking. The map is the game board upon which human destinies are played out, where winning or losing determines the survival of ideas, cultures, and sometimes entire civilizations (Hall, 1993, 370-1).

Hall (1993) is refreshingly clear-sighted about the exciting possibilities of new maps and their inherent dangers:

Every map presages some form of exploitation {...}. Geopolitics, after all, is impossible without a cartographer, and that exercise of control over a distinct domain marks a watershed in political power, confirming the notion that maps are not merely pictures of the world, but depictions of a world that can be shaped, manipulated, acted upon [...].

Map historian J. B. Harley refers to cartography as the “science of princes,” and it is a characterization that applies to modern mapmakers as well. From the expenditures financed by Spain and Portugal in the fifteenth century to experiments sponsored by the National Science Foundation last year, there exists a tradition of what might be called “mercenary geographers.” In the context of contemporary science, the term strikes the ear harshly; but in the context of the history of exploration and mapping, there is compelling and overwhelming evidence that “explorers,” terrestrial and intellectual, must align their

professional and personal ambitions with wealthy and powerful nations, which can afford the expeditions (or, in the modern analogue/idiom, the “experiments”) that chart and stake a claim to new territories (Hall, 1993, 383-4).

Thus, Hall (1993, 387) asks, “Can we acquire modern map knowledge without ... inventing and committing new, equally modern and unimagined cruelties?”

This question becomes even more pertinent with electronic systems of representation (such as GIS), where the pace and the scope of adoption, and the at times unsavory uses to which the information and technology has been put (and for which it was, in part, developed), have encourages only limited challenges to instrumental conceptions of the role of GIS in society (see, e.g., Pickles, 1991; Smith, 1992; O’Tuathail, 1993). But, as GIS has become – along with hypertext, multimedia, and other complex, multilevel computer database and imaging systems – an element in the extension of accounting systems and the servicing of new needs and responsibilities on the part of public and private agencies, it becomes crucial to ask how these technologies impact on the ways in which people interact with one another.

Despite the apparently pressing nature of these issues, discussion of the social impacts of GIS has been limited mainly to an internal analysis of technique and practice. Little external evaluation and critique has been developed. Where this has occurred, the heat and emotion surrounding issues of reallocation of funding, redirection of teaching and research programs, and competition between GIS and other areas of the discipline have tended to result in angry polemic, instead of thoughtful, strong theoretical engagement.⁸ Of course, since the personal, institutional, and social stakes are high, this is not unexpected. The development and adoption of new information technologies, and the rise of new ways of doing things, do not occur without struggle. Each new technology, insofar as it was widely adopted, must be situated within existing norms, practices, and discourses, or new norms, practices, and discourses must be created. This is no less true for the electronic media of remote surveillance and multiscale mapping technologies that lie at the core of GIS.

The discussion of GIS in geography seems to have taken one of two tacks. Either GIS is interpreted from within the ranks of the practice itself, in which case interpretations reflect a concern for questions of methods and technique. Or geographers have become advocates of GIS – the new “space cadets.” Yet many seem unwilling to discuss the destabilizing effects of GIS of even the most pertinent recent debates about the sociospatial dialectic, power/knowledge, and the constitution of social and political subjects. Instead, much discussion takes the form of unreflective GIS advocacy and an almost unevangelical need to proselytize about the geographical nature of GIS. Objectivist epistemology and a pragmatic politics combine to reject any

⁸ See the polemics in Openshaw (1992, 1991) and Taylor and Overton (1991).

broader theorization of the consequences of this form of knowledge production and management.

In what ways can a social theoretic understanding transcend these polar positions, and how we can speak about this technology without presupposing the ontological and epistemological assumptions on which GIS is founded? [...] [T]he question is not only about the internal possibilities and constraints of GIS, but about the reconfigurations of social, economic, political, and disciplinary life that the emergence of electronic technologies like GIS are creating. However, one of the central difficulties in developing a critical social theory of GIS is the refusal of GIS users to distinguish between empirical and technical claims about objects, practices, and institutions, and the discourses within which particular claims about objects, practices, and institutions, and particular claims to truth, are made. That is, concepts, practices, and institutional linkages remain largely unproblematicized, naturalized as normal and reasonable ways of thinking and acting.

The language in use in GIS itself is instructive. In the words of GIS exponents and practitioners the new electronic technologies permit the rapid and extensive *surveying of new and more complete sets of data* at great *speed*, decreasing cost, and greater *efficiency*. The *technological* changes that make these *advances* possible also permit the *standardization* and *manipulation* of a variety of discrete data sets to *yield* new *spatially specific* sets of information that can be *codified*, and even *commodified*. This *control technology* and *knowledge engineering* require special *skills, knowledge, and training*. The *output* is in great *demand*, students can find good *jobs*, and government, military, and business *applications* provide challenges for the university researcher.

These claims are made, however, in the almost total absence of any wider context of theorizing the changes in technology and social relations, of epistemology and theories of sciences, or of the processes of the production, representation, and dissemination of information within which these processes operate. As Foucault (1980) has so clearly demonstrated, the techniques of the human sciences have arisen in conjunction with specific practices in the broader society:

In a society such as ours, but basically in any society, there are manifold relations of power which permeate, characterize, and constitute the social body, and these relations of power cannot themselves be established, consolidated, nor implemented without the production, accumulation, circulation and functioning of a discourse. There can be no exercise of power without a certain economy of discourses of truth which operates thorough and on the basis of this association. We are subjected to the production of truths through power and we cannot exercise power except through the production of truth (Foucault, 1980, 93).

The task of a critical genealogy of power is to clarify the detailed practices that constitute the “history of the present,” and to provide accounts of the emergence of new modalities of power (Fraser, 1989, 17).

GIS is just one of these new complexes of discourse, practice, and institutional ensemble, among many others, effecting changes in the modalities of power. As a cultural practice, instituted historically, its forms and effects are consequently contingent, ungrounded except in terms of other, prior, contingent historically instituted practices. In this sense, power is as much about the possibilities of modernization – the ways in which identity and differences are constituted – as about the exercise of influence and the formation of new iron cages. As social relations and new subjectivities are embodied, we need to ask how such identities are sustained, how power flows through the capillaries of society in particular settings, and what role new technologies of the self and of society play in this circulation of power. Foucault would have understood well our contemporary fascination with GIS, its “technologies of surveillance,” forms of knowledge engineering, and commitment to the categorizing and normalizing of nature and social life.

In *The Consequences of Modernity* Giddens (1990) raised the question of modernity and trust: As more and more people live in situations in which they interact with disembodied institutions, their local practices are mediated by globalizing social relations, and their daily contacts are increasingly mediated by automated and computerized operations (the bank teller machine, automatic telephone answering machines, camera operated security systems, etc.); *facework commitments*, [...] “sustained by or expressed in social connections established in circumstances of copresence” [...] are replaced by *faceless commitments* [...] which depend upon “the development of faith in symbolic tokens or expert systems” [Giddens, 1990, 80] or abstract systems [...]. The shifting balance between facework and faceless commitments and contacts is also a recomposition of the rules and practices that constitute social behavior. Thus, for example, the complex skills required to maintain civil inattention (the form of encounter that takes place between strangers in a community) are replaced by alternative systems of encounter, such as forms of uncivil inattention like the hate stare. The possibilities for deep-seated changes in the nature of social life are very real in such abstract systems where the nature of trust and interaction change.

Conclusion

What, in a positive sense, made the new communities imaginable was a half-fortuitous, but explosive, interaction between a system of production and productive relations (capitalism), a technology of communications (print), and the fatality of human linguistic diversity (Anderson, 1983, 43).

In the debate about the nature, uses, and impacts of GIS in the hypermodern world of generalized information and communication, geographers have adopted a relatively limited range of critical positions. For many, GIS represents a reassertion of instrumental reason in a discipline that has fought hard to rid itself of notions of space as the dead and the inert, and, as Soja (1989) has argued, to reassert a critical understanding of the socioeconomic dialectic. For yet others, the debate about GIS is a nonissue (Clark, 1992). As I hope I have begun to show [...], the emergence of GIS as both a disciplinary practice and a socially embedded technology represents an important change in the way in which the geographical is being conceptualized, represented, and materialized in the built environment. As both a system for information processing and for the creation and manipulation of spatial images, and as a technology which is diffusing rapidly through the apparatuses of the state and the organs of business, GIS requires a critical theory reflecting sustained interrogation of the ways in which the use of technology and its products reconfigure broader patterns of cultural, economic, or political relations, and how, in so doing, they contribute to the emergence of new geographies.

Along with the important critical task of assessing the impacts of GIS as tool, technology, and social relation, I have also tried to show how we need to think more seriously about the transformative possibilities that GIS offers. In regards to parallel developments in cyberspace, Heim (1992, 59) has argued that “cyberspace is more than a breakthrough in electronic media or in computers interface design. With its virtual environments and simulated worlds, cyberspace is a ... tool for examining our very sense of reality.” Whether and how this tool for manipulating and understanding both our world and our sense of the world is used, depends at least in part on the conceptual tools, critical frameworks, and linguistic codes we choose to mobilize by way of response.

[...]

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Trouble in the Heartland: GIS and Its Critics in the 1990s

Nadine Schuurman

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If we could bring ourselves to accept the fact that no theory about the nature of Man or Society or Rationality, or anything else, is going to synthesize Nietzsche with Marx or Heidegger with Habermas, we could begin to think of the relation between writers on autonomy and writers on justice as being like the relation between two kinds of tools – as little in need of synthesis as are paintbrushes and crowbars ... Both are right, but there is no way to make both speak a single language (Rorty, 1989, xiv).

It's funny how old (and tiresome?) debates in geography never die, they just find new battlefields (Walton, 1995, 6).

In geography, the most guarded territory is not the earth but disciplinary methodologies and, by implication, the lenses through which the earth is viewed. The introduction of GIS has done nothing to mitigate these divisions. When human and cultural geographers first turned their attention to GIS, they sparked a debate, and subsequent discussions about the merits of GIS have permeated the culture of geography. Certainly, the controversies escaped the notice of very few people in the discipline. As a result, they have begun to stand in for broader disciplinary debates over methods and epistemology. Given that different people picked up the debate at various times and others heard about it second or third hand, it is worth reviewing them precisely because debates about GIS have had effects on the discipline of

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geography *as well as* the way we do GIS. The history of these exchanges informs and shapes the culture of our discipline.

I begin by delineating the battle lines of a broader arena – the so-called *science wars*. Sociological studies of science and technology predate discord about GIS. Tensions between scientists and critics from sociology are an expression of differing approaches to the study of the physical and social world. Though positions along similar lines are found in debates in geography, discussions over GIS are unique to the discipline. I have organized these critiques and their responses from GIS practitioners into three *waves* or periods, each distinguished by shifts in strategies and motivation on the part of critics. The first wave, from 1990 to 1994, was distinguished by the animosity of debate. Despite overt disciplinary hostility, a number of GIS researchers did engage in these discussions and a dialog of sorts resulted. By the middle of the decade, however, the ranks of critics had increased while defenses from GIS had tapered off. A few GIS scholars welcomed the intervention and felt the critiques expressed critical shortcomings of GIS (Poiker, pers. interview, 1997; Harvey and Chrisman, 1998). Others were disturbed by the clear lack of understanding of GIS exhibited by critics (Openshaw, 1991; Clarke, pers. interview, 1998; Marble, pers. interview, 1998). At the same time, a number of critics and GIS researchers had begun to work together on NCGIA Initiative 19. Critics were drawn into the upper echelons of GIS research, and the present era of increased co-operation between critics and the GIS community was initiated. In the final section, I discuss the possibilities and realities of effective intervention between sectors of the discipline.

Contextualizing Discord in Geography

Debates in geography are neither restricted to nor indigenous to the discipline. A brief detour to outline salient points of the recent and controversial science wars is warranted on two accounts. The first is that there are parallels between discord in geography and the science wars, especially with regard to divisions between scientists and social scientists. More importantly, there are notable differences between the two arenas and, unless these discrepancies are identified, a tendency not to differentiate prevails. This does a disservice to both sides in the debates over GIS. For the critics, it trivializes their criticism by assuming that they are repeating axioms from science and technology studies (STS). It also fails to recognize that many STS researchers focus on fields other than their own. In STS, sociologists study and critique physics or biology. In geography, however, critics have turned their attention to their own field, an area in which they have considerably more stake (Curry, pers. comm.). Thus, homogenizing geography debates with the science wars undermines the considerable efforts made by the GIS community to accommodate criticism [...]. It also discounts the willingness of critics to work with GIS scholars (Pickles, 1999).

At the core of this complicated and contentious dispute, known as the science wars, is the epistemological privilege enjoyed by science and the degree to which

science is culturally influenced. Even a rudimentary outline of the dissension would note that social scientists are increasingly critical of science “proper” (Gross, 1996; Haraway, 1991; Harding, 1991; Latour, 1993; Pickering, 1995; Rouse, 1996). Proponents of traditional science have defended themselves with the publication of books and articles intended to undermine the politics and motivation of its critics (Gross and Levitt, 1994; Gross et al., 1996; Koertge, 1998; Sokal, 1996a; 1996b). The science wars were made truly contentious by the 1996 publication of an article called “Transgressing the boundaries” by physicist Alan Sokal. Sokal putatively discussed parallels between twentieth century mathematics and physics and their relation to ongoing work in STS. His was a dense, meandering text which should not have evoked much comment nestled in the company of excellent companion pieces on the cultural construction of science. On the day of its publication in *Social Text*, however, Sokal published an exposition in *Lingua Franca* in which he claimed that his article was a hoax, a parody of attempts by social science to link science and culture. *The New York Times* considered this trick worthy of an editorial (Fish, 1996) and Sokal, himself, was eager to talk to the media. The science wars had gone public. In the aftermath, there have been many rounds of debate, often with little public evidence of a willingness to acknowledge the arguments of the opposing side.

The science wars are part of a broader negotiation over the value and meaning of science and technology and their relationship to the culture in which they are embedded. While these epistemological battles brewed, quiet tensions had been mounting in geography. Human geographers were not immune to the growing body of work on the interdigitization of science and culture. Articles discussing the merits of cultural studies of science made their way into geography (Barnes, 1993; Billinge et al., 1984; Demeritt, 1996). They were, in a sense, the continuation of a tradition of criticism focusing on positivism in geography. It was only a matter of time before GIS, at first glance a rapidly growing positivist technology, attracted the attention of human geographers.

Critics of GIS from human geography neither exclusively emphasized the social construction of GIS nor did they, for the most part, engage with the theoretical critiques emerging from STS. Staples of STS such as actor-network theory (Latour, 1987; 1988) and the symmetry of true and false claims (Kitcher, 1998) were eschewed in favor of epistemological arguments and specific attention to the *effects* of GIS on objects of its scrutiny, as well as the direction of the discipline. Nor did critics of GIS engage in the questionable tactics used by Allan Sokal to suggest that the editors of *Social Text* were incompetent. Debates over GIS in geography were overt and apparently motivated by a genuine desire on both sides to steer the discipline in an appropriate and responsible direction, despite occasional outbreaks of hostility (Pickles, 1999). The history and content of those debates are as distinguished by their differences from the science wars as their similarities. The parallels are obvious. It is the nuances of the debate *within geography* that shape the remainder of this article.

Early Rumblings: The First Wave

Early debates about GIS were *conversations*, despite their incarnation as published texts. Their treatment herein largely follows the chronology and forum of their publication, a necessary tactic as many of the initial debates, ensconced in commentary sections of journals, were, in fact, responses to previous challenges, spiraling conversations within the bounds of geography's journals. Because of their passion, these repartees of the early 1990s are central to discerning the stakes represented by GIS. With their glimmers of antagonism and disciplinary agendas, these early exchanges reveal a great deal about the motivations of both critics and defenders of the technology.

GIS developed within geography without ostensible friction until the 1990s, when a flurry of commentaries about the relative merits of GIS made its way into its journals. Early dissent was sparked by an editorial by Peter Taylor, entitled "GKS" or "geographic knowledge systems". Taylor's article expressed sentiments, on the part of human geographers, that had been growing over the previous few years. Taylor (1990, 211) linked GIS to Mackinder's "new" geography which fused so well with the "age of imperialism". GIS, he suggested, while well equipped to manage information, is inadequate in the realm of knowledge production, concerned with facts but incapable of meaningful analyses. Taylor (1990, 211) elaborated: "{h}ence theories and abstractions are relegated and geography returns to describing the world." Taylor (1990, 212) concluded that a geography based on "facts" will become a "trivial pursuit" geography a return of the very worst sort of positivism, a most naive empiricism". Such a geography, he implied, will wither "after the initial technological flush".

Michael Goodchild, a prominent GIS researcher, responded to Taylor in the next issue of *Political Geography Quarterly* (1991). Rather than extol the virtues of GIS, Goodchild argued that while the technological structure of GIS is controlled by computer science, the development of GIS in geography has led to the realization that databases and processes can be inaccurate. He suggested that GIS has made its own limitations an integral part of its research for decades [...]. Furthermore, he argued that GIS is most useful precisely when it is "guided by people trained in the nature of geographical phenomena", (Goodchild, 1991, 336), that GIS is designed to be used in conjunction with knowledge rather than a substitute for it. GIS, without geography, Goodchild implied, is indeed a naive and dangerous empiricism. Against Taylor's assertion that GIS is the "positivists' revenge" (Taylor, 1990, 212), Goodchild [...] differentiated GIS from quantitative geography, pointing to the "fuzziness and generalization" involved in cartography. He did, nevertheless, ask if positivism does not have some uses in the social sciences. This possibility, according to Goodchild, does not make GIS a "mere tool" but rather a means of provoking "profound geographical thoughts" (Goodchild, 1991, 336).

Taylor's initial editorial brought into the open a recognition that GIS was changing the discipline, an assertion Goodchild defended. It was within the pages of

Environment and Planning A that debates about GIS in geography truly proliferated. Some articles exposed hostility between members of the GIS community and human geographers. Heated opinions and barbed comments marked Stan Openshaw's (1991) initial sally entitled "A view on the GIS crisis in geography, or, using GIS to put Humpty-Dumpty back together again". Openshaw began by hesitating about having the discussion at all, given its "potentially divisive" nature. He intimated that people in GIS have felt censured by other geographers and "their misinformed speculation about what GIS is and does, and how it either fits or does not fit comfortably within geography" (Openshaw, 1991, 621). His initial hesitation about the constructiveness of such debates quickly overcome, Openshaw stated that his contribution would not be relevant if "GISers and non GISers ... {were} not in competition for resources or the high ground" (Openshaw, 1991, 621). Openshaw was impatient with GIS' nay-sayers and berated critics for their own qualitative methodologies that had dismissed any relationship to maps. A number of hostile statements on the inferiority of non GISers, clearly meant to solidify the position of GIS in this battle for disciplinary supremacy, were issued. The reputed ignorance of computer techniques on the part of human geographers was a case in point: "most of the technical cripples in geography seemed to have survived the increasing use of computer technology by essentially ignoring most computer-based developments ..." (Openshaw, 1991, 624). Not only did Openshaw presume that the disciplinary struggle over methodology was over (won by the GISers, presumably), but that geographers who resisted this lens were simply ignorant of computers. Nontechnical geographers were also accused of actively opposing disciplinary unity:

the counterrevolutionary strategy {of non GISers} appears to be based on building up a range of conception-theoretical arguments *{sic}* against it {GIS}, express them in pseudophilosophical languages to provide a veneer of academic respectability, add a few misquotes from famous dead people who lived in a totally different world, and wait five years for the reaction to go critical (Openshaw, 1991, 622).

Referring to Taylor's criticisms that GIS is a retreat from information, Openshaw (1991, 621) queried: "without information, how can there be knowledge?" Unlike Taylor, Openshaw welcomed the opportunities that GIS allowed for geographers to participate in other disciplines. A geographer of the impending new order may well be able to:

analyze river networks on Mars on Monday, study cancer in Bristol on Tuesday, map the underclass of London on Wednesday, analyze groundwater flow in the Amazon basin on Thursday, and end the week

by modeling retail shoppers in Los Angeles on Friday. What of it?
Indeed this is only the beginning (Openshaw, 1991, 624).²

GIS was not only positioned to make inroads into (every) other discipline but to absorb “soft analysis problems” by implementing computer solutions from artificial intelligence (AI). Taylor’s worst fears about geographic imperialism were born out on two fronts. Openshaw envisaged GIS as invading other disciplines while also incorporating human geographers.

While inflammatory, Openshaw’s arguments reflected tensions within the discipline³. Despite their crudeness and will to power, his explication(s) were valuable as an overt representation of a budding antagonism between GISers and human geographers. Openshaw directly tackled issues hitherto evaded in the press (though perhaps elaborated during informal discussions). He suggested that critics of GIS were motivated not only by a quest for epistemological integrity but also by a desire to retain disciplinary authority. Openshaw also emphasized that technologies encompassed in GIS reflect a social shift that cannot be contained within geography. Data are increasingly digital; visual analysis is usurping text; and mapping has disseminated into other disciplines over which geographers exert little influence. In essence, digital mapping and its attendant principles have exceeded the boundaries of geography.

Responses to Openshaw in *Environment and Planning A* again sublimated this disciplinary disquietude within carefully constructed and academically worded rationales for alignment with either the “GISers or non GISers.” The first response to Openshaw’s provocation, by Peter Taylor and Mark Overton, easily dissembled Openshaw’s arguments on three main bases: 1) philosophical incongruence; 2) too much hype and belligerence; and 3) the social nature of geography and all disciplines. Their initial and well justified point was that Openshaw’s proposal for a “philosophy free” geography is “a fundamental philosophical claim” (Taylor and Overton, 1991, 1087). Taylor and Overton’s second criticism of Openshaw centered on his pugnacious rhetoric. Used to denigrate nontechnical human geographers and to establish their inferiority, it was alienating, unwarranted and counterproductive. Likewise, their call for attention to ways that the social is written into technology was well timed and apt. The measured arguments of Taylor and Overton, while effective, fell short of specifying what Openshaw did not shy from: that there are material stakes in their confrontation.

² Openshaw clearly worked with a more robust and seamless GIS than the rest of us. As Stacy Warren (pers. comm.) volunteered, “I’d still be labeling Tuesday’s cancer polygons on Friday.”

³ That Taylor and Openshaw worked in the same department at Newcastle may have had some bearing on the tone of their respective editorials.

Taylor's was not the only reply to Openshaw in *Environment and Planning A*. Gordon L. Clark (1992), in a commentary entitled "GIS – what crisis?", berated both parties. He acknowledged that Openshaw was provoked by Taylor's initial critique of GIS which he implied was inspired by the (reputed) disdain of some "postmodernists" for "knowledge and reason" (Clark, 1992, 321). But rather than brand all alleged postmodernists as anti-GIS, Clark conducted an informal poll of his "postmodernist" friends only to find them uniformly enthusiastic about GIS technology. Their fears revolved around insufficient staffing in GIS rather than a disciplinary coup. His conclusion was that Openshaw had "exaggerated the hostility to GIS" (1992, 321) while correctly identifying an inexorable trend toward cybernetic systems. Clark's contribution to discussions of GIS lay, however, in identifying that GIS is not only a (sub)discipline but also an industry. Clark suggested the proliferation of commercial interests in GIS threatens the type of "blue-sky" research which universities conduct – research which, despite its underlying reliance on representational realism, endeavors to model the world more precisely. Clark (1992, 322) concluded that "it is going to become crucial for universities to identify some comparative advantage in the GIS market not easily penetrated by commercial companies". From this perspective, squabbles within geography lose relevance.

They do, however, persist. Openshaw rallied with another contribution to the commentary section of *Environment and Planning A* in April of 1992. Despite his emblematic rhetoric, including a characterization of human geographers as "technical cripples" (Openshaw, 1992, 464), Openshaw identified a critical issue: some knowledge of GIS is essential to address its shortcomings. Openshaw (1992: 465) offered that "it is particularly important that those who comment on GIS should be properly informed and base their comments and criticism on some knowledge and experience of what GIS can and cannot do". In concluding, he further postulated "that after all this puff ... it will be discovered that we are in fact saying essentially the same or similar things in different ways, in different *languages*" (Openshaw, 1992, 465-66, emphasis added). Openshaw recognized that discourse divides the discipline. Much GIS literature does, in fact, deal explicitly with the technology's shortcomings but is delivered in its own language and journals.

The Purported Poverty of Positivism and Other Failings

Debates about the significance of GIS were not limited to *Environment and Planning A*. It was one of several theaters for disciplinary disagreements over GIS. Conducted in a less excited tone, subsequent academic challenges nevertheless confirmed that the place of GIS within the discipline of geography was being negotiated. Neil Smith outlined his concerns in *Progress in Human Geography* in 1992 with a contribution entitled "History and philosophy of geography: real wars, theory wars". His oeuvre in the GIS wars began with a critical account of the involvement of GIS in the Gulf war, linking the estimated 200 000 Iraqi deaths to geographic technologies. "Thus," Smith (1992, 257) wrote, "did GIS and related technologies

contribute to the killing fields of the Iraqi desert.” Smith equated the scientization of cartography with a strident technocraticism and suggested that Openshaw’s undiluted enthusiasm for the technology reflected a “delirious detachment” (Smith, 1992, 258-59). Yet, he authoritatively quoted Taylor’s (1991) characterization of GIS as “a return of the very worst sort of positivism, a most naïve empiricism” (Taylor, cited in Smith, 1992, 258). I cite this selective support of participants in the GIS skirmishes because it is indicative of a tendency, in this debate, to exonerate the excesses of those whose arguments the author champions while caricaturizing the arguments and delivery of antagonists. This is not a phenomenon limited to the world of geography. It is the stock and trade of larger debates on the science wars. Use of caricatures occurs precisely because they do such a good job of undermining (perceived) opposition.

This observation is not intended, in any way, to detract from Smith’s critical and important call for attention to the uses of GIS in war. Smith’s careful enumeration of the people employed in military development of GIS and its considerable underwriting by defense agencies (Smith, 1992, 258) marked the initiation of a more constructive conversation about GIS. His arguments pierced the balloon of disciplinary pride which had puffed up claims from both sides. The bottom line is that technology *can* wound and kill, and it is essential that geography examine its culpability. What Smith wrote did not attend to the more complex argument of whether or not GIS research, much of which is unrelated to military pursuits, can necessarily be linked to its implementation.

Attention to epistemology, initiated by Smith, was continued by Robert Lake, who examined GIS on the basis of ethics and ontology. His arguments were woven together by one thread: positivism. Lake defined positivism as encompassing “assumptions of objectivity, value-neutrality, and the ontological separation of subject and object” (Lake, 1993, 405). This seems plausible as a definition, but more open to debates is his subsequent assertion that 1) GIS is inherently positivist; 2) that its ethics are objectionable because they derive from positivist assumptions; and 3) that the “subject-object dualism underlying” GIS is a positivist legacy. By 1993, positivism had become a primary basis for critiques of GIS. For Lake, positivism was the [indispensable] criticism [...] against GIS. Furthermore, he implied that reconciliation between the two factions of geography is only possible to the extent that GIS is willing to incorporate the theoretical agendas of its critics: “{b}reaching the divide at the core of planning and geography will be possible only to the extent that the developers of Geographic Information Systems are willing to relinquish their positivist assumptions” (Lake, 1993, 405).

Intimations of positivism were not confined to critics of GIS. In an article titled “GIS and urban studies: positivism, post-positivism, and beyond,” Daniel Sui (1994) presented a “progress report” on the use of GIS in urban planning. GIS savvy himself, Sui nevertheless accepted the premise that GIS is (or has been) positivist. Sui’s was the first contribution from within GIS to engage fully with the epistemological bases of critical inquiries into GIS. Using the philosophical language and frameworks of his

peers in social geography, Sui illustrated the extent to which recent GIS professional meetings and journals have addressed ethical issues, concluding that “these efforts speak one thing loud and clear: that is, the GIS community has realized that the implementation of GIS should go beyond mere technical decisions justified by matters of efficiency and give the ethical use of this information technology a serious consideration” (Sui, 1994, 271).

In closing, Sui (1994, 272) suggested a cross-pollination between GIS theory and social theory, a feat that would require “postmodernists to relinquish their playful cynicism in their critiques on the scientific chauvinism of GIS”. The rationale for this requirement is that neither “meticulous” positivism or the philosophically refined “postpositivist critiques can illuminate the entire picture of urban reality” (Sui, 1994, 272). Sui’s petition that no lens on reality can ever be entirely discounted remains an important entreaty for geographers.

Promoters and Antagonists of Automated Geography – 1993

In 1993, Jerome Dobson, a GIS researcher at the Oak Ridge National Laboratory, wrote an enthusiastic piece for the *Professional Geographer* [(PG)] entitled “Automated geography”. In an optimistic tone, Dobson outlined the philosophical versatility of “automated techniques” (GIS, remote sensing, computer graphics), pointing out their utility in both “nomothetic” and “idiographic” studies (Dobson, 1993, 136). His essay spawned eight responses which were published in a subsequent issue. Controversy and high feeling are the stuff of compelling reading and ten years later another editor of [the] *PG* invited Dobson, as well as selected critics of GIS, to comment on the original essay.

Dobson was the first in line to comment on his decade-old testimonial to GIS. While acknowledging that “GIS does not address social issues, especially those that occur in a decision space somewhat independent of Euclidean space”, Dobson (1993, 435) explained that emphasis in geography “reflects priorities that societies place on various issues”. Lack of attention to issues relevant to cultural geographers was not a limitation of GIS but rather an indication of research priorities which typically favored emphasis on physical resources and infrastructural development. As evidence that GIS can be useful in human geography, Dobson cited the success of its use in marketing – a move clearly not intended to assuage critics’ concerns about the effects of GIS.

Dobson’s article was consistent with a popular strategy of articulating uses of GIS while observing that cultural geographers have remained ignorant of its applications. He noted that, by 1993, GIS was a three billion dollar industry and “to science and society at large, GIS is undoubtedly the greatest agent of change in geographic capability and awareness since the Renaissance”, (Dobson, 1993, 435) despite earning little respect by cultural geographers. While this comment smacked of promotionalism, it did testify to a disparity between reception of GIS inside and

outside of the academy. It is also indicative of a climate in which GIS researchers perceived the need to articulate and justify their research to peers.

Responses from both John Pickles (1993) and Eric Sheppard (1993) augured a more meaningful debate between factions. For the first time, critics acknowledged that GIS had legitimate application. But Sheppard (1993, 458) worried that structuralist, interpretative and feminist approaches might be discarded in favor of empirical (and categorizable) data, in effect, that “postpositivist” epistemologies would be side-lined in favor of quantifiable data. Sheppard further suggested that information systems do not necessarily produce more comprehensive analyses and that their legitimacy is frequently suspect given the prevalent use of secondary data sets. Sheppard drew attention to algorithmic manipulation, central to GIS, as a means of privileging Boolean logic and reductionist problem-solving at the expense of “historical-hermeneutic and critical-emancipatory knowledge{s}” (Habermas, cited in Sheppard, 1993, 459).

Pickles’ objections were also epistemological. GIS was perceived as a means of ushering back a Cartesian methodology which was, by its very nature, a “doomed ... discourse on method” (Pickles, 1993, 451). He felt Dobson’s vision of a geography enhanced by GIS ignored the “strong critiques of the reductionist ontology of spatialism” developed by human geographers in the 1980s which “challenged geographers to rethink the meaning of space, problematized the dominance of natural science method in the study of social phenomena, and raised questions about the underlying ontology of objects, location, and application on which spatial analysis was predicated” (Pickles, 1993, 452). Pickles corroborated these accomplishments on the part of cultural geographers by listing areas of geographic research for which GIS is inadequate. Cultural geographers clearly outweighed GIS practitioners in Pickles’ methodological equation.

The Sum of the (Initial) Difference

By 1993, with the publication of the second forum on automated geography, sides had been taken. While initial critiques of GIS covered a range of perceived shortcomings, positivism or, more generally, epistemology had emerged as a basis for scrutinization of GIS. Human geography critics felt GIS failed to accommodate less rational, more intuitive analyses of geographical issues, and that its methodology, by definition, excluded a range of inquiry. GIS scholars, meanwhile, saw the value of their techniques being denigrated without really realizing why. As Dobson insisted, GIS practitioners recognized the value of idiographic study. The implicit question of why human geographers did not reciprocate with an acknowledgment of the power of GIS hung in the air. An either/or theme to discussions about methodology prevailed.

GIS, as an emerging technological phenomenon, was itself changing. Software prices, though still high by today’s standards, were dropping as commercial ventures

introduced competing environments. GIS had also shifted from being primarily a tool for land-use planners to what was to become geographic information science (GISci). The technology reflected a broader shift in the way geographical (and all) information “is collected, perceived, managed and used, and GIS {was} as good an umbrella label as any for what {was} happening” (Goodchild, 1991, 336). Information was increasingly available in digital format and to many advocates of GIS, it seemed inevitable that computerized spatial analysis would follow. In as much as technology is a social process, GIS was a sign of progression toward an information society.

Critics were certainly aware of this transition but they perceived its potential differently than did their counterparts in GIS. Dobson, Openshaw and Goodchild saw GIS as a tool which could extend the range of geographical analysis by incorporating larger data sets and allowing geographers to ask questions about spatial relationships that were unrestricted by the number of variables or processing power. It was a tool that extended the possibilities of research and inquiry. Pickles, by contrast, was anxious that GIS should not be used to extend a cybernetic “grid of control on the planet” (Haraway, 1991, 54). He drew closely from Donna Haraway’s famous essay “A cyborg manifesto” (1991) to call attention to ways in which computer applications express social relations. Pickles, following Haraway, argued that technology is a social process and, as individuals, we have a responsibility to engage with new technologies in order to ensure they do not perpetrate unequal relations of power or other injustices. Here Pickles, with Sheppard and others, makes an important intervention on two counts: 1) by drawing attention to ways in which technology is enmeshed in social relations; and 2) by demonstrating that geographers are not excused from responsibility for ways in which GIS is developed and applied. Despite the power and validity of this argument, a gulf of language separated critics from practitioners of GIS.

Critics of GIS generally express their concerns in socio-theoretical terms, distant from the language of the technology. Nor is there evidence that many of them read GIS journals. The matrix of language, in which their critiques are necessarily situated, baffles many GIS researchers whose philosophic training ended with Karl Popper and Thomas Kuhn. GIS practitioners are not well versed in the language of social theory used to diagnose epistemological or ethical shortcomings in their field. It is fair to add that GIS researchers have refrained from using language specific to GIS and its digital representational systems when replying to critiques. Openshaw’s (1992) intimation that language divides GIS and its critics to a greater extent than substantive issues may well be true but, in the early 1990s, neither side was interested in any ameliorative conclusions.

Textual jousts on the part of critics and practitioners of GIS between 1990 and 1994 laid the groundwork for continuing antagonism though, ultimately, as we shall see, a total schism was avoided. A conference designed to bring together antagonists and defenders of GIS was organized at Friday Harbor in Washington State in November 1993. It marked the beginning of increased co-operation between the two groups.

Friday Harbor: Laying it on the Table

A surge of publications, beginning in 1995, on the epistemological, economic and discursive underpinnings of the technology represented a second wave of interrogations of GIS, many of which were both more substantive and engaged with the technology. Augured by the conference in Friday Harbor, this second set of exchanges was initiated as a response to the disciplinary friction documented in the early 1990s. Friday Harbor brought critics of GIS and its proponents to the table, ending the overt antagonism of squabbles in the first wave of GIS debates.

The meeting at Friday Harbor was organized by Tom Poiker, a long-standing GIS researcher, in a deliberate effort to reconcile factions in geography. The organizing committee included both Eric Sheppard and John Pickles, however. Wind of John Pickles' forthcoming *Ground Truth* (1995c) had blown through the geography community and there was increasing recognition that the purported rift in geography demanded attention. The meeting ultimately led to a proposal for [...] NCGIA (National Center for Geographic Information Analysis) Initiative 19 to study the social consequences of GIS. It also marked a shift in the tone of the debate. The group assembled at Friday Harbor brought to the table a range of perspectives about GIS, an opportunity for intradisciplinary communication which had thus far eluded debates over GIS.

The conference and the NCGIA Initiative which came out of it [were] summarized by Eric Sheppard in *Environment and Planning A* (1995). Sheppard's text is worthy of close attention as a barometer of critics in 1995. While it marked the beginning of closer cooperation between GIS and its dissenters, it also elucidated the terms on which critics understood the alliance to be based. Sheppard made three main points about the development of GIS. First, technological designs have far-reaching and lasting effects. In the case of GIS, inadvertent biases in the system affect "academic conceptualizations of geography" (Sheppard, 1995, 1027). Sheppard's important argument about the social and contingent nature of GIS (and all technology) summarized the concerns of many critics: "the fundamental question is whether the logic of GIS, as a result of design decisions privileges certain views of the world over others" (Sheppard, 1995, 1027). Sheppard's second point concerned ways that GIS privileges certain conceptualizations and world views. He reiterated that "GIS development is dominated by private sector firms rather than public agencies ... and GIS finds greater use in the corporate planning decisions of established public and private institutions" (Sheppard, 1995, 1027). Sheppard's third argument was two-fold: 1) GIS is, at present, not a democratized technology in that it is neither accessible physically or technically to those on the fringes of industry or large institutions; and 2) even if GIS were available to everyone who owned a computer, it would still not be a democratized technology as it would continue to embody algorithmic thinking, itself limited.

The Second Wave: A Chorus of (Measured) Objection to GIS

Proceedings of the conference at Friday Harbor were published in a special issue of *Cartography and GIS (CAGIS)* in 1995. They were followed in the same year by *Ground Truth*, a collection of essays edited by John Pickles. These two volumes collectively marked a *second wave* of critiques of GIS. If earlier reproaches evolved as conversations between critics and proponents of GIS, the second wave was a chorus. As a result of the publication of both *Ground truth* and the *CAGIS* anthology, 20 essays in 1995 were based on epistemological and ethical flaws purported to be inherent in GIS. With few exceptions the contributors found much amiss. The antagonism expressed in earlier debates was, however, replaced by more subtle, politically savvy and substantive analyses. Issues such as epistemological integrity, gender, class, limitations of visualization, Cartesian perspectivalism and rationalism were addressed. Though many of these issues had been raised in the first wave of critiques, they were now more steeped in social theory than had previously been the case.

Originally a project envisaged by both Pickles and the late Brian Harley, *Ground Truth* represented a set of social critiques of GIS. It was theoretically influenced by the ground-breaking work of Harley on the relationships between maps and power. Harley claimed that maps have always been a mechanism for depicting and producing social relations. It is taken for granted, he maintained, that the king's castle should be depicted in a large size on a feudal map while whole clusters of feudal cottages are absent. The map is not the territory but a representation of social relations (Harley, 1992, 233-38). Pickles [...] extended this analysis to GIS, declaring that GIS systems and research programs are marketed with the promise of being able to enhance understanding and increase people's control over their own and others' lives (Pickles, 1995a, 6) – a process he referred to as the “colonization” of everyday life (Pickles, 1995b, 224). GIS practitioners were not, however, ignorant of the ways maps could be used in the interests of power. Mark Monmonier's book *How to lie with maps* (1991) tackled precisely the same issues, illustrating that maps are a means to exercise and enforce relations of power.

Critiques of GIS had, by 1995, taken Harley's analysis a step further, asserting that GIS not only represents but perpetrates certain relations of power. This view corresponded to sociologist John Law's contention that the vision of modernity orders societies, a dream sustained by the belief that they *can* be ordered (Law, 1994). The purported propensity of GIS to order society has historical roots. Law noted that, between 1400 and 1800, Europe witnessed the introduction of new approaches to social organization in which maps were critical for the representation and imposition of the “truth” (Law, 1994, 7). Power may be internal to maps, but critics linked it explicitly to GIS. Harley's legacy was an abiding interest in the relationship between maps and power among cultural geographers. This was consolidated with the rise of GIS and a perceived need to gain some control over its effects within the discipline of geography.

By 1995, then, substantive issues were intertwined with responses to the specter of an ascendant GIS. A rhetorical shift was also evident. Rather than forums, these arguments were dominated by critics of GIS though, significantly, a number of GIS practitioners had joined their ranks. While positivism was still regarded as the epistemological basis of the technology, a more varied analysis of GIS was emerging. Critics covered a gamut from representation to ethics, from gender to deconstruction, from positivism to instrumental rationalism. More philosophically refined than their predecessors, many arguments introduced important social questions about GIS. The language of these critiques remained, however, that used in cultural studies and social theory – a language which did little to build alliances with GIS advocates who frequently claimed they could barely decipher critics' messages (Clarke, pers. interview, 1998; Mark, pers. interview, 1998; Phoenix, pers. interview, 1998).

Problems with positivism remained an underlying motif of the 1995 critiques. According to Peter Taylor and Ronald Johnston (1995), GIS was a collection of quantitative tools for data analysis constituting classical empiricism. The technology was regarded as having emerged from a positivist tradition with an emphasis on solving technical problems as well as improving technical interfaces (Miller, 1995). Pickles substantiated these claims in *Ground Truth*: "We can glimpse here the unconscious process of myth-making through which the invention of a positivist past is used to justify a progressive positivist present" (Pickles, 1995a, 19). GIS's relationship to positivism was linked by critics to the quantitative revolution (Taylor and Johnston, 1995). The possibility of a "progressive" positivist future was generally regarded skeptically. GIS was, by implication, a means of limiting the proliferation of epistemologies in geography.

Positivism, in this context, seemed very vague, given that so much research could fall under its rubric. More specific epistemological limitations of GIS were better substantiated. Computers, as Howard Veregin (1995) pointed out, do impose limitations on questions that can be asked by virtue of their architecture. Data structures also restrict what kinds of information can be coded (Curry, 1995b); ethical statements, for instance, are difficult to classify as are expressions of emotion. Critics also identified a number of ethical shortcomings of predominant applications of GIS. This line of criticism focused on under-representation of marginalized peoples (Rundstrom, 1995; Sheppard, 1995b; NCGIA, 1996); social consequences of means-driven technology; surveillance enhancement (Curry, 1995a; Goss, 1995; Roberts and Schien, 1995); unregulated dissemination of GIS into marketing (Crampton, 1995; Goss, 1995); lack of attention to underlying social factors (Taylor and Johnson, 1995); black-boxing of algorithmic processes (Curry, 1995b; Goss, 1995); subject-object disjunction (Veregin, 1995); and the profit motive in GIS innovation (Veregin, 1995). Many of these limitations were in the realm of ethics and led, therefore, to a more empirical and better substantiated set of claims than those concerned simply with GIS's positivist roots.

Theory was further grounded in discussions of surveillance. Considered the basis of an escalating erosion of privacy, surveillance was acknowledged as a consequence of GIS. Michael Curry (1995b) accurately noted that GIS had advanced the trend toward surveillance (state and market) by providing a spatial element, formerly lacking in many databases. The implication was that, as we are mapped in clusters representing certain tastes and proclivities, we lose the privacy needed to maintain individual freedoms (Curry, 1995b). The mapping of North American consumers was, for critics of GIS, linked to social control of the sort Pickles had warned about in 1993. Furthermore that control was envisaged as both political and economic. The means by which GIS allows states to attract investment, by identifying exploitable resources, peoples and regions, enhances the power of corporations (Pickles, 1995b; Roberts and Schein, 1995). Contributions of GIS to surveillance efforts constituted, in the eyes of its 1995 critics, a means of ensuring the continuation of asymmetries of power.

Between a Rock and a Hard Place: After Friday Harbor, Before Initiative 19

There was ostensibly little more basis for unity or co-operation among factions of geography in the mid-1990s than there had been at the beginning of the decade, but this impression was deceiving. First of all, timelines for publication distort the chronology of events. Work on *Ground Truth* began several years earlier, while the publications resulting from Friday Harbor were drafted in late 1993 and appeared in a special issue of *Cartography and GIS* in January 1995. The second wave of critiques, therefore, represents scholarship and attitudes which evolved around the same time as the angry, anti-positivist debates were being published. Interestingly, it was also during that initial wave of critiques that the seeds of later co-operation were sown. Participants at the Friday Harbor conference discussed the beginnings of what would become NCGIA Initiative 19 on “GIS and society”. And Friday Harbor was convened precisely for the purpose of bridging differences between GIS critics and practitioners.

The second wave of critiques was nevertheless indicative of two solitudes in geography – islands that, due to commercial and academic success of GIS, seemed to be drifting apart. The lines between them were not drawn, however, exactly where one might expect. By the 1995 *CAGIS* issue and *Ground Truth*, participation by GIS scholars, *as critics*, in the critiques had substantially increased. This represented a shift from the early 1990s, when involvement of GISers was limited to spirited defenses of the technology. Detailed examinations of the technology were offered by Nancy Obermeyer, Nick Chrisman, Howard Veregin, Harlan Onsrud, Stacy Warren and others who combined a knowledge of GIS with an awareness of its limitations. Two islands were forming, but a small but significant number of GIS practitioners had joined critics from human geography on theirs. Defenses of GIS, meanwhile, declined. An exception was Stan Openshaw, who wrote a spirited review (1997) of *Ground Truth* in which he identified the potential for MAD or *mutually assured deconstruction* in this war of words. Critics had given some GIS practitioners little reason to doubt

that “{c}ritical social theory is essentially destructive and individualistic” (Openshaw, 1997, 8). His conclusions spoke to a growing perception among mainstream GIS researchers that engagement in this debate was simply unproductive. There was a corresponding detachment of many GIS researchers from the fray.

There were reasons beyond defensiveness for this disengagement. Experience from the early 1990s had instructed GIS proponents that these critiques had only tangential bearing on their research. The journals, conferences, code and applications central to GIS research seemed to bear little relationship to accounts of the limitations of positivism. By 1996, GIS was a billion dollar per year business (*GIS World*, November 1997, 55). Job opportunities in North American geography reflected a surge in demand for GIS faculty while corresponding calls for cultural and economic geographers had ebbed. Recognition that “liveware” was required to develop and teach GIS was at an all-time high. Scratches at the door of this commercial and academic demand, by cultural critics, seemed increasing abstract and insignificant to many in GIS. Asked about the decline in responses from GISers, Karen Kemp (pers. interview, 1998) of the NCGIA noted that “everyone was just too busy”.

Friday Harbor, while bringing together some critics and scholars of GIS, ironically marked a split within GIS between practitioners who responded to the language and content of the critics and those who thought it had very little to do with their own work. But, if GIS practitioners could not be homogenized, then neither could their critics. By the middle of the decade, differences in politics and strategy between critics were emerging (Curry, pers. comm.). A number of human geographers and GIS researchers had started to focus on means of practical intervention. A workshop on “Public participation in GIS” (PPGIS), held in Orono, Maine, in 1996, brought together a number of critics and researchers in GIS. This was followed in 1998 by a University Consortium for Geographic Information Science (UCGIS) panel that discussed PPGIS, under the rubric of GIS and society. Following the admonitions of Donna Haraway to engage with the cyborg rather than critique it from afar (1991), these critics initiated practical means to democratize the technology as well as increase public participation in its use. Others such as John Pickles, Michael Curry and long-standing GIS researcher Nick Chrisman focused on theorizing the inter-relationships between the social and technological. In both cases, critics and researchers of GIS co-operated.

While social scientists and scientists were rearranging their disciplinary alliances, GIS was changing. If in 1993 GIS was becoming accessible, it was by now ubiquitous. Desktop software was becoming widely available. Familiarity with UNIX was no longer a requirement for spatial analysis. GIS packages ran on Windows and Mac operating systems. Dissemination of the technology from geography into other disciplines, public administrations and commerce was a fait accompli. Critics were aware that GIS was non-negotiable. A combination of influences including dissemination of GIS, closer co-operation with GIS practitioners, a more nuanced

understanding of the technology, as well as the passage of time contributed to shifts in the style and content of critiques.

Back Into the (Kinder, Gentler) Ring: The Third Wave of Critiques

In a pithy and trenchant introduction to the science wars published in *The Economist* (December 1997), the authors conclude their “battle map” of the dispute by suggesting a temporary exchange between factions in an effort to promote mutual understanding. *The Economist* predicted that such a confab might “surprise both sides” (*The Economist*, 1997, 79). NCGIA Initiative 19 (I19), first proposed at Friday Harbor, represented precisely such an interchange, having brought together GIS researchers and social theorists. This forum was extended by I19 specialist meetings.

Initiative 19: the social implications of how people, space, and environment are represented in GIS was sponsored by the NCGIA, itself funded by the National Science Foundation. The NCGIA was initially created to support “a center for the advancement” of GIS, but since expanded its mission to entail “advanced geographic research” (Goodchild and Mark, 1993, 219). Shifts in the goals of the NCGIA reflect recognition that GIS and geography are inseparable. The I19 steering committee was a mix of social geographers and GIS scholars. Approved in 1995, the first meeting was held in early 1996. As a consequence of promoting disciplinary space for GIS and its critics to work together on issues relating to “GIS and society”, I19 marked the beginning of publications more moderately critical of GIS. These essays were far more invested in the continuation of GIS while remaining sensitive to its repercussions (Curry, 1997; Pickles, 1997, 1998). I19 created an environment which followed one condition for shared communities of interest: mutual dependence. The initiative further shifted the relationship between critics and GIS researchers as it somewhat integrated the former into the institutional body of the NCGIA. In the process, critiques of GIS were both legitimated and incorporated. Among the repercussions of this shift in critiques of GIS was recognition that 1) GIS is a permanent feature in the geography landscape; 2) the agency with which to resist the potentially destructive implications of GIS technology (military and surveillance) could be fostered; and 3) the success of critics as well as advocates of GIS depended on its continuation. The initiative itself was a formalization of the intimation, by critics of GIS, that technology is always and irrevocably a social process. Its institutional home (the NCGIA) is, however, notably aligned with scientific endeavor.

Although characterized here as a kinder, gentler stage of debate, the third wave roared in like a lion. A forum, reminiscent of pre-1995 “conversations” between GIS proponents and skeptics, appeared in the June 1997 issue of the *Annals [of the Association of American Geographers]*. Somewhat more staged than earlier dialogs (the key players were familiar by now), the forum featured a joint article by Dawn Wright, Michael Goodchild and James Proctor (1997) who attempted to “demystify” the “persistent ambiguity” of GIS’s relationship to geography and science. A response

by John Pickles left no illusion that despite its ubiquity, GIS remains a contentious technology.

Wright et al. (1997) distinguished three main uses of GIS based on information garnered from the very popular GIS-L listserve. They determined that for a wide swath of users, GIS is a piece of software, comparable to a statistics package: useful for clarifying an issue or analyzing data. A second, more rarefied group is involved in the development and refinement of GIS software and theory. A third, sizable contingent, including many from outside geography, views GIS as a form of geographical science. Designation of GIS as a subset of the discipline was refuted by the authors, who suggested that geographic information science (GISci) has the capacity, drawing on geographic primitives, to “describe, analyze, model, reason about, and make decisions on phenomena distributed on the surface of the earth” [...] and, more fundamentally, analyze “issues raised by the *use* of GIS” (Wright et al., 1997, 357-8). Wright et al. warned, however, that GISci should not be confused with current implementations of GIS, as that would bestow an authority on the science unwarranted by its current level of development.

By carving a place in the “sciences” for GISci, the authors were careful to craft a corresponding definition of science as an entity which is open and eludes conflation with positivism (perhaps a science a little like the one envisaged by critics). In such a science, GIS, with its emphasis on “visual expression, collaboration, exploration, intuition and the uniqueness of place over more traditional concerns for mathematical rigor, hypotheses testing, and generality”, fits well (Wright et al., 1997, 358-9). Through this flexible vision of GISci, Wright et al. acknowledged many of the “cultural” constituents of traditional science. Its definition also incorporated components of the critics’ program. Certainly the authors’ revised understanding of science indicated GIS was not isolated from the discourse of social theory. At the same time, defining GISci separately from geography was an effort to establish its unique place under the umbrella of geography.

Given efforts by Wright et al. to accommodate and respond to critiques of GIS, Pickles’ reply (1997) was, on the surface, disconcerting. He started [...] by emphasizing the importance of continuing discussions about the “poverty and politics of GIS theory” and observed that “{i}t is even more remarkable to some of us that up to this point, there has been no thoroughgoing discussion by GIS practitioners and theorists about the epistemology of their subject, the ontology of their objects, and the political commitments embedded in their practices” (Pickles, 1997, 363-64). Pickles speculated that this reluctance to engage at an epistemological level was caused by “a genuine confusion” about social theory (Pickles, 1997, 369). Pickles described GISers, including Wright et al., as still writing in a theory-free mode which left him with “a sense of *déjà vu*, of old ground being replowed, and of complex issues being mapped onto pre-existing theoretical frameworks” (Pickles, 1997, 369). Pickles seemed reluctant to abandon his reading of GIS as “rooted in hypothetico-deductive models” (Pickles, 1997, 363) and described Wright et al. as “talk{ing} back and forth between

positivist defense and post-positivist reworking{s} of GIS assumptions and epistemology” (Pickles, 1997, 364). The reader is left with a sense that the GIS scholars were well intentioned if still a little epistemologically naive.

Pickles extended the promise, however, that “through the hard work of theory ... GIS might well yet find a home that sustains {its} intellectual pursuits and professional goals” (Pickles, 1997, 370). Pickles’ gestures toward possibilities of transformation for GIS mark an implicit recognition of the contingency of both power and representation. So, despite the patronizing suggestion that GIS researchers be guided by social theorists, Pickles did open a space for a more palatable and effective genre of socio-theoretical intervention.

This aperture was sustained by Michael Curry (1997) in a more deliberate and congenial manner. In an article on the links between surveillance, privacy, vision and GIS, he explored historical and contextual meanings of privacy. Though the undisputed observation that “the ease of computer mapping, combined with the increasing availability of data sets, has made maps more readily available and made the possibility of privacy infringement much more likely” was made, Curry (1997, 692) took it in a new and refreshing direction. His set of observations on the interdigitization of law, technology and culture disrupted a pattern of laying the onus of responsibility on technology. Instead he sought to unravel the complexity and contradictions inherent in digital representation and, more to the point, ways in which digital individuals can reinvent themselves to accommodate the sure knowledge they are incompletely inscribed in a database.

By showing that what is considered public or private is negotiated in the discourse of jurisprudence and politics, Curry shifted the onus of responsibility from GIS to its social context, explicitly invoking possibilities for resistance in every system, digital or analog. By concluding that “it makes more sense to see us as authors of our own lives, of our identities as real and virtual” (Curry, 1997, 695), Curry acknowledged the culpability and, conversely, the power of individuals to adjust to social conditions. The onus was shifted from GIS to a complex matrix of juridical, cultural, political and scientific realms from which it is produced and in which it operates. His tactic indirectly buttressed Openshaw’s (1997) antipathy for social criticism of GIS which leads to “mutually assured deconstruction” and promotes a disciplinary climate supportive of both technical and qualitative research.

The *third wave* of GIS critiques represented a more nuanced analysis of power. In this present period of negotiation between GIS and geography, critics have illustrated means by which possible oppressions supported by GIS technology can be resisted at an individual and social level – ways in which power is flexible and circuitous (Curry, 1997). By 1998, both critics and defenders of GIS were better informed about the agendas and implications of each other’s work. A willingness to integrate dialog and debate over the effects of GIS as well as its epistemological bases was well established and supported by institutional structures. In 1992, Pickles notably solicited an entry from GIS scholars Michael Goodchild and Howard Veregin for

Ground Truth. Such exchanges are now routine. The newest edition of *Geographical Information Systems*, fondly referred to as the “big book” in GIS circles, includes entries from GIS critics (Curry, 1999b; Pickles, 1999). This mutual support reflects the integration of critical analyses of GIS through NCGIA I19, and the ongoing Varenius project, as well as invitations to contribute to mainstream GIS texts and meetings which had a similar effect. The science wars in geography are currently marked by their emphasis on negotiation (Pickles, 1999).

Toward a Conclusion: Fixing the Factionalization in Geography

Critics have had considerable impact on GIS and the discipline as a whole. Some of their suggestions about the epistemological implications of GIS as well as the relationship between society and technology have been incorporated by GIS scholars (Poiker, pers. interview, 1997; Chrisman, pers. interview, 1998). A scattering of GIS practitioners have joined their peers in human geography in examining the social dimensions of GIS (Harvey, 1997). A number of PPGIS projects are springing up throughout North America (Craig, 1998; Obermeyer, 1998). Though initial debates were marked by hostility, later critiques have evolved into more co-operative ventures between social scientists and scientists within geography. There is evidence of a genuine desire on the part of many critics and GIS practitioners to ensure responsible GIS at both the application and algorithmic level.

Despite an increased congeniality between the two solitudes of geography, however, the more substantive issue of the effects of these debates in geography has not been examined. Nor has the efficacy and legitimacy of the critical approaches, used by critics to interrogate GIS, been addressed. GIS has been somewhat homogenized, regarded as a single entity rather than a loosely defined set of practices. GIS consists of combinations of software and hardware but it is also an expression of multiple discourses. Linked at the machine and code level to computer science and, at a representational level with mathematics, GIS inhabits a world of numerical and representational strategies. GIS is not an end product of the Enlightenment and scientific rationality. Rather, a myriad of practices sustains the technology; GIS incorporates intuitive, cognitive, visual and textual elements in its use and structure. Early critiques of GIS, especially, were inattentive to the complexity of the technology and the science, focusing instead on cartographic representations. The result has been a sense among a number of GIS scholars that the technology has been found to be inadequate, undermining the intellectual value of their work (Buttenfield, pers. interview, 1998; Estes, pers. interview, 1998; Marble, pers. interview, 1998). Moreover, emphasis on epistemology has drawn attention away from the architecture of the technology where many shortcomings are ultimately located.

At the beginning of the new century, two distinct genres of critique have emerged. The first involves a small number of critics from GIS as well as human geographers who are critically engaged with GIS in a practical, applied fashion. Their

efforts have been focused on issues such as the effects of digital surveillance, the ontological implications of interoperability and the means of democratizing GIS (Curry, 1999a; Egenhofer, 1999; Sieber, 1999). These discussions have been conducted largely in the language of GIS and have, accordingly, been better integrated into GIS research (Barndt, 1998; Egenhofer, pers. interview, 1999; NCGIA, 1999). The second genre might be called “meta-GIS”. It incorporates social theory and increasingly discourse and ideas from STS, while bearing little perceptible application to practicing GIS researchers. The esoteric nature of this writing limits its application in a computational environment. Its contribution lies, rather, in situating GIS within a larger body of writing about science and technology, intended for a cultural studies audience.

There has been a tendency, moreover, to prescribe social theory rather than algorithmic revision for what ails GIS. Pickles (1997, 370) stated that “any emergent science of geographic information must now wend its way into and through longstanding debates and theoretical frameworks of great complexity”. His suggestion for reviewing the theoretical evolution of cultural geographers over the past 25 years presupposes that any individual or discipline exposed to the same arguments as he would come to the same conclusions about GIS. That supposition follows an argument first developed by Max Weber (Bendix, 1962) and more recently outlined by Edward Said (1996, 77) in his sketch of “expert discourses”: “To be an expert you have to be certified by the proper authorities; they instruct you in speaking the right language, citing the right authorities, holding down the right territory. This is especially true when sensitive and/or profitable areas of knowledge are at stake.” Said’s recondite recognition that formulae for thinking are imposed when disciplinary power is at stake has purchase in the debates over GIS in geography. There has been a sense among GIS practitioners that only arguments framed in a particular discourse will be recognized by social theorists (Chrisman, pers. interview, 1998; Marble, pers. interview, 1998). Critics of GIS have, nevertheless, had considerable influence on the discipline. Their greatest effect has been to alert GIS scholars to the social ramifications of the technology as well as ways in which culture is written into the technical.

Samuel Johnson famously wrote that “a critic is a legless man who teaches running”. This aphorism need not apply to critics of GIS. But if social theorists want to influence GIS, then they must make their arguments relevant to the technology (Demeritt, 1996). In order to take the next step, to influence GIS at the machine level, critics must learn to communicate in the vocabulary of the technology. This requires a familiarity with the computational and theoretical bases that underlie GIS. An understanding of the parameters of formalization that govern semantics and operations in GIS would allow critics to exert considerably more influence. A critic who can pinpoint ways in which a classification system curtails use of critical information (Gray, 1997) or how a given algorithm might better express spatial relationships is likely to gain the ear of GIS researchers. Current research on ontologies and interoperability demonstrates the viability of incorporating social, philosophical *and* technical considerations in GIS (Kuhn, 1994; Couclelis, 1996; Frank and Raubal,

1998; Smith and Mark, 1998). This is the tactic suggested by Donna Haraway (1991) when she urged that social theorists engage in the construction of the cyborg rather than critique it from afar. This is not to imply that criteria for criticism of GIS include double PhDs. Rather, that constructive critique requires a depth of understanding about the science or technology being investigated (Kitcher, 1998).

[...]

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Maps as Social Constructions: Power, Communication and Visualization

Jeremy W. Crampton

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Introduction

Writing shortly after World War Two, Arthur Robinson, author of what was to become the standard cartography textbook of the next 40 years, observed that a “revolution appears long overdue in cartography” (Robinson, 1952, 13). For Robinson, this revolution was based on introducing a more rigorous (scientific) approach to cartography, which would focus map design around map use, or as he described it, “function provides the basis for the design” (Robinson, 1952, 13). Traditional concerns with map esthetics would be de-emphasised in favor of a functional account of how maps work.

Looking back from the end of the twentieth century it is now evident that cartography and mapping have changed even more than Robinson could know in mid-century. Although Robinson himself was instrumental in creating that revolution, recent developments in cartography have gone well beyond the model of maps as communication. This paper describes these developments as an “epistemic break” between a model of cartography as a communication system, and one in which it is seen in a field of power relations, between maps as presentation of stable, known information, and exploratory mapping environments in which knowledge is constructed.

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These developments represent an opportunity for cartography to renew its relationship with critical human geography, which has characterized cartography as atheoretical, and is often suspicious of the technical as an instrumentalist rationality. For example, in his discussion of the production of space and the world-as-exhibition, Derek Gregory (1994, 65) argues that proponents of GIS promote it as an abstract science and “in so doing a rhetoric of concealment is deployed that passes over these configurations of power-knowledge in virtual silence”, followed by a footnote to Goodchild and Openshaw; two “GISers” who have in fact been very vocal (from contesting positions) about the relations of GIS and society. Gregory is certainly not wrong to want to deprivilege representation as “an unproblematic reflection of the world” (Gregory, 1994, 75) but is himself unnecessarily silent about moves in cartography and GIS to do just this (as he would acknowledge). This paper is therefore meant to give voice to cartography’s nascent attempts to theorize representation and power relations, and to destabilize the correspondence theory of mapping practices. In so doing the goal is to re-establish a dialogue between cartography and critical human geography as a first step in a renewed relationship.

One approach to maps as representations and sites of power-knowledge is associated with writers such as J. B. Harley, Denis Wood, John Pickles, Michael Curry and Matthew Edney. Harley’s work in particular has been influential; he wrote more than 20 articles during the 1980s and early 1990s (he died in 1991) on maps as practices and relations of power and knowledge, overtly appealing to the work of Michel Foucault and Jacques Derrida, a strategy that was a bold intrusion of poststructuralist theory into cartography’s assumption of maps as communication devices. The timing of his contributions, his credentials as a historical geographer, and his co-editorship of the *History of cartography* project give him a unique position in the literature.

However, Harley’s work was by no means complete when he died. Most importantly, he did not formulate a clear research agenda for how one might implement his theories in practice. In this paper I suggest how a Harleian agenda can be developed, and how it might relate to Foucault’s work on power relations; especially the spaces for the possibilities of resistance to cartographic power, which are largely ignored even by those in the Harley “tradition.”

As a coda to this theoretical discussion, I provide a brief example of how geographic visualization (“GVis”) may be the method to Harley’s theory by discussing a three-dimensional interactive campus map which could be distributed on the Internet. Distributed mapping emphasizes multiple views and makes a good case study of the percolation of power relations.

Between them Harley and GVis challenge the prevailing picture of cartography as the communication of information from the cartographer to the map user. The “representationalist” picture of mapping gives way to one in which maps are part of a general discourse of power, which both enables and abridges possibilities for people to act. Harley and GVis indicate that mapping should proceed through multiple,

competing visualizations which are not created by a cartographer and transmitted to the user but made on the spot by the user acting as their own cartographer.

In other words, the search established by Robinson for the single optimal map through ever-clearer methods of map communication is over. This paper makes the case for an alternative landscape of cartography in which maps are recognized as social constructions. It concludes with an assessment of the common agenda which might be shared by both cartography and a critical human geography.

Development of the Map Communication Model in Cartography

Consider the following statement made in a review of the discipline of cartography:

The goal in 1950 was simply to make a map; in 1975, in theory, a map maker makes the map created by a cartographer who is supposed to be sensitive to the capabilities of his envisaged map reader. Corollaries of this view are a lessened concern for the map as a storage mechanism for spatial data and an increased concern for the map as a medium of communication. ... In communication the psychology of the map reader should set upper and lower bounds on the cartographer's freedom of design (Robinson et al., 1977, 6).

Here are contained most of the major principles of the map communication model (MCM). First, there is a clear separation between the cartographer and the user. Second, the map is an intermediary between the cartographer and the user. Third, the map communicates information to the user from the cartographer. And fourth, it is necessary to know the cognitive and psycho-physical parameters of the map user's abilities to comprehend, learn and remember information communicated by the map. This last point was repeatedly emphasized by Robinson and other cartographers from the 1950s on and represents a major contribution to the discipline. According to Andrews the MCM has "fostered the development of a philosophical and conceptual framework in cartography. ... {it is} responsible for dramatic shifts in cartographic methodology, research and map design" (Andrews, 1988, 185).

Prior to Robinson cartography was in fact less rigorous and less concerned with the user. Indeed, the map was considered the end result in itself and it is only in the second half of the twentieth century that attention was paid to such things as expert-novice differences, the child's understanding of maps, how people learn and remember maps, and so on. The goal of communication is clarity, and the user's expertise and familiarity with the map is an important factor in achieving clarity. Here then was a research agenda for cartography under the MCM; map design based on user testing. Although Robinson performed very little psychological map testing himself (although see Hsu and Robinson, 1970), by the 1970s the MCM was the predominant paradigm

in cartography (Robinson and Petchenik, 1977). There were two other factors which led to this.

Geography during the 1950s and 60s was going through a process of formalization, that is, the quantitative revolution. In particular the discipline was strongly influenced by books like *Models in Geography* (Chorley and Haggett, 1967), which included a chapter from cartographer Christopher Board on “maps as models” (Board, 1967). Board provided a clear theoretic link between Robinson’s scientific impetus and developments in systematic geography.

Finally, there was a rise of research in cognitive cartography, especially early work such as the UC Santa Barbara school (for a review, see Golledge and Stimson, 1997). Much of this work adopted a correspondence theory model of representation, which imbued the map as a record of the landscape (to which “distorted” mental maps could then be compared).

Under the MCM the goals of cartography are to produce a single, optimal (best) map, which presents information clearly, and which is based on known factors of map use. By contrast both the Harleian approach and geographic visualization question these four goals:

- The goal of a single map is superseded in visualization environments which provide multiple presentations of the data, animations, or rich interactivity;
- The goal of producing the “best” map is undermined by the Harleian-Foucauldian identification of maps as sites of power-knowledge. Judgments of best arise from privileged discourses which subjugate other cartographic knowledges (the non-scientific, the local, the populist or cartographies of resistance);
- *Presentation* is de-emphasized in favor of *exploration* of data; maps are transient (neither printed nor saved, but created and erased many times over) rather than near-permanent. This has implications for the map archive;
- The cartographer-user dichotomy is also conflated when users are their own cartographers, especially in Web-based online mapping.

In the next two sections I shall discuss these challenges to the map communication model provided by Harley and GVis.

Contemporary Challenges to the Map Communication Model

Political language – and with variations this is true of all political parties, from Conservatives to Anarchists – is designed to make lies sound truthful and murder respectable (Orwell, 1946/1968, 13).

As George Orwell noted in his enduring essay “Politics and the English Language”, political language does not simply communicate human ideas but is used to further particular interests. During the 1980s and 1990s cartographers have begun asking whether there is an analogous politics of representation of maps and mapping: can maps be usefully considered as politicized documents, that is, as documents formed within a discourse? To be sure, this was quite a leap; if any “theory” was to be found in cartography at this time, it was safely located in the map communication model, or in structural accounts of the map as a semiotic system.

Nevertheless, Harley began to trace out the relationships of political interests, power, and the hidden agendas of maps; the “second text within the map” (Harley, 1989, 9). This point of view does not seek to entirely remove the communicative process from maps, but it is a far more subtle reading of cartography. For Harley, maps do not communicate so much as provide a powerful rhetoric, and therefore can be critically examined as texts themselves. In this section of the paper I wish to examine Harley’s work as the conceptual component of my argument. I argue that Harley did not complete his project or go far enough and therefore it is necessary to sketch out a research agenda which begins with but importantly moves beyond Harley. One possibility, suggested here, is to more fully engage the work of Foucault, and to couple that with insights gained from the emerging field of geographic visualization.

Maps, Power Relations, and Communication

Harley’s retheorization of cartography

Student: Now then, over here we have a map of the entire world. You see there? That’s Athens.

Strepsiades: That, Athens? Don’t be ridiculous. Why, I can’t see even a single lawsuit in session ... but where’s Sparta?

Student: Sparta? Right over here.

Strepsiades: That’s MUCH TOO CLOSE! You’d be well advised to move it further away.

Student: But that’s utterly impossible! (Aristophanes, *The Clouds*, c. 423 BC[E])

The humor in this scene from Aristophanes’ anti-Socratic comedy lies in the dim-witted Strepsiades’ confusion between symbol and reality. It is as if by redrawing the map Strepsiades could move the old enemy of the city of Sparta to a safer distance, or that the map would show the notorious Athenian lawyers scurrying to court. Unlike the semiotician Alfred Korzybski who famously proclaimed that “the map *is not* the

territory” (Korzybski, 1948, 58), Strepsiades has a child-like vision of the map as somehow synonymous with the environment. On the other hand, the map is not completely divorced from the territory either. As Korzybski went on to say:

A map *is not* the territory it represents, but if correct, it has a similar structure to the territory, which accounts for its usefulness. If the map could be ideally correct, it would include, in a reduced scale, the map of the map; the map of the map, of the map; and so on, endlessly (Korzybski, 1948, 58, emphasis in original).

The question then becomes what is the relationship between the map and the territory if it is not the territory itself and yet is of it? Put another way, this is a key component to one of the abiding questions of the twentieth century: what is the nature of language (and symbol systems in general) and how does it represent?

Harley’s approach to this question arose from his career in the United Kingdom as a historical geographer, where he began to find that maps were such important source materials that he turned his attention to studying them *qua* maps. During the 1970s Harley developed several research projects which would prove to be very influential in the history of cartography; a systematic account of research in the field which emerged as the *History of Cartography* edited with his colleague David Woodward (six volumes, ongoing, University of Chicago Press) and a retheorization of cartography to account for the way in which maps acted as agents for the normalization of power relations.

To pursue these projects Harley moved in 1986 to the University of Wisconsin-Milwaukee and the American Geographical Society (AGS) Map Collection (initially catalogued by J. K. Wright in 1923, and moved from New York City to Milwaukee in 1978). At the AGS Collection Harley established the Office for Map History which has responsibility for the long-term projects and exhibitions mounted using the Collection.

Several of his projects with the AGS capture Harley’s interests at the time (Varanka, pers. Comm., 13 November 1998); Amerindian maps, the Columbian Encounters project (Harley, 1992b, 1990a) and Renaissance mapping for the *History of cartography* volumes. To some degree this work was interrelated, in that it seeks to document the power of mapping in subjugating populations, as well as the territorial power struggles arising when different populations encounter each other. The AGS sponsored much of this work for traveling exhibitions; for example the “Maps and the Columbian Encounter” (Mark Warhus, curator) appeared at the Newberry Library, Chicago and other locations after Harley’s death (Akerman, 1992).

In addition to this empirical research, Harley began to examine in more detail the question of how a map represents its territory through a remarkable series of papers challenging cartography’s communication-orientated theoretical assumptions (Harley, 1992a, 1992b, 1990a, 1990b, 1989, 1988a, 1988b.). As defined by the International Cartographic Association (ICA) a map is “a symbolized image of geographical reality,

representing selected features or characteristics.” The ICA’s definition endorses this representationalist model (Belyea, 1992). Cartography textbooks also make it very clear that one should match the symbol to the referent; for example, use *discrete* symbols (e.g. choropleth maps) to show *discrete* data such as sales tax rates and *continuous* symbols (e.g. isarithmic maps) to show *continuous* data such as temperatures. This relationship is often codified as the “visual variables” a set of map graphic building blocks which match spatial phenomena.²

In a seminal paper on “deconstructing the map” Harley (1989) sketched out an approach designed to challenge the primacy of the map as communication by focusing on relations of power and textuality. In a revised version of the paper he wrote:

Cartography has never been an autonomous and hermetic mode of knowledge, nor is it ever above the politics of knowledge. My key metaphor is that we should begin to deconstruct the map by challenging its assumed autonomy as a mode of representation (Harley, 1992a, 232, not in Harley, 1989).

Harley here appeals to the “crisis of representation” familiar to critical human geographers, by destabilizing language, fragmenting the subject, and politicizing our relationship to the “other” (e.g. maps of the Columbian encounter). In short, maps are social constructions. The map is not objectively “above” or “beyond” that which is represented; nor can one track back from the representation to some ultimate object, knowledge, or mind. One of the important implications of this is that according to Harley we should accept maps as rhetorical devices which dismantle the “arbitrary dualism” (Harley, 1989, 11) of propaganda versus true maps, or scientific versus artistic maps. Harley here echoes Foucault’s “dividing practices” which constitute subjects as either mad or sane, sick or healthy, criminals or “good boys” (Foucault, 1982, 208).³ These dividing practices are the result of a discourse of power-knowledge.

² Standard cartography textbooks which discuss the visual variables include Robinson et al. (1995, 319-21; 476-8), Dent (1999, 76-9 where they are labeled “symbol dimensions”), Slocum (1999, 22-5, 243-4) and MacEachren’s primer (1994, 15-34, see also p. 54 ff.). Dent says for example that “{t}here is a logical (and traditional) correspondence between geographic phenomena (point, line, area, and volume) and the employment of symbol types (point, line, area)” (Dent, 1999, 77). Slocum (1999) notes challenges to the map communication model, but adopts it anyway, while Tyner (1992) actively promotes it.

³ It is contested to what degree Harley worked from the primary texts of Foucault or Derrida, and to what degree he worked from secondary texts. Belyea (1992) makes a largely successful case for the latter as part of her argument that Harley did not fully embrace Foucault or Derrida. Yet Harley’s approach must be understood as one of bricolage; using handy ideas that he found lying around for his questioning of maps [...]. Belyea also argues that Harley maintained an orthodox understanding of the map as an image of the landscape, a position Harley would probably have agreed with, even as he questioned it.

Wood and Fels (1986) had earlier explored the idea of the map as a narrative in an essay influenced by the work of the French structuralist Roland Barthes (1972). For Barthes, semiotics could be extended to account for any system of signs, including travel guides, food, fashion and so on. These “mythologies” are sign systems which “naturalize” (make natural) their way of representing, but which are actually ideological moves which could be critically examined.⁴ For Wood and Fels, and in turn for Harley, scientific maps, by privileging accuracy and technical authority, promote their naturalization as well as forming a dividing practice of scientific and non-scientific maps, but in doing so “contain a dimension of ‘symbolic realism’ which is no less a statement of political authority than a coat-of-arms or a portrait of a queen placed at the head of an earlier decorative map” (Harley, 1989, 10).

By itself, this idea is not terribly new nor exclusive to those labeled poststructuralist or postmodernist. In 1942 J. K. Wright anticipated many of these points when he wrote:

The trim, precise, and clean-cut appearance that a well drawn map presents lends it an air of scientific authenticity that may or may not be deserved ... every map is ... a reflection partly of objective realities and partly of subjective elements (Wright, 1942, 527).

Novelists and writers have also explored the destabilization of the map as representation. In addition to Aristophanes, Lewis Carroll (1988), Luis Jorge Borges (1964), and Umberto Eco (1994) have played with the idea of a map at a 1 to 1 scale, i.e., actually co-extensive with the land it represents. A map at this scale pushes to the limit the Korzybski-like separation of map and territory.⁵

However, what all these accounts lack, and what Harley provided with his “deconstruction” is an account of the power relations of mapping, and the map’s agency as discourse. In other words a theorization of representation in the history of cartography. To do this, Harley’s 1989 article pursued three routes of investigation:

1. Eliciting the “rules of cartography,” which was meant to encompass both the well-known rules for the technical production of maps and the lesser known rules for the “cultural production” of maps. This route was inspired by the “archaeological”

⁴ In later work Barthes moved away from his earlier structuralist work to a more post-structuralist concern with the inter-relatedness of all texts (“intertextuality”) and their potential for multiple interpretations depending on the reader’s route through the text (“polysemy”) (Barthes, 1972). See also Edney’s comments on “de-naturalizing” the map (Edney, 1996, 188).

⁵ Eco actually develops Borges’ grand conceit by writing a mock feasibility study of how a 1 to 1 map could be constructed under certain conditions, e.g., that it be a map and not a ground-hugging plaster cast, or a transparent sheet through which one could view the actual territory or an atlas with partial pages, and so on. Like Korzybski, Eco concludes the enterprise is impossible because a true 1-to-1 map would have to contain itself (i.e., a map of the map, of the map, etc.).

work of Michel Foucault which sought to examine the formation of the archive, that is the rules of formation of statements: what are “its modes of appearance, its forms of existence and coexistence, its system of accumulation, historicity, and disappearance” (Foucault, 1972, 130).

2. Interpreting maps as texts, inspired by the work of Jacques Derrida and Roland Barthes. For Harley, maps are socially constructed texts, and as such can be interpreted in multiple ways, have contradictions and fragmentations, and cannot be traced back to a sovereign mind or subject.
3. Maps as practices and relations of power-knowledge. Harley considered two areas of power; that which was exercised by map patrons (monarchs, ministers and the state) over or with cartography for their own ends, or “external” power; and the power exercised by cartographers themselves which is “embedded in the map text” (Harley, 1989, 13), or “internal power.” For this route Harley again turned to the work of Foucault.

Thus for Harley the deconstruction of mapping was a heterogeneous amalgam of approaches. One aim was to reinterpret mapping as a non-positivist endeavor. Maps are situated in a particular set of (competing) interests, including cultural, historical, and political; maps can be understood by what they subjugate/ignore/downplay (what he called the silences and secresies, Harley, 1988b); and the way to interpret maps is not as records of the landscape but tracing out the way they embody power (in creating/regenerating institutional power relations such as serf/lord or native/European) and are themselves caught up in power relations, i.e. are not innocent (map deconstruction). In sum, “deconstruction urges us to read between the lines of the map – ‘in the margins of the text’ – and through its tropes to discover the silences and contradictions that challenge the apparent honesty of the image” (Harley, 1989, 3).

How successful was Harley’s project? To some degree, this must be judged not just on the popularity of his arguments (although he is probably one of the better known workers outside the discipline) but on how well he provided a viable research agenda. Deconstruction might reveal what the map was not (i.e., innocent, scientific, optimal), but what is left to say about what the map is? Here we face several obstacles.

First, Harley’s work is sadly incomplete due to his death when only 59 (just three years after the article which brought to the fore the Foucauldian notion of power-knowledge in maps, Harley, 1988a). For the practical implications of his theoretic work, we are limited to his last, unfinished writings (e.g., Harley, 1992b).

Second, Harley often failed to directly engage with the primary theoretical texts of Derrida and Foucault, displacing them in favor of secondary works. This has led Harley to sometimes misunderstand their work, or more precisely to fail to note differences between his position and those of Foucault and Derrida. For example, as Belyea (1992) notes, Harley’s argument depends on two notions which were rejected by Foucault: that there is a unitary “author” (e.g., of a map) which Foucault was at

pains to deny in *The Archaeology of Knowledge* (1972) and his early courses at the Collège de France, and that power can be separated into external or internal sources (e.g., “relations of power are not in a position of exteriority with respect to other types of relationships ... but are immanent in the latter,” Foucault, 1978, 94). To this we can add Foucault’s denial that power and surveillance are inherently negative or exclude the possibility of resistance (Foucault, 1997).⁶ Only in true domination is there no possibility of resistance: “where there is power, there is resistance” (Foucault, 1978, 95). What Harley would have made of these insights is hard to say, but they do point to the need to supercede Harley’s position. In this case, it may be more fruitful to speak of a *distributed* user/agent relationship in cartography, especially in relation to geographic visualization, where users are their own cartographers (e.g., in distributed mapping via the Internet).

Finally, Harley offers no *practical research agenda* or critical framework which would subsume his empirical and theoretic work, although the larger *History of Cartography* project is certainly consistent with that ethos (Edney, 1999, 6).

A Harleian Research Agenda It is therefore necessary to both start with and go beyond Harley if we are to proceed with the strategy of maps as social constructions. In this section, I sketch a working research agenda for cartography, one which is theoretically informed and empirically grounded, and which will therefore renew its relationship with a critical human geography. This agenda consists of two major thrusts and one critical implication.

1. Provide a social history or anthropology of maps and mapping as contingent and contesting representations, that is, maps as social constructions.⁷ This would understand map history as evolutionary, but not as a progression to better (because more scientific or accurate) maps; a cartography without “progress”

⁶ In this interview from late in his life, Foucault is careful to clarify his understanding of power. He opposes the “states of domination that people ordinarily call „power”” (Foucault, 1997, 299) with a different concept of power as strategic relations or games of strategy, “a set of procedures that lead to a certain result, which, on the basis of its principles and rules of procedure, may be considered valid or invalid, winning or losing” (Foucault, 1997, 297). “Power is not evil. Power is games of strategy” (Foucault, 1997, 298), and “in power relations there is necessarily the possibility of resistance because if there were no possibility of resistance ... there would be no power relations at all” (Foucault, 1997, 292). Mediating between these two levels are “technologies of government” (Foucault, 1997, 299) or practices of the self and of freedom, an ethics of the concern for self as a way of reducing domination as much as possible. These ethics of the care of the self were the subject of his last series of books on the history of sexuality, of which volume one (Foucault, 1978) also treats power in some detail.

⁷ Harley comments: “{r}ather than working with a formal science of communication ... our concern is redirected to a history and anthropology of the image ... {a}ll this, moreover, is likely to lead to a rejection of the neutrality of maps, as we come to define their intentions rather than the literal face of representation, and as we begin to accept the social consequences of cartographic practices” (Harley, 1989, 8). This is a good summary of key implications in his work.

(Edney, 1993). This approach seeks to “de-naturalize” the map: “the intention is to break through the shell of objectivity with which our culture has surrounded the map in order to expose and then study the map for what it is: a human practice” (Edney, 1996, 188). The advantages of such an approach are that one avoids privileging certain forms of maps as better because they are more scientific (i.e., more accurate). It also allows us to stop worrying about map objectivity (as in the case of propaganda maps) and to accept intersubjectivity instead; that is a model of right and wrong (an ethics) which is contingent on society, culture, and history, not on foundationalist knowledge. Finally, and critically, a wider appreciation of the diversity of cartographic forms is possible, not solely those which correspond to reality “the best.” Are there more cartographic forms which have not yet reached prominence? As I shall suggest in the conclusion, one promising candidate is online or distributed mapping.

By positioning maps within their societal power relations, a richer account of their purpose could be provided. Furthermore, this interpretation can be extended to contemporary digital cartography, distributed mapping and GIS in the context of their relations to society. In this view, the critical issues of differential access to digital resources (and more importantly knowledge of their operations) as well as the larger concern for the ethics of mapping are included. This extension goes well beyond Harley’s core area of the history of cartography, but is supported by work he planned to do with John Pickles on the ideology of the map. Suggested research questions:

- The question of the unity of authorship and discourse destabilized by Foucault in his *Archaeology of knowledge* (1972). Under what circumstances is a map authored? Are either the traditional maps-are-by-individuals or poststructuralist maps-are-cultural productions satisfactory accounts?
 - The question of map readership: or, actually, the question of the cartographer/user where users make their own maps. Are maps (e.g., on the Web) a writerly text in Barthes’ sense?
 - The social history of accuracy: how do notions of accuracy vary with time? What is accuracy’s role in establishing the primacy of Enlightenment cartography? Are there particular moments when accuracy was especially privileged, or where lack of accuracy has led to a deprivileging?
 - Who has access to online mapping (maps on the Internet) and who does not? Further, who is knowledgeable and who is not? Can an ethical geography intervene (Crampton, 1999a)?
2. Document the power of the map by tracing out the genealogy of power discourses, that is, how maps are strategies and relations of power-knowledge. These discourses establish the environment in which we as human beings act; sometimes opening up new possibilities and sometimes abridging them in what Foucault called the “disciplining” of a population. As Harley observes “{t}hose who raise questions about ... how {maps} act as a power-knowledge in society ... are not merely trying to rewrite history. They are also alerting us to the present” (Harley, 1990, 12). It is noticeable that one of the implications of this Foucauldian position

(a history of the present) is that it turns our emphasis to the production of the subject by the map rather than to explications of the map's meaning. In geography an obvious parallel is the production of nationality and space by cartographic partitioning, for example in Bosnia (Crampton, 1996).

Harley's bipartite division of "external" and "internal" sources of power is ultimately too crude. We can add other aspects such as the silencing power of maps (Harley, 1988b), for example, how the map contributes to disempower constituencies such as the poor (Yapa, 1996) or for example differential access to GIS, the Web and online mapping (Crampton, 1999a), or how the map speaks for others by subjugating knowledge. Suggested research questions:

- How do maps work to produce knowledge? What is the discourse of cartography?
 - What would a full account of power relations in mapping look like? Is such an account sufficient/necessary/possible?
 - What is the relative status of these categories? For example, is silencing a separate order of power relations (i.e., to disempower rather than empower)?
 - What are the resistances to power? What strategies of cartographic opposition are possible either with maps (Wood, 1992 especially Chapter 5) or against their disciplining tendencies (Edney, 1996)?
 - Are power and surveillance necessarily negative? Although this is a common assumption, it was never held by Foucault.
3. One emergent implication of Harley's work is to emphasize the importance of multiple perspectives and multiple maps. By contrast to the communication model which identifies a single optimal map (one which communicated the ideas and knowledge of the cartographer most clearly to the map user) in a Harleian agenda polysemy [multiple meanings] and multiplicity [of viewpoints] are preferred. As I shall emphasize in the next section, the best candidate for the production of multiple maps is geographic visualization, which overturns the communication model by promoting exploration rather than presentation, contingency rather than finality.

It is noticeable that this Harleian agenda is markedly concerned with ethics and justice. It is also remarkable how he has shaped the intellectual terrain; not just in the *History of Cartography* project, but in his ethical concerns (e.g., Monmonier, 1991), his validation of theory (Delano Smith, 1996; Edney, 1996; Jacob, 1996), and the relationship of technology and society (e.g., the NCGIA Initiative on GIS and Society). In the next section I wish to provide a coda to this theoretical discussion via the emerging area of geographic visualization.

Maps as Visualizations: Geographic Visualization (GVis)

Defining visualization Geographic visualization (GVis) refers to the ability of maps, graphics, and images to make visible spatial relationships. As such one of its primary objectives is the very geographical desire to find spatial patterns in the data. To some extent, visualization is what cartographers have been doing all along in the sense of making aspects of the world visible, but there are important differences. Geographic visualization also refers to the added capabilities of interactive mapping software such as rotating the data in three dimensions, adding or stripping away data layers during data exploration, or querying the map interactively. As MacEachren points out, “visualization is foremost an act of cognition, a human ability to develop mental representations that allow geographers to identify patterns and to create or impose order” (MacEachren, 1992, 101). There is thus a sense that GVis allows different kinds of questions to be asked in geography. Because it emphasizes data exploration (a process) over data presentation (a product), it cannot be encompassed by the map communication model. GVis is a questioning or sense making activity, compared with the MCM, which is an answer delivering model.

The differences between visualization and traditional cartography can be captured using the concept of “cartography cubed” (C^3) (MacEachren and Fraser Taylor, 1994). Cartography cubed is a method of understanding different kinds of uses of maps. The “cube” contains three dimensions; private-public, high interactivity-low interactivity, and revealing knowns-exploring unknowns. [...] Traditional cartography has emphasized public use, low interactivity and revealing knowns, while visualization emphasizes private use, high interactivity, and exploring unknowns.

The tripartite division of cartography with its emphasis on data exploration was an extension of the work of DiBiase, who in turn applied the “exploratory data analysis” (EDA) of statistician John Tukey. In DiBiase’s original conception, map usage went through various stages, with only the last being seen by the public (i.e., being published). These stages were exploration-confirmation-synthesis-presentation.

It is noteworthy that the published maps we are used to seeing only represent the last of these four stages. Data exploration, generation and confirmation (or disconfirmation) of hypotheses, and synthesis of these hypotheses are “hidden” processes of map use (i.e., they are private), but which are nevertheless extremely critical. It is these processes of which GVis consists.

A practical example of GVis GVis can be illustrated with work done on a digital three-dimensional visualization of community and city size spaces such as GMU-3D (Crampton, 1999b, Simmons, 1998). In GMU-3D a fully interactive and navigable environment (a university campus) is presented in true three dimensions (i.e., multiple “z” values at each x, y location). The visualization is populated with human “avatars” (computer representations of people) with whom one can interact, as well as trees, roads, buildings and clickable flags or information points.

As one moves through this environment it is apparent that there is no single “optimal” perspective, and in fact one is induced to explore the dataset. For example, as a new student to the campus, one enters the environment by calling it up over the World Wide Web. Interactivity is available immediately. Viewing a long distance view of the campus the user rotates the view to the desired orientation, zooms in (changes scale) and navigates along pathways to the desired building (e.g., the Registrar’s Office). The user can then enter the building and is presented with a floor plan which [can be queried] directly [...].

The 3D environment is multi-scalar and multi-purpose. Because 3D environments are believed to be more easily understood than either 2D paper maps or 2D interactive representations, a range of possible users and applications is possible, depending on the datasets implemented. In addition to students, physical plant engineers could use it to locate active Ethernet jacks in a building, parking lots can be queried for available spaces, lighting can be remotely controlled, disabled access indicated and so on. However, one need not “do” anything in the environment; one of the lessons of virtual environments is that people from disparate spatial locations like to gather to chat for recreation or education. These discussions can be facilitated by being in the “appropriate” virtual environment (e.g., classrooms for classes, the bus stop for ordinary conversation).

Production of 3D GMU was done in VRML (Virtual Reality Modeling Language) in order to reduce file size so that bandwidth would not prevent the environment being distributed over the Internet. To render the landscape large scale base maps of the campus were “extruded” to obtain the layout of the buildings. This produces featureless cubes and so architectural details then have to be added from design plans and photographs of extant buildings from multiple positions. For much of this data it is necessary to heavily generalize and simplify it to reduce bandwidth. Finally, where specific detail is needed, the virtual geographer will create texture maps for added verisimilitude (e.g., crenellations or towers).

Tying it all Together: Renewing Cartography’s Relationship with Geography

We have seen how the main underpinnings of contemporary cartography are going through a transition, or epistemic break. One of the arguments of this paper is that this transition represents an opportunity for cartography to renew its relationship with geography by establishing commonalties of interests. In this final section I outline a series of research questions which could be jointly addressed by the disciplines of cartography and geography. This list is by no means meant to be all-inclusive, nor anything but the perspective of one person. All that can be offered is that they provide an echo of how cartography and geography may find spaces of resistance to surveillance, to see the opportunities as well as dangers of visualization (that is, to decry “logics” of technology), to emphasize the social construction of cartographic knowledge rather than a system of communication, and to engage the implications of distributed mapping.

Convergence of Spatial Technologies

One issue in common is that of a convergence of the major applied mapping practices; digital cartography, remote sensing and GIS (Crampton, 1998). This convergence is especially noticeable between cartography and GIS. The convergence is happening for several reasons; the development of GVis by cartographers, which results in queryable, interactive maps, and the traditional use of GIS to make user defined maps based on queries. A logical step from here is to integrate scientific visualization methods with GIS (Cook et al., 1997). Perhaps the most dramatic emerging technology is the integration of visualization, knowledge discovery in databases (KDD or data mining) and distributivity via the Internet (MacEachren et al., 1999). This type of integration of spatial analysis tools and guided querying of multiple archives (e.g. of separate climate databanks at different federal agencies) is very useful if done transparently to the user, who may access from a highly distributed set of locations. In the United States, the Digital Libraries Initiative (DLI) aims to put a cartographic interface on such georeferenced data. With a DLI the user can search for images, maps or other environmental data and metadata via a cartographic front-end on the Internet. The best known digital library of spatial data is the Alexandria Digital Library (Buttenfield, 1999). However, like all powerful tools, geographers need to recognize the implicit power-knowledge structures, and how they may be used to cross-match and cross-reference data on individuals (Goss, 1995).

Hypermedia Forms and Distributed Mapping

The second issue is that cartography and GIS are both emerging as major capabilities on the Internet. Distributed mapping is still at an early stage, nevertheless it is likely to provide many new and exciting capabilities for geographers. How might political action be enabled or retarded by the distribution of information about political strategies or faster access to knowledge about resistance groups (I'm thinking here of the Zapatista in Mexico, or the nearly year-long Congressional block on the results of Washington, DC's vote on medical marihuana usage). Will access to the "other" deconstruct nationalism or stereotyping, e.g., in the classroom? Access here may include pictures of the environment, live chats, exchange of news, as well as maps. Indeed, distributed maps are dissimilar from traditional static maps in that they link information from various sources and provide a user-defined environment. The information may be in many forms (maps, images, sounds, video and text) which may be connected via hyperlinks into a multimedia database; in other words a hypermedia environment (from [the Greek word] "huper" [meaning] "over, beyond"). Here it is not the map which is the focus, but the mapping environment as a whole (a process, not a product). Because the environment is interactive, the user in large part (although not entirely) determines what information is to be displayed, at what stage, at what scale, and in what context (i.e., with what other information). It is in this sense that we talk about "user defined" mapping (Crampton, 1999b). Finally, how might the very idea of

the “map user” be challenged by synchronous, distributed, interactive access to spatial data?

The Geography of Virtuality

A third issue needs to be separated out, and that is the new online spaces which these mapping environments themselves are creating. These mapping environments, often featuring photo realistic three dimensional spaces, which might best be understood as new virtual worlds or “cybergeographies” can themselves be mapped and used, or understood as quasi-geographical spaces with their own communities, spatial relations (e.g., centers and peripheries) flows and interactions. This is the new “geography of virtuality” (Crampton, 1999a).

A question of interest to geographers is to what extent virtual geographies replicate or differ from physical geographies (Batty, 1997; Dodge, 1998; Taylor, 1997). This question is especially pertinent in an era of globalization where physical distances are supposed to be becoming extinct (Cairncross, 1997). For example, global financial markets are now described as “free of distance” with international investments and back offices separated physically, but in intimate contact across telecommunication lines. It is likely that many will want to resist this death of distance through a renewed discussion of time-space compression, or a more optimistic vision of civic participation (Light, 1999) or transgression of national boundaries. What then are the cartographies of cybergeographies (Kitchin, 1998)? For example, a notable feature of many virtual spaces is the degree to which they replicate traditional physical spaces, complete with costs of distance. These similarities raise interesting questions about the persistence of spatial relations and the importance of physical space as a metaphor even in a virtual world. If physical spatial relations are inevitably duplicated in virtual worlds what does this mean about the centrality of geography in human life?

Issues of Ethics

Many of the issues proffered here have implicit questions of ethics. In the case of information, for example, a balance is required between access and protection of personal privacy. As much as the Internet establishes new geographies of access, it also brings with it the probability of increased surveillance. Geography has in the past two or three years seen a resurgence of interest in ethical issues, very much including the possibilities of resistance to surveillance. In addition, and very substantively, there are cartographies of colonialism and post-colonialism, the recovery of subjugated knowledges, and the questioning of how a mapping knowledge-practice becomes a science – an ethics of cartography.

These four issues constitute the start of a renewed relationship between cartography and a critical human geography, not this time in commonalities of spatial analysis, but maps as social constructions.

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Putting “Cartography” into the History of Cartography: Arthur H. Robinson, David Woodward, and the Creation of a Discipline

Matthew H. Edney

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The study of the history of cartography underwent substantial changes in the second half of the twentieth century. In 1960 it was little more than a branch of map librarianship and connoisseurship, an antiquarian backwater with relatively limited academic significance. Yet today, after a dramatic “paradigm shift” in the 1980s, the history of cartography is a widely respected field of study in the Anglophone world.² Scholars across the humanities and social sciences increasingly find the study of maps to be intellectually challenging and the interdisciplinary insights their study generates to be academically rewarding. The most obvious components of this intellectual revolution were J. B. Harley and David Woodward’s massive *History of Cartography* (Harley and Woodward, 1987-2007) and Harley’s own polemical and pyrotechnical essays (most reprinted in Harley, 2001). It is understandable that commentators have focused on this dramatic period of reform (Edney, 2005b, 1-17). Yet in doing so they have overlooked earlier and equally important efforts by academic cartographers to reconfigure and extend the study of map history. This essay explores that earlier period

¹ Reprinted from the journal *Cartographic Perspectives* with permission of the North American Cartographic Information Society and Matthew Edney, who has revised the original.

² Fabrikant (2003) properly reminded U.S. scholars that academic cartography is truly an international institution; the same is true for the history of cartography. Even so, my subject matter requires me to concentrate on Anglo-American developments in the study of the history of cartography.

of reform. In particular, it examines the crucial contributions made by Arthur Robinson and his student, David Woodward, to the formation of the history of cartography as a field of study.

The development after 1945 of cartography as an academic field of study entailed the significant augmentation of existing traditions of map history. Established historical interest in cartography focused on the assessment of map content. Led by Robinson, academic cartographers pursued an “internal”³ history of cartography in which they studied past practices and techniques of map production and design. They placed “cartography” front and center within the historical picture. At root, this new approach to cartographic history was an ideological exercise: academic cartographers used their historical studies to define and delimit the very scope and nature of their academic enterprise. Subsequently, academic cartographers legitimated and validated their new position within academia by modeling cartography as a communicative science. Woodward in turn used academic cartography’s communicative principles to reformulate the study of the history of cartography, expanding the internal history of cartography into a subject of humanistic significance. That move turned out to be a crucial element in the formation of the new “critical paradigm” of map studies in the 1980s. Thus, it is doubtful that the history of cartography would today occupy such a favorable intellectual position if academic cartographers had not first put “cartography” into the history of cartography.

The Traditional Approach: An Empiricist History of Maps

It is actually rather misleading to posit a coherent field of study called “the history of cartography” for most of the eighteenth, nineteenth, and twentieth centuries. Rather, a number of professionals, librarians, professors, and lay scholars built a loose-knit, international community around a common interest in old maps. This community lacked a unifying identifier: the viscount de Santarém might have coined “cartography” in 1839 to mean the “study of maps,” by which he specifically understood old maps, but that label was very quickly appropriated by mapping

³ After 1970, a generation of self-consciously radical historians of science sought to promote their own scholarly interest – in placing science into social and cultural contexts – by sharply distinguishing it from established scholarship that emphasized the development of scientific ideas as almost pure, abstract forms. They called their own history of science “external” (broad-based, good), the established “internal” (narrowly focused, poor). Yet such an ideologically motivated distinction is impossible to maintain in practice and it has since mellowed into a scheme of classifying scholarship along a continuum constructed between two impossible ideals (the utterly external and the utterly internal). There remains, however, a more restricted use of “internal” – which this essay employs – as a label for histories of science which serve the ideological function of legitimating and justifying the professional preconceptions, institutions, and ideologies of a scientific discipline. (One can thus write a generically internal history of science without being ideologically internal, but not *vice versa*.)

professionals for their own endeavors (Harley, 1987, 12).⁴ Although nameless and diffuse, the community of scholars interested in old maps all adhered to a common conceptual foundation: maps are unproblematic, scientific documents of spatial fact. This “empiricist paradigm” had its origins in the eighteenth century. Not coincidentally, this was the era when the first general overviews of map history were written by map makers with intellectual pretensions, such as John Green and Denis Robert de Vaugondy (Harley, 1987, 10-2). Such map makers presented their own work as the modern culmination of the process by which geographical maps had steadily improved in both the quality and quantity of their content. Many map makers have since prefaced their own atlases and textbooks with similarly rhetorical historical overviews that perpetuate the professional field’s ideological claims to be a *science* (notably, Raisz, 1938, 1-70). Such professional desires to place one’s work at the forefront of cartographic progress has not, however, promoted the detailed study of particular cartographic episodes.

Detailed historical studies were accomplished by scholars interested in the content of old maps. R. A. Skelton (1972, 5) succinctly summarized their motivation: “the content of maps has undergone continuous change through time” and it is “this changing content that gives maps significance as documents for social, economic, and political history.” Map scholars fell into three interrelated groups: geographers and historians; librarians and archivists; and, map dealers and collectors. Geographers and historians have been interested in old maps because they can serve as primary sources of information about the past: if the flow of information from the world to the map is unproblematic, then the proper interrogation of an old map will provide spatial information about the past. Santarém, for example, was a diplomat who sought to use old maps to shed light on international boundary disputes. Librarians and archivists, especially those in the large national libraries, have sought to make potential users – i.e., geographers and historians – aware of the collections under their control and have accordingly undertaken a great deal of the writing about the history of maps. Furthermore, the standard library practices of selecting maps according to the quality of their content and then of organizing them according to the areas mapped have emphasized the progressive increase over time in the quantity and quality of spatial information and have encouraged the production of regional cartobibliographies and map histories. Finally, dealers and collectors have tended to privilege those maps which were the first to record specific items of spatial information and which therefore serve as markers of the progress of human knowledge and science (Harley, 1987, 12-23).

Map history was thus handmaiden to other historical scholarship. As William Cumming (1974, xi) could assert, from a position firmly within this traditional approach to map studies, the task of the map historian was simply to analyze old maps

⁴ Author’s note: Since this essay was originally published, Van der Krogt (2006) has found that several German geographers coined the term for the map-making profession in the 1820s.

so as to generate “historical, geographical, and ethnic information” for use by scholars in other fields. In the 1960s, some scholars sought to formalize the study of old maps by regularizing the contextual information necessary for other scholars to interpret maps properly as historical documents (Edney, 2005b, 19-31; Harley, 1968; Skelton, 1972, 103-7, and 1965). Studies of map content have necessarily led to studies of map projections, land surveying, marine navigation, and the biographies of individual cartographers (Skelton, 1972, 62-3, 90-1). They have also promoted the publication of facsimiles of old maps to allow wider access to otherwise rare materials, often with scholarly introductions to allow historians to interpret those maps properly (Blakemore and Harley, 1980, 33-44; Harley, 1987, 17-9; Skelton, 1972, 73-85, 93-6). Yet whatever their precise concerns, all detailed map studies were founded on the belief in the ineluctably progressive nature of cartographic information.

Arthur H. Robinson: Cartographic Design and the Internal History of Cartography

A few map scholars did consider the history of the techniques involved in map making, incorporating them into the history of map content so as to construct triumphalist narratives in which maps served as surrogates for progress within Western civilization (e.g., Goode, 1927). The only single-volume history of cartography written to date with an emphasis on cartographic technologies was produced on this basis (Brown, 1949, 1953). Precise studies of mapping techniques did not become common until the establishment after World War II of cartography as a valid academic field of study. Academic cartographers then employed a new, internal history to validate their intellectual concerns. By explicating how cartographers in the past designed and physically made maps, they could locate themselves in a trend-line of progress not in the generation of map content but in the techniques and technologies of map making as an implicitly apolitical endeavor.⁵ The result was the prosecution of an internal history of *cartography* as a craft and profession in parallel with the more traditional map history.

The crucial figure in the post-1945 establishment of an academic cartography in North America was, of course, Arthur Robinson.⁶ During the war, Robinson had been

⁵ See especially the reconfiguration along strictly technological lines of Skelton’s (1972, 5) empirically judicious statement of cartographic progress by Robinson (1982, 12-13). Tyner (1992, 5) echoed Robinson in her upwardly trending graph of “cartographic activity” over time. See also the two historical summaries created as institutional projects (Kretschmer et al., 1986; Wallis and Robinson, 1987).

⁶ Despite the centrality of maps to geographical studies, academic cartography barely existed in the USA before 1945; see McMaster and Thrower (1991) and accompanying essays, including Robinson (1991). For (auto)biographical information, see Robinson (1947, 190-1), Robinson (1979), Ristow (1983), Anonymous (1996), and Cook (2005).

in charge of the [Office of Strategic Services']⁷ preparation of maps to inform the decisions of the officials who ran the political side of the war. He had realized that, although map scholarship had hitherto focused almost entirely on the “substantive research” of collecting and accurately reproducing spatial data at large scales, the creation of smaller-scale “specialty” and thematic maps was in fact a design process rooted only in unexamined “convention, whim, and ... ill-founded judgment.” After the war, Robinson therefore set out to develop cartographic “design principles based on objective visual tests, experience, and logic”; his agenda featured “the pursuit of research in the physiological and psychological effects of color,” the reexamination of accepted conventions, and “investigations in perceptibility and readability in typography” (Robinson, 1947, vii and 10; see also Robinson, 1952, viii and 13). Such research would not only regularize the principles of map design, he argued; it would also prevent the political abuse of maps by unscrupulous propagandists and establish cartography as a properly academic discipline. By the 1970s, Robinson’s proselytizing had indeed achieved the formation of a new academic discipline – complete with degree programs and professional journals – rooted in the study of effective design for small-scale, specialized maps (McMaster and McMaster, 2002; Montello, 2002; Robinson, 1979; Robinson et al., 1977; Slocum et al., 2004, 18-32; Wolter, 1975).

Robinson relied extensively on an historical approach to define his vision of a logically rigorous discipline of cartographic design. He rewrote the empiricist paradigm’s established historical narrative to make room for his own vision. He did so by asserting that cartography had in fact bifurcated *circa* 1800: military and civil engineers took over the main line of cartographic progress with their large-scale, national or colonial surveys (the epitome of general-purpose mapping) and remained uninterested in map aesthetics; in contrast, social scientists pursued small-scale cartographies, through which they presented their understandings of how the earth and society functioned, and they began to be implicitly interested in aesthetic and conceptual questions of information presentation (Robinson, 1952, 7-8, and 1947, 1-2). It was within this second trend that Robinson could identify the evolution of “the cartographer” as a design professional (Robinson, 1975, 3). Moreover, this second trend had since 1940 experienced a period of “rapid development,” in what was effectively a cartographic revolution as profound as that of the Renaissance, and so needed to be properly institutionalized in centers of national excellence (Robinson, 1982, 12-5, 1976b, and 1952, 3). These points have been inculcated in several generations of students through the introductory chapters of Robinson’s crucial textbook, *Elements of Cartography* (Robinson, 1953, 1-8).⁸

⁷ Editors’ note: The Office of Strategic Services was the precursor of the Central Intelligence Agency in the USA.

⁸ The historical introduction has been repeated, with only slight variations, in the later editions. For similar arguments, see also Cuff and Mattson (1982, 1) and Tyner (1992, 1-18). Slocum et al. (2004, 18-32) provide an interesting variant of the historical preface: their institutional history of U.S. academic cartography culminated in the recent eclipse of cartographic design education by GIS, thereby

No doubt strongly motivated by his own interest in history – he had majored in History at Miami University, Ohio (Anonymous, 1996, 468) – Robinson also explicated the preconditions of his new discipline with detailed studies of the history of cartography as a craft, and in particular of the history of thematic mapping. He began with three studies of exemplary thematic maps from the nineteenth century: Henry Drury Harness’s statistical maps of Ireland from the 1830s (Robinson, 1955); Charles Joseph Minard’s *cartes figuratives* of statistical flows, such as his famous 1869 map of Napoleon’s Russian campaign (Robinson, 1967); and, Alexander von Humboldt’s highly schematic isothermal map of 1817 (Robinson and Wallis, 1967).⁹ While his purpose in each study was to tell the history of each map designer and their works, he was nonetheless interested in elucidating the effectiveness of their representational strategies and in drawing lessons for current cartographic practice. For example, Robinson and Wallis (1967, 120) found that Humboldt’s map of isotherms exemplified a truly crucial design principle, previously expressed by Humboldt (1811, Volume 1, cxiii-iv), that “a map ..., overcharged with signs, becomes confused, and loses its principal advantage, the power of conveying at once a great number of relations.” Robinson subsequently paid closer attention to the development of the concept of the isoline, whether through the statistical creation of the isopleth or the generalization of measurements through isometric lines (Hsu and Robinsin, 1970, 3-4; Robinson, 1976a, 1971). His historical *summa* [comprehensive treatise] was, of course, his monograph on *Early Thematic Mapping in the History of Cartography*, a work committed to the bifurcation of cartographic progress in the early 1800s, such that “thematic {i.e., academic} cartographers had no official connection, and little professional contact, with the makers of general maps {i.e., surveyors}” (Robinson, 1982, 18).

Our remembrance of Arthur Robinson as a significant historian of cartography in his own right should not be allowed to obscure his more profound legacy for cartographic history: his advocacy made historical studies a legitimate and central enterprise for the new academic cartographic profession. Many academic cartographers have undertaken internal histories, focusing in particular on thematic mapping (MacEachren, 1979; Castner, 1980) or on cartography’s “technological transitions” (Monmonier, 1985). Of particular importance in this respect was Robinson’s support for strongly internal historical studies by his own doctoral students, notably Norman Thrower (Thrower, 1978, 1966, 1958), Karen Severud Pearson (Cook, 1995; Pearson 1983, 1980, 1978), and David Woodward (Robinson, 1982, xii). Yet the internal history of the academic cartographers remained largely

presenting an implicit rationale for the book itself as a means to educate GIS-users in the principles of thematic cartography design.

⁹ Robinson clearly drew extensively on the internal history that permeated Max Eckert’s early and exhaustive manifesto for a critical study of maps and map design. In addition to an initial bibliographical overview of map history studies, Eckert (1921-1925, Volume 1, 24-48, 115-32, 410-97, 2, 244-65, and 430-519 *passim* [throughout the text]) based each topical section – e.g., map projections, relief depiction, geological mapping, and demographic mapping – on a progressivist overview of the development of that particular aspect of cartographic practice.

distinct from the older tradition of the history of map content. Some academic cartographers did apply their statistical skills to cartometric studies of map content in order to quantify historical progress (Blakemore and Harley 1980, 54-75; Maling, 1989), but very few sought to reconcile the two sets of historical practice at a conceptual level. Robinson himself did appear to do so once, in the mid-1960s, when he argued that cartography could make a meaningful contribution to a liberal education because “there are few results of man’s activities that so closely parallel man’s interests and intellectual capabilities as the map.” The map is therefore “an ideal device around which to build such a study of man’s changing interests {i.e., content} and abilities {i.e., techniques}”; there was accordingly “as much validity in studying maps as human documents ... as there is in studying the changing attitudes toward romanticism, symbolism, realism, etc., in period literature” (Robinson, 1965, 39-40 and 45). The crucial step of blending the two historical approaches, with the result of promoting the study of maps as “human documents,” would be taken by David Woodward.

David Woodward: Map Form and a Humanistic History of Cartography

Academic cartographers definitely motivated some of the community of map scholars to espouse a broader understanding of their subject matter. Academic cartographers developed several models of cartographic communication during the 1960s in an effort to define themselves as “communication scientists.” Regardless of their form (Edney, 2005b, 36-41), these models modified, in principle at least, academic cartography’s ideology in two important ways. First, they extended the field’s subject matter to encompass the use as well as the design of maps. Second, they collapsed the two streams of mapping endeavor construed by Robinson – the “substantive” and the “specialty” – into a single process common to *all* maps, whatever their scale and purpose. This even-wider conception of the field seems to have contributed to the manner in which more traditional scholars began in the later 1960s and early 1970s to think in terms of a wider and further reaching history of cartography. Both Skelton (1972, 62)¹⁰ and Armando Cortesão (1969-1971, Volume 1, 4) would advance definitions for a new field of the “history of cartography.” Shortly thereafter, Helen Wallis (1973, 252) would suggest that historical studies should address maps as part of a larger, cartographic communication system.

David Woodward would serve as the primary interpreter of academic cartography’s concerns for map historians. He was always deeply committed to the study of the art and design of maps: he left Britain in 1964 to study with Arthur Robinson not because of Robinson’s historical work but because of Robinson’s

¹⁰ Skelton (1972) originally comprised a series of essays presented in 1966. As posthumously published, it represents a significant hybridization of traditional and internal approaches to map/cartographic history.

Elements, the definitive text on cartographic design. As a graduate student, Woodward addressed issues of map design, and especially the aesthetic influences of printing technologies, through historical studies that were necessarily internal in character (Woodward 1970a, b, 1967a, b). He was also interested in the non-historical dimensions of map design; for example, he briefly contemplated developing a postdoctoral research project on the subject of “the psychophysical aspects of map lettering.”¹¹ However, his 1969 appointment to be the Newberry Library’s first map curator, and in 1970 to be director of that library’s newly created Hermon Dunlap Smith Center for the History of Cartography, ensured that his cartographic interests would be expressed primarily through historical studies.¹²

Inevitably, Woodward saw the history of cartography through the lens of the academic cartography in which he had been trained. He was not impressed. “I am appalled,” he wrote to Harley in December 1969, “by the lack of organization reflected merely in the chapter headings of such standard books as Bagrow-Skelton, Tooley, etc.” Some “organizational principle” was clearly needed to be imposed on the field to give it structure and discipline.¹³ Harley, who had come to the study of old maps as an historical geographer interested in elucidating their content, had just previously suggested that traditional cartographic studies should be regularized by the application of the historian’s critical principles of evidentiary analysis (Harley, 1968; Edney, 2005b, 28-30). Woodward certainly appreciated Harley’s desire for intellectual rigor,¹⁴ but as an academic cartographer he nonetheless held that the desired disciplinary structure could come only from cartography itself. To this end, he used several of the models of cartographic communication – in particular, Koláčný (1969) – to inform his own “suggested framework” for the study of the history of cartography (Woodward, 1974).

With his framework, Woodward tried to encompass all the elements relevant to the study of the entire scope of cartography, balancing the highly abstract and idealized communication models with his more pragmatic experiences in map production: the rows comprised the stages of cartographic communication, from the acquisition of data through their representation and dissemination to their consumption by the map user; the constituent personnel, processes, and products defined the columns. He could then

¹¹ Woodward to Derek H. Maling, 24 April 1968, Newberry Library, Archives RG 07/07/01.

¹² Edney (2005a) and Edney (2005b, Chs. 3-4) provide biographical and bibliographical information.

¹³ Woodward to Harley, 16 December 1969, Newberry Library, Archives RG 07/07/01, referring to Bagrow (1964) and Tooley (1949).

¹⁴ Woodward, “Center for the History of Cartography: Monthly Report, September 1971,” 11 October 1971, Newberry Library, Archives RG 07/07/01, 2, identified Harley as one of several scholars who formed a “new ‚school’ of thought” and who sought to place “the history of cartography ... on a firmer methodological base ... by discussing or demonstrating methodology in substantive work.” Woodward also noted that such “ideas are in my own line of thinking.”

graphically indicate the partiality of existing histories of cartography by shading cells representative of the material they dealt with. [...]

Woodward consciously presented his framework as a means to unify the two genres of map studies into a single, coherent field. With columns for both “production” and “product,” he could bring together either side of what he saw as the “fundamental distinction between the study of the making of the map and the study of the map itself.” Overall, he argued that all the cells in the matrix dealt with aspects of map *form*, which is to say the proper subject of historical study informed by academic cartography, whereas map *content* permeated the entire matrix, flowing from one cell to the next. Ultimately, map form and map content were indivisible; ultimately, a single history of cartography could be attained through the subordination of map content to a *cartographic* framework. Woodward could thus conclude that the history of cartography *per se* is properly “the study of maps, mapmakers, and mapmaking techniques in their human context through time” (Woodward, 1974, 102 {quotation}, 107-8, and 114).

As broad and as encompassing as it was, Woodward’s framework did seem to privilege the processes of making maps over those of using maps. As J. H. Andrews pointed out when Woodward first presented the framework at the 1973 international conference on the history of cartography, it could not easily handle the social and cultural institutions and circumstances within which maps were made and, more significantly, in which they were used: cartography’s socio-cultural context called for more than just the final row of cells allocated by Woodward (Blakemore and Harley, 1980, 45-53; Woodward, 2001c, 37n, and 1982). Making allowance for this point would have required Woodward to completely reconceptualize his framework and so he made no changes for the published essay. Yet he quickly incorporated this general issue into his thinking and in doing so gave the history of cartography a still firmer foundation as the study of an ineluctably human endeavor. This is evident in a paper he presented to a 1977 symposium in which he laid out his plans for a new research project on sixteenth-century Italian commercial cartography. The detailed analysis of the physical form of maps – the precise techniques of their printing, their paper and its watermarks, the assembly and binding of maps into composite atlases – would shed new light on the commercial practices of the map trade which would in turn shed new light on the nature of cultural production in the Italian Renaissance (Woodward, 2007, 2001b, 1996, 1980). Ultimately, this perspective required the interdisciplinary study of maps, a point to which he alluded in 1977 and which was convincingly validated by the 1980 Nebenzahl Lectures on art and cartography (Woodward, 1987; 1980, 139).

The potency and efficacy of Woodward’s conception of the history of cartography as a single field, structured and delimited by contemporary conceptions of cartography as an intellectual and so human endeavor, is evident from his interactions with Brian Harley in the 1970s. Harley had initially developed his cartographic interests in order to assess the worth of eighteenth-century, medium- and large-scale maps of England for historical geographical studies; he had undertaken a number of

detailed studies of the English map trade, which had produced those maps, and he had become especially interested in the medium-scale topographic maps of North America published by William Faden during the American Revolution. This last project led Woodward to invite Harley to present two lectures in the fourth series of Nebenzahl Lectures, held at the Newberry Library in November 1974, which had as its subject the mapping of the revolutionary war (Harley et al., 1978, 1-78). After the lectures, Woodward prevailed upon Harley to extend his analyses of map production to the uses to which maps were put in the eighteenth century (Harley 1976; Harley et al., 1978, 79-110). It was to accomplish this task that Harley first sought to theorize the nature of cartography, relying on the communication models advanced by academic cartographers to do so (Edney 2005b, 47-50).

Most importantly, Woodward in 1977 persuaded Harley to abandon plans for what Harley envisioned as a four-volume history of the mapping of North America and instead to collaborate with Woodward on a four-volume general history of cartography (Woodward, 2001a, 23-24, 1994, xxiii and 1992). In other words, Harley discarded a plan conceived according to the concerns of the traditional history of map content – in which maps are grouped together and studied simply because they happen to show the same geographical area – in favor of a study that groups together and studies maps according to the common practices and processes by which the maps were made and used. The result, of course, was the multi-volume *History of Cartography*, a work committed to the study of the cartographic activities within each country rather than to narrating the progressive history of geographical information of each country. Harley’s and Woodward’s conception was strongly grounded in the goals of an internal history: a “general history of cartography ought,” at the very least, they wrote, “to lay the foundations for a world view of {cartography’s} own growth” (Edney 2005b, 51-56; Harley and Woodward 1987-2007, Volume 1, xviii).

Yet the conviction that the history of cartography is a humanistic discipline concerned with what are at root human endeavors that are part and parcel of larger socio-cultural trends – which is to say the sort of history that Woodward and Harley consciously set out to establish with the *History of Cartography* (Woodward, 1985, 69) – is actually incompatible with an internal history of cartography. To understand map making and map use as human endeavors requires consideration of *all* mapping endeavors and not just those which contributed to the present-day concerns of academic cartography; moreover, it requires the understanding of past cartographic endeavors on their own terms and not as part of a supposedly progressive history of cartographic techniques.

Harley and Woodward thus eventually moved from a history of *cartography* to a *history* of cartography. It was to define the intellectual foundations of just such a history that Harley would move in the 1980s beyond models of cartographic communication to engage with linguistics, iconography, the sociology of knowledge, and poststructuralism (Edney 2005b, Chs. 5-7). Harley and Woodward sought to reinvest academic cartography with this newfound humanism when they argued that

the scope and nature of academic cartography should be defined by historical studies and *vice versa* (Harley and Woodward, 1989). Yet their argument made little impact on academic cartographers, at least of an older generation, who have rejected Harley's powerful critique as being largely irrelevant to cartographic practices and who want histories that are relevant to academic cartography's present-day concerns (Edney, 2005b, 2-7).

Conclusion

An historical sensibility and particular historical studies were crucial elements in the formation of the post-1945 academic discipline of cartography. On the one hand, a clear sense of the overall outline of the history of cartographic techniques validated and legitimized the mission of Arthur Robinson and his colleagues to establish map design research as an appropriate field of study within higher education. On the other hand, studies of past cartographic techniques shed important light on the issues of map design and production. The result was the undertaking of what might be called an internal history of cartography. This new history complemented the existing tradition of map studies, which focused on the history of map content, by putting "cartography" into the history of cartography. Both trends of inquiry were implicitly progressivist in nature, the one emphasizing the ineluctable increase in quantity and quality of map data, the other the technological revolutions that have underpinned the craft of cartography.

In reconciling these two distinct approaches, David Woodward followed his academic training to advocate the study of the practices of map making and map use. But by focusing on such practices in the past, where they do not have any necessary connection to those of the present, Woodward understood them as fundamentally human endeavors. His work in the 1970s had a significant impact on the work of Brian Harley, who was forced to put cartography into his own historical map studies. Eventually, the pursuit of the humanistic nature of map making and map use led Woodward to look beyond the disciplinary concerns of academic cartography, no matter how committed he remained to those concerns in his teaching and professional service.

In the mean time, however, Woodward built upon Robinson's work to establish that the history of cartography is, indeed, properly concerned with *cartography*. Studies of map content have persisted but they are increasingly outmoded and marginal to the field, to the point where Simms and van der Krogt (2008) – neither of whom could be called "radical" – recently argued without irony that the single theme of the 1967 international conference on the history of cartography, "Early Maps as Historical Evidence," was "rather poorly chosen" because it gave "the conference and its papers too much the feeling of a historical geography conference than one properly on the history of cartography." Internal histories of cartography continue also to be written by academic cartographers, but they seem to have generally fallen out of favor

as academic cartography has been increasingly redefined by digital technologies (Harley and Woodward, 1989). It is the new form of cartographic *history* which has flourished as an interdisciplinary field. It is thus something of a paradox that Robinson never gave up on the empiricist paradigm that underpinned both traditional map studies and academic cartography (Fremlin and Robinson, 1998), yet he and Woodward lay the foundations for a new, critical paradigm of map studies.

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