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ENVIRONMENTAL SOCIOLOGY: AN ANALYSIS OF TRENDS

by

Gregory M. Fulkerson

A Thesis
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the
requirements for the
Degree of Master of Arts
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Western Michigan University
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Gregory M. Fulkerson

ENVIRONMENTAL SOCIOLOGY: AN ANALYSIS OF TRENDS

Gregory M. Fulkerson, M.A.

Western Michigan University, 2000

This thesis describes the current status of environmental sociology, and presents an invitation to the reader to engage in the topic of the environment. It begins with a review of the literature, focusing on the origins of sociology and the theory of ecology, and presents the framework for the content analysis. The content analysis investigates the content and number of environmental sociology articles in mainstream sociological journals. In addition to the articles themselves, it analyzes the schools and authors of these articles. This analysis is supplemented with an analysis of environmental journals, enumerating the total number of environmental journals in both sociology and environmental studies, in which environmental sociology articles can be published. The paper concludes that environmental sociology is both a topic and subdiscipline, which currently commands roughly five percent of mainstream articles for the past thirty year period. It also illustrates the wide variety of topics that are studied, indicating which particular topics are currently the most popular among mainstream sociological journals.

TABLE OF CONTENTS

ACKNOWLEDGMENTS ii

LIST OF TABLES v

LIST OF FIGURES vii

CHAPTER

I. INTRODUCTION 1

Contributions of the Environment to Sociology 2

Contributions of Sociology to the Environment 3

My Project: What is Environmental Sociology? 5

II. LITERATURE REVIEW 8

The Theory of Ecology: Origins of Environmental Sociology 10

Barriers to New Human Ecology: The Origins of Sociology 14

The Conceptual Framework of My Analysis 22

Chapter Summary 34

III. METHOD 35

Analysis of Journal Articles 37

Authorship and School or Institution of Origin 44

Environmental Journals 45

General Issues in Content Analysis 45

Strengths and Weaknesses of Content Analyses 49

IV. AN UPDATED ASSESSMENT OF ENVIRONMENTAL JOURNAL ARTICLES 52

Table of Contents—continued

CHAPTER

Environmental Articles 52

Core Environmental Sociology 55

Topical Area of Environmental Sociology 57

Chapter Summary 60

V. AUTHORSHIP AND SCHOOL OR INSTITUTION OF ORIGIN 62

Author and Number of Publications 63

Schools 63

Departments 65

Gender of Authors 67

Chapter Summary 69

VI. ENVIRONMENTAL JOURNALS 71

Total Number of Journals 71

Overlapping Journals 73

Chapter Summary 74

VII. CONCLUSION 76

Summary 76

Discussion 78

APPENDICES

A. Coding Sheet 81

B. Secondary Coder Results 84

BIBLIOGRAPHY 86

LIST OF TABLES

1. Ontological Assumptions for Two Models of Understanding 14

2. Contrasting Paradigms 19

3. Proposed Likelihood of the Possible Combinations of Areas and Topics in Environmental Sociology 34

4. Summary of Research Design 51

5. Overall Percentage of Environmental Articles 53

6. Overall Percentage of Environmental Articles Across Journals 54

7. Overall Percentage of Environmental Articles Across Tiers 54

8. Overall Percentage of Core Articles 55

9. Overall Percentage of Core Articles Across Journals 56

10. Overall Percentage of Core Articles Across Tiers 57

11. Overall Percentage of Topics 58

12. Overall Percentage of Topics by Tier for 25-year Period 59

13. Overall Percentage of Topics by Tier for 5-year Period 59

14. Percentages of Authors and Publications 63

15. Percentages of Schools and Articles 64

16. Percentage of Schools by Author Publications 65

17. Department of First Author 66

18. Department of Second Author 66

19. Department of Third Author 67

20. Gender of First Author 68

List of Tables—continued

21. Gender of Second Author 68

22. Gender of Third Author 68

LIST OF FIGURES

1. Conceptual Differences for Core and Issues 26

2. Number of Environmental Studies Journals Over Time 72

3. Number of Sociological Journals Over Time 73

4. Mean Number of Overlapping Journals Over Time 74

CHAPTER I

INTRODUCTION

When modern environmentalism emerged in the United States, the rising tide of enthusiasm extended into academia. Though many mark the beginning of this modern era with the first Earth Day of 1970, environmentalism had existed in some shape or form long before this monumental point in history. As Cylke (1993) points out, the conservation era actually began in 1890 when the federal government announced the end of American Frontierism. It was during this time, in 1890, that the National Park System was founded, inspired by the provocative writings of John Muir and Henry David Thoreau. In addition, several organizations concerned with the preservation of wild areas and natural resources emerged, such as the Sierra Club, which was founded in 1892. However, it wasn't until roughly the time of Earth Day 1970 that environmentalism began to reach an unprecedented level of interest and attention from the American peoples - among them were sociologists.

As we enter a new century, a new millenium, and as we explore new directions in sociological thought, the urge to gauge where we have been and where we are going as a discipline is of paramount importance. This urge, coupled with a love of the natural environment, is what encouraged me to go forth with this research project.

Before I go any further with the details of my work, I would like to verbalize my intentions and my beliefs, so as to make clear the position I am taking. I believe that all research is conducted from a location in history and a place to which the researcher belongs, and that an articulation of these biases will assist in the future

interpretation of my study.

Contributions of the Environment to Sociology

I am trying to persuade sociologists to consider how the environment is relevant to the areas of study of which they are already familiar. I feel that this is an important step for sociology. Not only could it challenge the content and form of our discipline, but it could also expand the way we think about the world in which we live. However, for some the relevance of the natural environment is still unclear. It is my hope that readers of this variety will walk away from my thesis with a greater appreciation for the significance of this issue, and consider all of the possible connections their work could have with the natural environment.

I want this to be an open invitation to the adventurous sociologist seeking exploration into an area of thought that is early in its development. In my opinion, environmental sociology has existed long enough to create a substantial body of literature, yet, it has not existed long enough for stagnation to occur. An analysis of this literature reveals a theoretical gap, which is in need of being reconciled.

I liken my idea of the current status of environmental sociology to a jigsaw puzzle. When the pieces are initially emptied from the box, the task of assembling the puzzle can be quite daunting. However, as the border takes shape and small portions emerge, hope begins to grow. The puzzle may become nearly impossible to abandon. The desire to fit every piece to its rightful location becomes too tempting to ignore. From my point of view, several pieces are missing and there is a growing demand for more people to put the puzzle together.

If my invitation is still not appealing, then let me add some more incentive. Many, including myself, argue that environmental sociology could significantly alter

the way we conceive sociology. Classical and contemporary theorists, who have heretofore been interpreted solely for their social insights, are being re-interpreted for insights pertaining to environmental concepts. The content of theories that have, to some extent, been taken for granted are suddenly adopting a new shade of green, due to their environmental insights. I will explore this idea further in my discussion in the literature review.

It is well known that environmental problems continually emerge, and either persist or perish as social problems. Many current environmental problems are the result of careless human activity, which I think can and should be changed. Sociology has the ability to understand what motivates humans to act, and conversely, it is beginning to understand the ways in which the environment influences human action. Without a healthy environment, there is no society. Humans are dependent on their environment for survival. We are not only social creatures, but biological creatures as well. To ignore this state of human existence is not only detrimental for the advancement of sociological knowledge, but it is also a dangerous way for us to think about our lives. We could be cutting our own lifeline without even knowing that it is our lifeline.

Contributions of Sociology to the Environment

Conversely, I believe that sociology has a major contribution to make to the study of the environment. Specifically, it offers a unique understanding of environmental issues. The literature of environmental studies has been limited to the natural, biological and physical sciences, and has received a relatively small amount of attention from the social sciences, including sociology. As sociologists, we understand that the problem of the environment is a problem because it has been

defined that way by society, regardless of any truly existing phenomenon. Hence, we offer a critical speculation of these definitions before accepting them. This of course does not preclude an understanding that environmental problems actually do exist in a reality separate from human awareness. Rather, sociology is a tool that scholars can bring to the study of environmental problems, which other disciplines have been unable to provide.

As a tool for the environmental movement, sociology could prove to be an invaluable asset. Instead of trying to conduct their own social research, environmental groups could turn to existing literature and/or social research agencies to answer questions about public attitudes, values, and behaviors regarding some aspect of the environment. This would allow for a more efficient form of environmentalism. For example, when I had an internship with an environmental organization in Michigan, I recall a time when an outside social research agency was hired to conduct focus groups of various officials to understand their opinions and views of a new form of "wet cleaning" - an alternative technology to the traditional practice of dry cleaning. The process of dry cleaning requires the use of several toxic chemicals, which contaminate precious water sources. Therefore, if the new alternative were plausible, then it would minimize or eliminate this contamination problem. This shows how applied sociology can be an important tool.

However, not all groups in the environmental movement have the resources to hire an agency to conduct their research. For example, people who are affected by environmental racism or classism often form a grassroots resistance group. By definition, a grassroots group will lack the needed organization, expertise, and resources to go head to head with powerful corporations. I propose that sociologists act as agents for these powerless groups of people by adopting the responsibility of

exploring the dynamics involved in general, as well as in specific locations. For example, Bunyan Bryant and Paul Mohai testified in Congress on behalf of an environmental justice act, by offering their research (Bryant and Mohai, 1992) on toxic waste siting and race. They showed how race is a better indicator of toxic waste siting than any other variable, including economic status. This is a good example of how environmental sociology has been used as a tool to help real people involved in the environmental movement in one form or another.

Examples, such as the ones I cited above, are enough to warrant an investigation that describes the content of environmental sociology. Such an investigation, I hope, will highlight areas of research that are lacking development, as well as areas of research that have a clear and proven track record for creating a substantial body of literature, and thus contributing to the overall jigsaw puzzle. If we have a better idea of what our tool is, then we will have a better idea of how it can and should be used.

My Project: What is Environmental Sociology?

If environmental sociology is indeed as valuable as I have claimed it to be, and if a better understanding of its capabilities will assist us in knowing the potential it has as an area of study, then the next logical step is to provide an in-depth overview. The first task in this overview is a review of the literature. I examine the roots of environmental sociology by looking at the history of the theory of ecology. I discuss the many forms this theory has taken, and relate it to the most modern use of it in sociology, the "new human ecology." In addition, I look at the history of sociology with a special focus on the way in which the environment has been handled historically. I point out the barriers that have stood in the path of developing a

perspective that incorporates the natural environment.

Following the review of the literature, I outline my method. I explain how my thesis is made up of three major parts. The first part is an update of a previous study, which looked at mainstream sociological journals for the 25 year period ending in 1993, and showed the number and kind of environmental sociology articles that have been published in our most widely read journals. I will bring this descriptive study up to date by looking at the 5 year period ending in 1998.

The second major section of my thesis is really an extension of the first. It includes a look at the authors and schools that have been responsible for the environmental articles published in mainstream journals. I look at the number of publications these authors and schools have been responsible for producing, in order to understand the extent to which the topic is either dispersed or centralized. Based on my findings, I will draw conclusions about environmental sociology as either a topic or a distinct sub-discipline. As a topic, it is accessible to any and all scholars regardless of their individual specialties, but as a sub-discipline, the environment is treated as a specialty area in and of itself. In addition, I will look at the departments and genders of these authors. The findings from the department subsection will convey the number of authors writing in sociological journals, who are not working in sociology departments. The subsection on gender is actually a pilot study within my thesis, where I report that males dominate the study of environmental sociology.

The third major section of my thesis is concerned with environmental journals. The purpose behind this section is to know if the total number of available journals that could potentially host environmental articles have been increasing.

Based on these three sections I will draw conclusions about environmental sociology as both a topic, and a sub-discipline. I will show how the number of

articles published in sociological journals is increasing, and how the content of the articles is changing. Finally, I will show that the total number of journals specializing in the environment is increasing. I will now begin a discussion of the literature that pertains to past and present forms of environmental sociology.

CHAPTER II

LITERATURE REVIEW

> Thus environmental sociologists depart from the traditional sociological insistence that social facts can be explained only by other social facts. Indeed, its acceptance of "environmental" variables as meaningful for sociological investigation is what sets environmental sociology apart as a distinguishable field of inquiry. (Dunlap and Catton, 1979; pp. 244)

Dunlap and Catton, arguably the founding fathers of environmental sociology (for a discussion of this argument, see Freudenburg and Gramling, 1989), claim that mainstream sociology defines the environment as "social and cultural influences upon behavior" (Dunlap and Catton, 1979; pp. 245). The reason that sociologists have historically defined it in this way is because of the "taboo against 'biologism'(Burch, 1971; pp. 14-20) " (Dunlap and Catton, 1979; pp. 245), or the reduction of human behavior to strictly biological explanations. They claim that this taboo came into existence as a response to the tendency, at the turn of the 19th Century when sociology emerged, to relate all human affairs to Mendelian genetics or Darwinian evolution in the scientific community. An example of this tendency is the famous criminologist, Cesare Lombroso, and his typification of criminals as atavists in the human gene pool (Gould, 1996). He claimed that by studying a criminal's physical features (e.g. facial structure, body shape, etc.) an assessment could be made as to whether or not the particular person was 'normal' or a genetic throwback to some evil primitive form of mankind. It was in this climate that sociology emerged to provide alternative answers - answers that would focus on relevant social variables, rather than biological variables. While this was effective in combating the tendency

to reduce everything to a biologism, it had the negative impact of reducing explanations to a sociologism, or the reduction of all human affairs to strictly social explanations. In either case, problems have arisen because such reductions are inherently limited by a disciplinary bias. Each bias lacks an appreciation for the complex interaction of the multitude of natural, psychological, and social characteristics that comprise human existence, both individually and collectively.

As an alternative to settling for either of these reductions, explanations that cross the boundaries of these orientations are necessary. For this reason environmental sociology may be able to provide invaluable information in the quest to explain the human condition.

It is my intention to use the remainder of this literature review to provide a brief history of the origin and current direction of environmental sociology. To begin this discussion, I will introduce the theory of ecology. The dominant theory of core environmental sociology, labeled "new human ecology," has its roots in the literal and metaphorical interpretations of this theory. Following this discussion, I will explore the barriers to this framework, focusing more on the history of sociology and the pattern of reductionism that has allegedly hampered its growth as a discipline. Finally, I conclude my discussion by presenting the conceptual framework that I used for my study, which is based on a study done by Krogman and Darlington (1996). In this section, I will highlight and define the key terms and constructs that inform my method. To illustrate how these terms and constructs manifest themselves in actual research, I will use examples from the literature I reviewed in my content analysis of mainstream sociological journals.

The Theory of Ecology: Origins of Environmental Sociology

According to Worster (1994), the term "ecology" was coined by a leading German disciple of Charles Darwin named Ernst Haeckel in 1866, when he wrote the landmark text, *Oecologie*. This term was formulated from the same Greek root word found in the term "economy," a metaphor used as a way of understanding the relationships between living organisms and their competition for scarce resources. Prior to the acceptance of this term, biologists referred to the "condition of the struggle for existence" or the "economy of nature" (Worster, 1994; pp. 192), and hence, had already been thinking "ecologically."

Haeckel defined his new term as "the science of the relations of living organisms to the external world, their habitat, customs, energies, parasites, etc." (Haeckel, 1866 in Worster, 1994), but the true originality of the term would later be developed by individuals who started calling themselves ecologists - most of whom were formerly calling themselves geographers (Worster, 1994). One such ecological geographer was Alexander von Humboldt, who introduced the idea of a holistic approach, which is perhaps the most important contribution to the meaning of ecology. Using a holistic approach, the study of plants was of as much interest to ecologists as the interrelationships these plants had with their external environment. Worster (1994) explains,

> Plants, in this system, are social creatures. They gather into societies that may assume composite appearances strikingly different from one another, depending on the life forms that dominate each society. For Humboldt, the appeal of this approach... was as much aesthetic as scientific: to see and appreciate a forest whole was as important to him as explaining its composition. (Worster, 1994; pp. 194).

Later ecologists, some of whom were students of von Humboldt, would go on to further the breadth of their disciplinary boundaries to include such things as

climate and soil conditions, as well as an array of other natural processes. The term and the discipline, as we now know it, had been widely accepted in scientific circles.

Emanuel Gaziano (1996) argues that this was indeed the case. He claims that the scientific acceptance of this term extended to sociologists, who would use it as a metaphor. Pioneering the sociological usage of the term "ecology" were Park, Burgess, and Mckenzie from the Chicago School. In 1925, 59 years after Haeckl coined the term, Park presented their work, *The City*, at the American Sociological Society.

According to Gaziano (1996), some interpretations of this research have contended that Park applied the ecological theory to human organization in a literal fashion. However, he maintains that it was actually only intended as a metaphorical device. He argues that Park viewed sociology as a smaller part of the larger scientific enterprise. Biology, according to Park's way of thinking, was also only a small part of the scientific enterprise, equally valuable and not superior to sociology. Operating under this assumption, he felt that there should be some things that all scientific disciplines have in common, and that he was, in the last analysis, simply borrowing theoretical ideas from fellow scientists.

Gaziano (1996) points out that this open communication between scientists also went in the other direction. He rightfully notes that the term "ecology" originated from the imagery provided by economic theory, which, of course, is a concept born out of the social sciences. Ironically, ideas like "competition" and "the struggle for existence" are concepts that were historically used in economics long before Darwin, Haeckl, and the like decided to adopt them for their purposes.

From this imagery provided by ecological theory, Park (1936; pp. 15) arrived at what he called the "social complex." Its main concepts were population,

organization, and technology, which were seen as interdependent and reciprocally influenced by one another. He used this modified version of ecology to conduct several tests based in the city of Chicago. The result of this effort was the famous work, *The City*.

In this analysis, Park attempted to explain social change and disorganization in the city of Chicago, much like a natural ecologists might explain the social change and disorganization in a bird species on a tropical island. For example, he stated that older institutions of social control, such as the church, the family, and the neighborhood were coming to be replaced by new institutions, such as "juvenile courts, juvenile protective associations, parent-teachers' associations, Boy Scouts, Young Men's Christian Associations settlements, boys' clubs of various sorts" (Park, et al., 1925; pp. 109-110). These changes were brought about by a massive reordering of the social climate (i.e. traditions, folkways, mores, etc.). The biological ecologists might make a similar argument for the tropical island, claiming that natural climatic changes (temperature changes, changing precipitation patterns, etc.) have led to a replacement of bird species A, B, and C by species C, D, and E. This example demonstrates how Park employed his metaphor to emphasize the social environment, without ever referring to the natural environment in a literal manner.

Another example of how Park used ecological theory metaphorically, is in his mapping of the city into "Natural Areas and Urban Zones." Perhaps this was what led some to believe that Park was literally applying ecological theory to his work. Park tried to map out the city of Chicago like a geographical ecologist might map out a mountain range to illustrate the types of conditions that exist in each region. In the end, Park's map turns out to be a rather vague estimation of his alleged "zones," however, it is clear that ecological thinking was present in his work.

In each of the zones in these concentric circles, Park contends that predictions can be made about the people who are their occupants. The patterns that define these regions are geographically located in physical space by their proximity to the core of the city. Subsequent interpretations argue that these zones were not only superficial, but they also lacked any real geographic space. At best, it can be argued that Park's form of human ecology accounts for "spatial" characteristics of human society; however, an argument can not be made suggesting that other physical characteristics of the environment are accounted for.

Proponents of "new human ecology" take a step back by looking at how the "social complex" influences, and is influenced by, the biophysical environment (beyond spatial arrangements), to create what Dunlap and Catton (1979) refer to as the "ecological complex." In short, the ecological complex is concerned with how environmental quality affects and is affected by human population, organization, and technology. For example, diminishing oil resources are prompting exploration into the ocean floor to uncover new reserves. The human demand for this unreplenishable resource, encouraged by an ever increasing population, advancing technology, and increasing social organization, could result in defacing and possibly polluting our oceans. However, if this demand was to be shifted to an alternative energy source, through a new technological innovation, then the ocean may be safe, but the environmental consequences of the alternative resource may be unknown. This example shows how the interplay of human organization, technology, population, and the environment interact in a mutually dependent fashion. I would now like to explore the historical barriers to the development and application of this theory.

Barriers to New Human Ecology: The Origins of Sociology

Dunlap and Catton (1979) trace the allegedly anthropocentric history of sociology back to Emile Durkheim, and specifically to his work, *The Rules of Sociological Method*. In this definitive volume, Durkheim prepares an agenda for a particular type of research methodology that is still widely recognized as effective, and rigorously followed by sociologists to this day. Its ontological basis is derived from the natural science model of inquiry. Table 1 compares the assumptions of this model of inquiry with an alternative, the ecological model, using Merchant's (1992) ideas.

Table 1

Ontological Assumptions for Two Models of Understanding

Assumption Regarding...	**Natural Science Model**	**Ecological Model**
Matter	composed of atomic parts	everything is connected to everything else
The Whole	equal to the sum of its parts	greater than the sum of its parts
Knowledge	context-independent	context-dependent
Change	comes from rearranging the parts	primacy of process over parts
Relationship between humans and non-human nature	duality	unity

According to Dunlap and Catton (1980), the fundamental problem with the natural science model is that it asks for an analytic separation of the social world from the natural world, consistent with the epistemological view of ithe whole" being equal to the sum of its parts. The analytic separation of these "worlds" is often reified by sociologists, so that a mechanistic perspective comes to underlie our

understandings of the "real world." This is obviously fallacious, since the real world does not fit as neatly into our scientifically constructed boxes and categories as we would like. However, it may still be useful to maintain this perspective at the analytic level. After all, assuming the existence of analytically distinct worlds was useful for rejecting the unjustifiable reduction of human behavior to strictly biological explanations, which was a prominent feature of the scientific landscape when Durkheim offered his methodology. The reason this analytical separation would become problematic is because it has resulted in a set of guidelines bent on ignoring or undercutting the unification of these worlds, discouraging the practice of boundary crossing. Hence, Dunlap and Catton (1980) conclude that sociology has hit a barrier - the only solution to which would be a new form of sociology, operating under a new set of holistic guidelines, offered by the ecological model.

Others, however, are more reluctant to accept the hypothesis that classical theorists were closed to environmental factors, and the associated dialectical relationship with human society. For example, Foster (1999) cites the recent trend of "unearthing alternative foundations within the classical literature, neglected in later interpretations" (Foster, 1999; pp. 368). To illustrate, he points to Raymond Murphy (1994) for his neo-Weberian approach to the environment, employing the notion of the iron cage. Murphy (1994) more or less agrees with Dunlap and Catton (1979) on the issue of paying more attention to the "real world" aspects of society. However, he claims that Max Weber foresaw the process of rationalization having consequences for nature. In a sense, he states that Weber was arguing in favor of the holistic approach, which has since been advocated by more recent environmental sociologists.

Foster (1999) also offers his own interpretation of Marxist theory as an

example of a rethinking of classical thought on the environment. He states:

> [Marx] provided his systematic treatment of such issues as soil fertility, organic recycling, and sustainability in response to the investigations of the great German chemist Justus von Liebig - and in which we find the larger conceptual framework, emphasizing the metabolic rift between human production and its natural conditions. (Foster, 1999; 370)

The theory of metabolic rift, in short, discusses how the dialectical relationship of "Man" and the natural environment is disrupted by capitalistic forms of agriculture. For instance, waste produced by livestock may be treated as burdensome and disposed of under a capitalistic model, but under an organic model of agriculture such "waste" is treated as a rich source of nutrients for the soil, thus continuing a natural process of recycling. An example of this organic approach is shown in the coexistent living arrangement of humans with cows in India. In "India's Sacred Cow" (Harris, 1974), it is argued that westerners often wonder why hunger-plagued Indians refuse to slaughter and consume their cows. Without even turning to a discussion of the religious and spiritual reasons related to this issue, an argument is made that doing so would only make things worse for both the cow and the worker. Cow droppings are not only an important fertilizer for agricultural lands, but they are in addition, a good source of energy. Cow manure has unique properties, which make it a nice alternative to wood or coal. For instance, it creates a steady source of heat for a prolonged period of time, which is useful for cooking certain Indian dishes which would be scorched by an intense flame. In India, the natural processes related to the soil and the worker go uninterrupted.

This emphasis on the soil and the worker is an interesting interpretation of Marx's dialectic between "Man and Nature." According to Buttel (1996) there is "a vast neo-Marxist literature in environmental sociology, and there are few other areas of sociology today that remain so strongly influenced by Marxism" (61). A strong

case has been by the likes of Foster (1999) and Buttel (1996), which suggests that Marx was indeed a classical environmental sociologist.

Hannigan (1995) offers some ideas on "major issues and theoretical approaches" in environmental sociology. He argues that with the emergence of the new environmentalism, symbolized by Earth Day 1970, sociologists became aware of a lack of development in both theory and research with respect to the society-environment relationship. In his overview he arrives at a similar conclusion as Foster - that the three major classical sociologists (Marx, Durkheim and Weber) were all interested in the society-environment relationship (however marginally), and claims that subsequent interpretations of their work seemed to overlook or ignore this aspect of their work. This problem, identified by Foster (1999) and Hannigan (1995), of only utilizing some aspects of a theory because of a false or incomplete interpretation, has been labeled the "appropriation problem," and it seems to offer an explanation for the current status of sociological theory with regard to the environment Hannigan (1995) goes on to explain how there were, in fact, biological and geographical theories of determinism that predated this classical sociological work. For example, he cites Buckles work, *The History of Civilization in England*, as a theoretical piece on how nature has a greater impact on 'primitive' societies. As these societies develop agricultural and industrial modes of existence, they develop more complex social structures and cultural ideologies, which increase their abilities to overcome the natural constraints associated with a mode of existence directly tied to nature (i.e. hunting and gathering or pastoralism). Hannigan (1995) states that primitive sociological thought, such as that of Herbert Spencer, also drew heavily from biological and evolutionary imagery.

By the 1920's, Hannigan (1995) claims that social and cultural thought began

to displace theories involving any sort of environmental determinism. The distaste for and fear of "eugenics and scientific racism" further propelled a science of society to reject any natural causes for socio-cultural behavior.

Sociology has been confronted with its non-environmental bias. Because of this bias, the past thirty years have seen a fluctuating level of attention in sociology pertaining to the environment. Hannigan (1995) notes:

> Special issues on environmental topics have appeared in a number of sociological journals... The Annual Review of Sociology has twice (1979 and 1987) featured essays on environmental sociology as well as pieces on energy and on the sociology of risk. (Hannigan, 1995; 11)

In spite of these sporadic instances, the acceptance of the environment as a relevant sociological consideration has been difficult, and there seems to be no easy answer for overcoming this fundamental bias.

The way around this bias, according to Catton and Dunlap (1978), would have been to convert the entire discipline to a new paradigm: the "New Ecological Paradigm." To demonstrate what they meant by this, they distinguished between two paradigms in sociology, and one paradigm outside of sociology. The first sociological paradigm, is what they call the "Human Exemptionalist Paradigm" (HEP), which contains any theory that ignores the interplay of social organization and behavior with the natural biophysical environment. As the name entails, human social organization is treated as if it were exempt from the same natural laws to which "lower" creatures are subjected. The "Human Exemptionalist Paradigm" grows out of what they call the "Dominant Western Worldview," which is more or less the paradigm commonly held by citizens of the western world. Their proposed paradigm, the "New Ecological Paradigm" (NEP), is what they consider to be a necessary precursor to a true environmental sociology. Table 2 summarizes the basic assumptions that each of these perspectives advance, according to Catton and Dunlap

(1980; pp. 34).

Table 2

Contrasting Paradigms

	Dominant Western Worldview (DWW)	**Human Exemptionalist Paradigm (HEP)**	**New Ecological Paradigm (NEP)**
Assumptions about the nature of human beings	People are fundamentally different from all other creatures on earth, over which they have dominion.	Humans have a cultural heritage in addition to (and distinct from) their genetic inheritance, and thus are unlike all other animal species.	While humans have exceptional characteristics (culture, technology, etc.) they remain one among many species that are interdependently involved with the global ecosystem.
Assumptions about social causation	People are masters of their destiny; they can choose their goals and learn to do whatever is necessary to achieve them.	Social and cultural factors (including technology) are the major determinants of human affairs.	Human affairs are influenced not only by social and cultural factors, but also by intricate linkages of cause, effect, and feedback in the web of nature; thus purposive human actions have many unintended consequences.
Assumptions about the contexts of human society	The world is vast, and thus provides unlimited opportunities for humans.	Social and cultural environments are the crucial context for human affairs, and the biophysical environment is largely irrelevant.	Humans live in and are dependent on a finite biophysical environment which imposes potent physical and biological restraints on human affairs.
Assumptions about constraint on human society	The history of humanity is one of progress; for every problem there is a solution, and thus progress need never cease.	Culture is cumulative; thus technological and social progress can continue indefinitely, making all social problems ultimately soluble.	Although the inventiveness of humans and the powers derived therefrom may seem for a while to extend carrying capacity limits, ecological laws can not be repealed.

However, as their critics have suggested, their effort to implement the New Ecological Paradigm has fallen significantly short. Buttel (1986) claims that they

were on a "crusade," a label he chose to convey his opinion that Catton and Dunlap (1978) were in essence trying to proselytize sociologists into their new paradigm, purely on faith. He claims that it has more or less resulted in a new specialty area, rather than a re-orientation to a more holistic sociology, which incorporates environmental factors. Cable and Cable (1995) concur, holding that there is "an absence of any solid consensus on a theoretical base for environmental sociology; the ambiguity resulting from a theoretical vacuum has significantly undermined the legitimacy of this specialty area" (vii).

Hannigan (1995) agrees with the idea that environmental sociology has become a specialty area, rather than a paradigmatic shift for sociology, but holds that the specialty area is not in a "theoretical vacuum." To show this, he offers an overview of theory within environmental sociology. He has a two category classification which addresses, "(1) the causes of environmental destruction, and (2) the rise of environmental consciousness and movements."

Upon closer examination, it appears that the first of these categories is similar to the "new human ecology" category Catton and Dunlap (1978) advocated, as Buttel (1987) points out, and the second resembles part of the remaining categories Buttel (1987) identifies as theoretical areas of environmental sociology. The common thread between the classification schemes held by Buttel (1987) and Hannigan (1995), is the distinction between categories concerned with the "real" biophysical environment, and those concerned with the "symbolic" or socially contructed environment.

This dualism is not limited to discussions about the environment. It is a model commonly used by sociologists and other social scientists to differentiate between different approaches to social problems. The model states that category A

contains theory that is concerned with objectively real social facts, and category B takes issue with subjectively identified social definitions. To illustrate how this model manifests itself in other social problems, take the example of child abuse. On one hand, to study this phenomenon one could talk about the existence or causes of bruises on children's bodies. On the other hand, one could study the history and "discovery" of the alleged child abuse problems from the 1960's, since that is when it was first defined as a social problem. The first approach is concerned with the objective existence of child abuse, while the second is more concerned with the subjective interpretation of the problem. It is important to note that, in either case, one category imports assumptions from the other. The objective category must necessarily be based upon some subjective interpretation that child abuse has occured, otherwise there would be no way of knowing that it had. By the same token, the interpretations of the subjective category must be based upon some kind of real world act of child abuse.

Hannigan (1995) seems to follow this dualistic model. His first category, the objective social facts category, contains Dunlap and Catton's (1979) notion of New Human Ecology and Schnaiberg's (1993) theory of Political Economy, or more specifically, the notion of the "treadmill of production." The treadmill of production is a theory that analyzes the complex interrelationships of the state, corporations, the worker, the consumer, and the biophysical environment. It demonstrates how the corporate profit motive, protected by the state, and fueled by consumer demand, encourages a feedback loop leading to the ultimate destruction of the natural environment, and in turn, human society. Each of these concepts are concerned with "real" impacts on the biophysical environment.

The second category Hannigan (1995) identifies, his subjective social

definitions category, is labeled "environmental consciousness and movement," and it consists of four approaches or hypotheses. The "reflection hypothesis," introduced by Dunlap and Scarce (1990), is the idea that consciousness is raised in direct response to the emergence of environmental problems. The "post-materialist" hypothesis, proposed by Inglehart (1971, 1977, 1990) and Cotgrove (1982), states that environmental concerns mount as a result of a shift in values from a generation that has been less concerned with economic well-being than their predecessors, and more concerned with social and environmental problems - the baby boomers. The "new middle class thesis," introduced by Cotgrove and Duff (1981) suggests that more and more people are taking jobs that are directly affected by the state of the adverse affects of environmental degradation, such as doctors treating poor children poisoned by lead from paint chips in poverty stricken areas. Finally, the "regulationist/political closure approach" argues that the rise in environmental consciousness is a response to corporatism, defined as the decisions made by government and industry in a private partnership, which undermines the democratic process of decision making.

Upon reviewing these categories, I have concluded that, while they are informative, they lack sufficient originality to replace Buttels (1987) original identification of environmental sociology topics, which will be elaborated on in the next subsection, where I provide greater detail into the literature that informed my analysis of the environment in sociological journals.

The Conceptual Framework of My Analysis

The primary work on which my thesis is based was published by Krogman and Darlington (1996), entitled "Sociology and the Environment: An Analysis of Journal Coverage." They reviewed environmental sociology by analyzing

mainstream sociological journals for the 25 year period ending in 1993. Their article inspired me to add journal articles for the 5 year period, ending in 1998. What their research showed was that the overall level of attention dedicated to the environment was roughly 2% of published articles, with lower tier journals (the lower 6 journals of the top 10 sociological journals) being 8 times more likely to publish an environmental article than the upper tier (top three journals). The type of environmental sociology considered to be core (objectivist category of the environment) constituted 61%, while the remaining issues articles (subjectivist category of the environment) made up 39%. Next they summarized the specific topics most frequently addressed in these articles. The greatest level of attention was going to the "new human ecology" topical area (30%), followed by "attitudes, values and behaviors" (25%), "environmental movement" (17%), "political economy" (16%), and "technological risk and risk assessment" (16%). Each of these categories will be elaborated on in the discussion of my analytical framework, below.

In addition to their descriptive findings, Krogman and Darlington (1996) made predictions and suggestions for future research. Their predictions were speculative, given that the aim of their analysis was to describe rather than to explain, hence they lacked a justifiable reason for making such predictions. Nevertheless, they alleged that overall attention to the environment was on the rise, with higher tier journals (explained in method section) becoming proportionally more likely to publish environmental articles than had previously been the case. This increasing attention, they predicted, would also be proportionally higher for articles that were core environmental sociology. Finally, they suggested that the topics, which they found to be proportionally lower than the rest ("risk" and "political economy"), needed more attention in the future research agendas of environmental sociologists.

I will now unpack, in greater detail, the major concepts that I borrowed from this study, and offer examples to illustrate what type of research falls into these conceptual categories. First, I will contrast the two main areas: core environmental sociology and sociology of environmental issues. Second, I will describe each of the five topic areas described above: "new human ecology," "attitudes, values and behaviors," "environmental movement," "political economy," and "technological risk and risk assessment." The examples I offer will illustrate the various ways that the two areas and five topics intersect in environmental articles.

Two Main Areas of Environmental Sociology

For the sociology of environmental issues area, the environment is defined in a purely symbolic way. The main concern of this orientation is with the public perception of the environment. Dunlap and Catton (1979) identify two veins of research in this area: (1) Research on Wildland Recreation and Resource Management Problems and (2) Research on Environmentalism, The Environmental Movement, and Public Opinion. The first studies the recreational uses of the environment, attitudes and values of recreationists, their demographic information, and, to some extent, the amount of impact recreationists have on the environment. In addition, this area analyzes the public acceptance or rejection of current resource usages. The second area studies the origins, membership, and characteristics of the environmental movement, public concern for environmental problems, and makes predictions about the future of environmentalism (which will likely be influenced by the awareness of future environmental problems yet to be discovered).

Unlike sociology of environmental issues, the definition used by core environmental sociologists is a non-symbolic conception. Its concern is with the

biophysical environment, and the way it influences, and is influenced by, social behavior. Dunlap and Catton (1979) claim that human ecologists have traditionally had the environment "treated as a social, or at best spatial, variable-devoid of any physical substance" (Dunlap and Catton, 1979; pp. 251), referring of course to the Park, Burgess, and Mckenzie version of human ecology. In contrast, they claim core environmental sociologists regard the importance of the physical environment in addition to the social environment. This position is the bedrock of their new human ecology, discussed earlier in this chapter.

The physical environment, they claim, can take one of three different forms: (1) built, (2) modified, or (3) natural. The "built" environment consists of "housing, factories, highways, etc." (Dunlap and Catton, 1979; pp. 252), while the "natural" is concerned with "wilderness areas, mineral deposits, etc." (Dunlap and Catton, 1979; pp. 252), and the "modified" environment regards "polluted lakes, planned landscapes, eroded farms, etc." (Dunlap and Catton, 1979; pp. 253). They insist that core environmental sociologists focus on how this conception of the environment affects, and is affected by, the social environment. To illustrate the conceptual differences of these two main areas, see Figure 1, on the following page.

This diagram shows how core and issues are different conceptually. Core articles are concerned with the real world interaction of human society and the environment. Conversely, issues articles treat the environment more or less as a social problem, removing the focus from the actual environment, and placing it on the symbolic, or socially created environment.

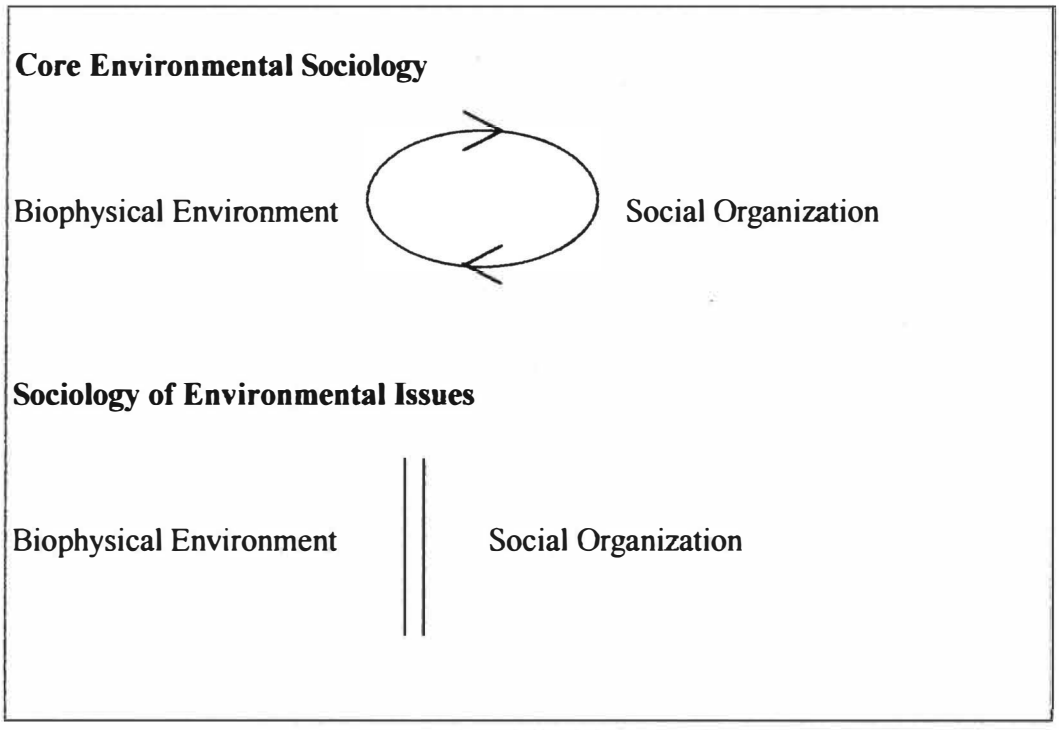


Figure 1. Conceptual Differences for Core and Issues.

Five Topic Areas of Environmental Sociology

Buttel (1987) identifies 5 topical areas of theory that he considers environmental sociology. They are the same ones used by Krogman and Darlington (1996): "(a) new human ecology, (b) environmental attitudes, values, and behaviors, (c) the environmental movement, (d) technological risk and risk assessment, and (e) the political economy of the environment and environmental politics" (Buttel, 1987; pp. 465). These will be explained in more detail, below.

New Human Ecology

The area of theory that Buttel (1987) considers to be new human ecology is in reference to Dunlap and Catton's (1979) original idea of environmental sociology.

He defines it as "a specific category of inquiry focusing on the way in which factors in the physical environment shape and are shaped by social organization and social behavior" (p. 467). Buttel's (1987) definition of environmental sociology is a little different than that of Dunlap and Catton (1979). He claims that if an author identifies his or her research as such, regardless of the theoretical orientation to which they subscribe, then it is environmental sociology. Therefore, anything that is new human ecology, must necessarily be core environmental sociology. However, the flip side is not true. In other words, just because the article is core environmental sociology does not necessarily mean it is going to be classified as new human ecology. For example, the political economy perspective is often considered core. When it is considered to be core, then it would be considered by Dunlap and Catton (1979) to fall under their new human ecology orientation. However, Buttel (1987) creates this category because often times it does not fall under the core description. In the last analysis, it really depends on the particular type of research questions. The same holds true for the category of risk. In some cases, perceptions are directly tied to the state of the actual environment, as Dunlap and Scarce (1990) suggest, in their notion of the 'reflection hypothesis', discussed earlier in the chapter. Therefore, new human ecology is best defined by what it is not. It is any research that uses a theory of the society-environment interaction (core environmental sociology), and is not better classified as either of the remaining topics to be discussed further below, such as technological risk or political economy. Before I go further in defining these other categories, let me offer some examples of research that strictly adheres to the idea of new human ecology.

Take for example, an article done by Freudenburg, Wilson, and O'Leary (1998) on the economic impact of spotted owl protection. The article is basically

trying to debunk the myth that the protection of the spotted owl in the Pacific Northwest is detrimental to the livelihoods of loggers and timber companies. They point out that with the passage of the Wilderness Act of 1964, there were no statistically significant reductions in jobs for loggers.

Another example of a new human ecology article is by Forsyth (1996), in which he argues for a direction of environmental research in sociology that focuses on the interaction between people, the environment, and technology. This particular article is considered "new human ecology," since it deals with the society-environment relationship even though it does so in a conceptual manner.

Environmental Attitudes, Values, and Behaviors

The second area of research that Buttel (1987) defines, is "Environmental Attitudes, Values, and Behaviors." He claims that there are three sections to this area of research: (1) Social-Structural Aspects of Environmental Attitudes, (2) Social-Psychological Research, and (3) Applied Research on Environmental Attitudes and Behaviors. These three sections, taken together, formulate the second area of environmental sociology.

The first, Social-Structural Aspects of Environmental Attitudes, studies how socioeconomic and political variables are related to environmental concern. It has been found that education and age are the best socioeconomic predictors of environmental concern, while political ideology is perhaps the strongest political indicator (Buttel, 1987). The main method for this area is survey research, in the traditional vein of attitudinal research. The second , Social-Psychological Research, searches for the link between the individual's attitude toward the environment and social-psychological processes that underlie environmental concerns. Buttel (1987)

claims that very little research has been done in this section. The third section, "Applied Research on Environmental Attitudes and Behaviors," is mostly concerned with evaluating policy that is relevant to encouraging environmental behaviors. Programs are evaluated and policy prescriptions are made, much like any other kind of applied research, but with regard to the environment.

Muth, Daigle, Zwick, and Glass (1996), for example, study "trapping attitudes, values, motivations, and behavior" (p. 421) in the Northeastern U.S. They claim that the avocation of trapping is a key aspect of the cultural and socioeconomic well-being (from the sale of fur pelts) of several trappers. However, these trappers face many obstacles arising from restrictive laws and regulations, as well as animal rights resistance groups. Legislators and animal rights activists maintain different attitudes about trapping than do trappers, hence creating a conflict This conflict of values is a good example of how natural resources are viewed, and in turn, used differently by different factions of people from different stations in life. If this category were to be sub-classified within this topic area, then it would belong in the "Social Structural Aspects of Environmental Attitudes" sub category.

On a somewhat different note, Daniels (1996) performs a content analysis to assess the amount of space given to forest related issues in children's textbooks. The appropriate sub-category for this piece of research would be "Social-Psychological Research," since it is concerned with influences on the psychological development of children. She concludes that the space given to forest issues has decreased since the 1950's, suggesting that children are not being instilled with proper environmental values. She argues, "children are being taught very little about how forests can provide beauty, recreation, clean air, clean water, ecological stability, or spiritual and emotional sustenance." (p. 96) This article is clearly concerned with how certain

attitudes and values are shaped with regard to the natural environment.

Both examples, above, represent research that is not directly tying society together with its material substrate, hence qualifying them both for the sociology of environmental issues category. In my content analysis, I did not come across any research articles that looked at how the "real" or "actual" biophysical environment shaped attitudes, values, and behaviors. However, for an example of how this could conceivably be done, see Weigert (1999).

The Environmental Movement

The third research area, outlined by Buttel (1987), is Environmental Movement. The name is self-explanatory in its scope. The primary focus has been with the key environmental players at the national level, but research has begun which focuses on the local and global levels, as well.

Ozawa (1996) states, as a "tool of facilitation, science may be used more constructively to resolve environmental disputes." (Ozawa, 1996; pp. 219) She looks at the relationship between science and environmental discourse, arriving at her conclusion that it can be effectively used to settle disputes between competing environmental interests. This article does not focus on any one environmental group. Instead, it focuses on an aspect of environmentalism in general.

On the other hand, Balser (1997) looks at the idea of factionalism and schism in social movement organizations, by using the environmental group, Earth First!, as a case study. She demonstrates that factioning does not always occur because of internal organizational problems, but that it can also be attributed to external factors. According to Balser (1997), the external factors that led to a degree of factioning of Earth First!, included a flux of new members joining, who were concerned with

social issues, rather than purely deep ecological issues - the underlying philosophy of the original Earth First! membership.

Notice that in either article above there is no mention of the actual physical environment. Hence, they are both concerned with the sociology of environmental issues. The Environmental Movement topic is going to be, more likely than not, in the sociology of environmental issues because the focus is on a social movement. Alternatively, though it would seem less likely, it would be conceivable for a researcher to show how "actual" environmental conditions led to a response from the environmental movement, as Cable and Cable (1995) did in their research monograph.

Technological Risk and Risk Assessment

The fourth area of research that Buttel (1987) outlines, is Technological Risk and Risk Assessment, which comes from a larger tradition of general risk research. Interest in this area has been evoked by the unfolding of disastrous environmental events, such as Love Canal and Three Mile Island. This type of research looks at the possible risks of a given technology, as well as the perceptions of that risk held by the public, and offers its findings for policy prescriptions.

For example, Spencer and Triche (1994) look at the role of the media in shaping people's perceptions of risk and safety in relation to the environment. They claim, "the media are an important factor in determining how events and conditions become socially defined." (p. 199). They conclude, based on their data, that people's reactions to phenomena are relative to the amount of attention that those phenomena received by the local newspapers. They suggest future research comparing accounts of the same phenomenon in two different geographical regions to compare

differences in perceptions. Notice that this example is based on the idea of the social construction of perceptions, and was therefore considered the sociology of environmental issues. The next example shows how this topic intersects with core environmental sociology.

Wooddell, Forsyth, and Gramling (1996) study the risk involved with the inshore shrimping practices of shrimpers in Louisiana. They conclude that if the future of the ecosystem is to be ensured, as well as the future of shrimpers employment, then changes need to be made in the current practices. The article highlights how technology poses a risk to the biophysical environment, and is therefore considered "core environmental sociology." The previous example focuses more on the perception of risk, than on the "actual" risk of a certain practice. Therefore, the category of risk can be either a core or an issues subcategory, depending upon the research questions of the study.

Political Economy of the Environment and Environmental Politics

The fifth and final area of research in environmental sociology, as defined by Buttel, is "Political Economy of the Environment and Environmental Politics." At the heart of this area are Neo-Marxist and Neo-Weberian theories, which look at the interplay between political and economic institutions, with respect to how they are related to the environment. Like the "risk" topic area, the "political economy" topic can assume forms in either the core or the issues approach to environmental sociology.

An example of an article classified as an issues article, is provided by Salamon, Farnsworth, and Rendziak (1998). In their analysis they take a look at the "social, cultural, and economic factors that shape locally led planning" (p. 214) with

regards to chemical usage on farms. A solution to a problem of whether or not to use potentially dangerous chemicals is reached through a program of locally led planning. Since the focus is on the economic well being of the farmers and the surrounding community, the article was classified under this topical area. However, since the main thrust of the thesis was to learn something about local perceptions of chemical uses, it was classified under the area of "issues."

On the other hand, Rudel (1998) gives an example of how the "political economy" topic can manifest itself in the "core environmental sociology" area of environmental sociology. In summary, he looks at the stages of transition that forests go through as economic development progresses in a given setting. He shows that, contrary to popular beliefs, " a significant number of countries experienced a turnaround in forest cover trends, going from deforestation to reforestation as they became more urban and industrial." (548). This piece of research clearly demonstrates a relationship between society and the biophysical environment, in the form of cycles associated with industrialization / urbanization and deforestation / reforestation.

I would now like to review the discussion of the concepts above, by showing in Table 3, the likelihood of intersections between area and topic of study in the classifications of articles. Based on this review of the literature, the only completely exclusive category is new human ecology, since it is by definition concerned with core environmental sociology. The two topic areas that follow, environmental movement and attitudes, values, and behaviors, seem to be more conducive to research questions concerned with the social aspect of society. And the last two categories, risk and political economy, seem to have enough room for either the core or issues direction of research. Given these predilections, it will be interesting to see

how articles wind up being classified in the content analysis.

Table 3

Proposed Likelihood of the Possible Combinations of Areas and Topics in Environmental Sociology

	Core Environmental Sociology	Sociology of Environmental Issues
New Human Ecology	Always	Never
Environmental Movement	Unlikely	More Likely
Attitudes, Values, and Behaviors	Unlikely	More Likely
Technological Risk and Risk Assessment	Neutral	Neutral
Political Economy	Neutral	Neutral

Chapter Summary

In this chapter, I provided an overview of the origins of environmental sociology by looking at the tradition of ecology, both in and out of sociology. Next, I illustrated the barriers to this tradition within sociology by looking at the origins of sociology, and the inherent biases that have allegedly been present since the beginning. Finally, I discussed the major ideas, debates, and concepts underlying research in this area of study.

CHAPTER III

METHOD

In essence, my thesis is in three parts. First, in the analysis of journal articles I look at trends in areas and categories for the last five-year period in order to compare them with the previous 25-year period. Second, in the authorship and school or institution of origin section I look at the frequency of publications coming from certain individuals and schools to see whether or not environmental sociology was centralized. Third, in the environmental journals section, I look at the total number of journals in sociology and environmental studies, as well as journals that overlapped between these disciplines, in order to identify the range of possible journals in which environmental sociology research could be published.

Data for the first two of these sections were collected at the same time, since information about authors and schools were taken from the journal articles that I analyzed. The code sheet in Appendix A shows what information I collected, and how that information was organized. The data from the third section of my thesis, 'environmental journals', was done separately from the other two, by using the *Social Science Citation Index*. Before I go into further detail about each section, I would like to provide an overview of what I intended to accomplish.

To begin with, my initial intent was simply to update the results Krogman and Darlington presented 5 years ago, by replicating their research design and applying it to the most recent 5-year period. To do this I needed to make sure that I understood, in the same manner as they did, which articles fell into which categories using their classification schemes. To learn how to identify particular articles for categorization,

I first studied how they defined these categories, and secondly, turned to the original definitions of these categories given by Buttel (1987) and Dunlap and Catton (1979).

I decided, however, that I wanted to go beyond a mere update of their results, and chose to collect information pertaining to authors and schools. This would allow me to answer questions about the general dispersion or centralization of environmental sociology in terms of authors and focal points. In other words, I was interested in knowing if there were only a few select authors and schools dealing with the subject, or if there was a broad spectrum of scholars dealing with the environmental topic. Information about the author's department / institutional affiliation indicated whether articles were published by people in sociology departments, or if they were the work of people outside of sociology departments. Finally, in this section on authors, I report the information I collected on gender. I would have also liked to see information regarding other demographic details; however, this information could not be ascertained from the articles themselves, and would require a level of investigation beyond the scope of the current project. However, the information on gender will, hopefully, provide some insight into whether or not environmental sociology tends to favor or attract males more than females.

In the third section I wanted to know, based on the SSCI, whether or not the number of environmental journals had increased, and if any of these journals were considered sociological. Conversely, I wanted to know whether or not the number of sociological journals had increased and if any of them were considered environmental. On the one hand, this information would be useful in identifying all the possible journals where research considered both sociological and environmental could be published. This could then be used as a benchmark for comparing the

number of journal articles published in mainstream sociological journals in relation to the total number of possible journals for publication. The reasoning behind this decision was, if there are more environmental journals to choose from, then the number of articles published in mainstream sociological journals may be undermined by the sheer fact of a larger number of alternatives. By the same token, authors may be more interested in appealing to an audience with environmental interests rather than general sociological interests.

Analysis of Journal Articles

As I stated above, the goal of this section was to update the results of Krogman and Darlington's (1996) research. To do this, I would need to replicate their research design and apply it to the 5 year period that has passed since the completion of their analysis. I am going to present important parts of their method section, and follow it up with some brief comments on how I intended to replicate their work.

Krogman and Darlington (1996) begin by outlining the time period they analyzed:

> Data collection began with the year 1969 because of an increase in public interest in the environment in the 1960's and a corresponding increase in attention to environmental issues by sociologists. (Krogman and Darlington, 1996; pp.43)

As I stated earlier, the time period I analyzed was the 5-year period following their time frame, and hence began in 1994 and ended in 1998. The resulting 5-year period was compared with the 25-year period to show recent trends in the discipline and publications.

Next, they begin to identify the criterion they used for the selection of journals as "mainstream":

> Selection of sociological journals was based on the core influence of that journal as determined by Allen (1990). "Core Influence" is defined as the number of times articles from a journal are cited by the core journals the previous year.(Krogman and Darlington, 1996; pp.43)

I used the same journals Krogman and Darlington (1996) identified as being the mainstream journals of sociology. I decided to do this only after I had explored an alternative system, which I found to be inferior. The reason I sought an alternative method was because I thought the list may have changed for the last 5-year period. This alternative system was based on the "impact factor" in the Social Science Citation Index. The reason I felt that this avenue was inferior is not because it was inherently less reliable, but rather because the journals having the greatest "impact" tended to be specialized journals (e.g. Journal of Marriage and the Family, Ethology and Sociobiology, etc.) that were targeted at a specific audience of sociologists, or else were review jounals (e.g. Contemporary Sociology, Annual Review of Sociology) lacking original research. One of the assumptions of this research design is that the journals would contain original pieces of research, which could be evaluated for their environmental content. I used the same distinction of upper and lower-tier journals, as well, since I found that the distinction was supported by the "impact factor" ranking, once the specialized and review journals were removed.

After stating the criterion they used, they listed the resulting journals by tier:

> Within the discipline of sociology, the core journals include *American Sociological Review*, *American Journal of Sociology*, and *Social Forces* and represent the "top tier" of sociology journals... The lower-tier list includes *Social Problems*, *Sociological Quarterly*, *Sociological Perspectives*... *Rural Sociology*, *Sociological Spectrum*, and *Sociological Inquiry*.(Krogman and Darlington, 1996; pp.43)

I placed each of the articles I selected into one of the two tiers, as they did, based on the journal from which they were selected. The idea of tiers is explained and defined

by Krogman and Darlington (1996), as a way to separate articles by prestige.

After identifying these nine mainstream journals, they detailed the method they used for their content analysis:

> Total number of articles and environmental articles are summed for each issue. Each environmental article was coded into the "sociology of environmental issues" or "core environmental sociology" category, and into one of the areas of environmental sociology identified by Buttel (1987). (Krogman and Darlington, 1996; pp.43)

I took the sum total of all articles published and then I took the sum of the environmental articles for each of the journals. I coded each of the articles as they did, into the categories identified by Dunlap and Catton (1979), as "core environmental sociology" and "sociology of environmental issues," and then into the categories identified by Buttel (1987).

Next, Krogman and Darlington (1996) define environmental:

> Articles coded as "environmental" included the physical or biological environment as an important symbolic or materialist variable in the study, or addressed the environment or ecology as an important conceptual issue. (Krogman and Darlington, 1996; pp.43)

When selecting articles as "environmental," I tried to stick as closely as possible to the definitions laid out above. However, I found myself selecting articles based on their relevance to either the "sociology of environmental issues" or "core environmental sociology" distinction - hence, the definition of an "environmental" article became: an article that can be categorized as either "core environmental sociology" or "sociology of environmental issues." I trained myself to recognize articles fitting into these categories by looking at the examples mentioned by Krogman and Darlington (1996), and seeing how these articles were relevant to their respective categories. I offered my own examples in the review of the literature in the previous chapter.

A problem I encountered when selecting articles, was with the meaning of the term "ecological." In the initial stages of the selection process, I had not made the distinction between new human ecology and the older version of "human ecology," of which Park, Burgess, and Mckenzie are known. Initially, I believed that these articles fell into the category of core environmental sociology. However, after reconsidering the intention of Dunlap and Catton (1979), I realized that though these articles sometimes discussed physical space as a relevant variable, they did not do so in a contextualized sense. Rather they were discussed in an abstracted generalized sense, as if the physical space did not exist in a specific context. The discussion, in the previous chapter, on the origins of ecology, summarizes the main differences. Hence, on the basis of this consideration, I labeled each of these articles as old human ecology, and removed them from the rest of the analysis (i.e. in the end they were not part of the sum total of environmental articles). In all, I found there to be 11 old human ecology articles, most of which were found in two top-tier journals (*ASR* and *AJS*), thus having an effect on the outcomes of my conclusions about the upper-tier. Once these articles were removed, the upper- tier journals did not contain any new environmental articles whatsoever. Therefore, the definition of what is and is not environmental has an effect on the total number of environmental articles, as well as the total number of upper-tier environmental articles.

An example of one such article is Tolnay (1995), in his analysis of fertility trends in relation to spatial diffusion between counties in southern states. Though he was interested in the actual locations of high and low fertility, on a spatial level, he did not take issue with the relationship these trends had with the biophysical environment. Hence the physical environment was de-contextualized, in order to form more general conclusions about fertility rates. Therefore, this article was more

appropriately labeled "old human ecology" and removed from the data set.

It is my belief that Dunlap and Catton (1979) would not have accepted this as an article dealing with their conception of "new human ecology." As Catton (1994) notes, "the word "ecological" became for sociologists essentially a synonym for "spatial" (see Gibbs and Martin 1959; 30, note 4)." (p. 84). It seems clear enough, then, that the example above, as well as the remaining articles re-classified as "old human ecology" fit this bill. Catton (1994) continues by stating, "environment" had come to mean the social and cultural surroundings of a person or group, not the land, water, air, vegetation, and associated populations of other species." (p. 84). This difference in definitions for the word "environment" is what creates the fundamental distinction between old and new human ecology.

After identifying "environmental," Krogman and Darlington (1996) unpack what is meant by "core" and "issues" articles:

> Environmental articles are categorized as "sociology of the environmental issues," which is the application of standard sociological perspectives to environmental topics (i.e. viewing the environment as socially or culturally interacting with human patterns of behavior), or "core environmental sociology, which examines societal-environmental relationships (i.e. conceptualizing the environment as being both natural and cultural). (Krogman and Darlington, 1996; pp.43)

I used the same distinctions to guide my separation of core and issues articles, but I claim that they are the equivalents of a realist and social constructionist approach, respectively.

Krogman and Darlington (1996) then define the 5 topic areas they used in their analysis:

> Studies of "environmental attitudes and behavior" focus on the nature and sources of public concern for environmental quality, and those of the " environmental movement" deal with environmentalism and its various strands, such as "environmental justice." "Risk" articles

> address the perceptions and responses to natural and technological hazards, while works on the "political economy of the environment" include analyses of the political structures and processes that affect the biophysical environment. Buttel's category "new human ecology" included global level topics, sub-national or sectoral macrosociological studies and research devoted to exploring the dominant social paradigm (Krogman and Darlington, 1996; pp.44)

Using these guidelines, I classified the articles within the framework of Buttel's (1987) five categories of environmental sociology. Krogman and Darlington (1996) narrow the scope of the new human ecology area, in a way that is less encompassing. I used their modified version of the definition in my analysis.

In addition, Krogman and Darlington (1996) note problems they experienced with the operationalization of key variables. They write:

> Limitations of this research include the operationalization of "environmental articles" and of "sociology of the environmental issues" versus "core environmental sociology." (Krogman and Darlington, 1996; pp.44)

Operationalization of environmental articles was not as difficult, since as I mentioned, I selected articles based upon whether or not they fell into the categories of sociology of environmental issues and core environmental sociology, rather than selecting them initially as environmental. This is one of the advantages of a replication versus an original analysis: some of the definitional difficulties could be avoided. As per the distinction between core and issues, I did not find the same anticipated level of difficulty. The key questions I asked of the article were: does it discuss a direct manipulation in the biophysical environment, as in the case of a variable within a causal model?, or is human activity a variable in the theoretical model the article employs? Examples of these were given in the literature review, when I discussed the topic areas, and gave illustrations. Applying these questions, I did not encounter many problems. At times the true difficulty was identifying the

theoretical model being used.

Krogman and Darlington (1996) go on to explain the way they identified problems with the classification of articles:

> Kroll-Smith and Laska (1994) point out that what they call "sociology of the environmental issues" and "core environmental sociology" categories are often viewed as a dichotomy, when in actuality there is a continuum between the two. (Krogman and Darlington, 1996; pp.44)

In regards to the question of core environmental sociology and sociology of environmental issues falling into a continuum, I am inclined to agree with the notion of a continuum. However, I did not find it difficult to choose which was the more appropriate category, based on the main thesis of the article. Simply asking what the author was trying to address often resolved this issue. The same held true for the classification into the 5 categories of environmental sociology. In some cases the article may have had elements of more than 1 category, but there was always a dominant perspective that could be identified, by looking at the main thesis of the author. This should come as no surprise, since sociology is multi-paradigmatic, and draws from several different theoretical orientations. In spite of this, the categories are meaningful, once the main thesis of the author is identified. In the discussion of the general issues related to content analysis I'll show why choosing the dominant category is a defensible technique. I considered creating new categories that were multidimensional combinations of the various categories, but thought this would sacrifice my ability to identify patterns in the data. Hence, I chose to stay with the original classification scheme.

As a measure taken to gauge the reliability of my classification of articles, I chose to employ the use of a secondary coder (the reasons for doing so will be discussed later, in the subsection "General Issues of Content Analysis"). I took a

random sample of articles from the total collection of environmental articles, and issued the same code sheet I had been using for the coder to use in his analysis. This was done to make sure there were not any major conflicts in our interpretations - to add reliability to the classifications I made. The results of this test were a 70 % rate of agreement on the topic (5 categories) selection, and a 100 % agreement on area (core and issues) selection. Details of this test are shown in Appendix B.

Authorship and School or Institution of Origin

As I collected the information for journal articles, I also collected information regarding the authors and schools of origin. The goal, which I stated earlier, was to show the patterns of dispersion across authors and schools, information about the gender of these authors, and to see what percent of these authors were coming from disciplines or institutions other than sociology.

The major problem confronting this section of my thesis is the lack of complete data. While it was routine for some journals to print information about the author's school, others failed to do so. Hence, only some of the journals are represented. However, these journals were a fair representation of tiers, and were therefore considered sufficient enough to draw conclusions. Another issue that was potentially problematic was the technique I used for judging the gender of the author. Obviously, this information is not printed on journal articles, so I based my decisions on their first names. I found only a few cases where I was not sure, and coded them as "Don't Know." I feel that I identified the remaining names with a great deal of accuracy - accurate enough to draw some conclusions. Since time and resource constraints have limited my ability to explore more information about all of the authors, I suggest that future research take this into consideration.

Environmental Journals

The third and final part of my thesis was to learn the total number of journals where publications of environmental sociology could be found. The second was to learn the total number of journals that combined sociology and environmental studies literature (overlapping journals). Conclusions for this section were based on an analysis of the Social Science Citation Index, which collects information about journals in the social sciences.

The SSCI places journals in a number of subject headings, with some journals falling in more than 1 subject. The 2 subject headings that I focused on were sociology and environmental studies (also labeled "Environmental Science" in earlier issues). First, I counted the total number of journals for each subject heading by year. Second, I counted the total number of journals falling into both headings (overlapping journals) for the same year.

Before I proceeded with the application of my research design, I found it helpful to consult sources dealing with the general method I have chosen to use for my thesis: content analysis. Therefore, I would like to discuss some of the general issues associated with content analysis, as well as some of the strengths and weaknesses it possesses as a method of inquiry.

General Issues in Content Analysis

Sometimes content analysis is done in conjunction with other methods, such as an interview-based method, restricting its utility to data analysis. For instance, when using a content analysis with a series of interviews, it could be used to summarize what might otherwise be indecipherable. If the interviews are unstructured, then the interviewees may not give answers that are to the point, and it

may be difficult to see how one interview is similar to or different from another. In order to make any systematic conclusions about this type of method, then content analysis offers a powerful tool for data analysis.

In my case, not only will I be using content analysis for data analysis, but also as the primary method. This section will address some of the general issues of defining content analysis, and the following section will assess the strengths and weaknesses associated with its use.

Berg (1998) claims that content analysis is a study of the physical forms of social communication. Specifically, he uses the definition Holsti (1968) provides, which states that content analysis is "any technique for making inferences by systematically and objectively identifying special characteristics of messages" (p. 223-224). He suggests that the messages may take several different forms, such as photographs or video tapes. The key concept of this definition, is the notion of communication. Understood in this light, the usefulness of this method becomes more evident.

One of the major issues of content analysis, which has evoked a certain amount of debate, is the distinction between manifest and latent forms of analysis. The former is concerned with the "surface structure," or in other words, the actual physical existence of words or phrases. An example of this might be a study that looks for the number of times a person makes derogatory comments in an article to make conclusions about the level of prejudice the person has. In this case, the frequency with which a word or words occur, is the basis for conclusions. The latter approach is more concerned with the meaning of words and phrases, and looks at such things as symbolism. This approach is more of an interpretive endeavor, in which the researcher may make conclusions based on his or her interpretation of the

object, be it a book, a magazine article, or what have you. In my case I am concerned with the latent form, such that I interpret the meaning of the journal article and decide to which category it is best suited.

Andren (1981) distinguishes among three types of content analyses: (1) syntactic, (2) semantic, and (3) pragmatic. The first, syntactic, is a type of content analysis that is concerned with different meaning expressed by the writing itself. The second type of content analysis, semantic, is concerned with expressions as they define their language of origin. Finally, the third kind of content analysis, pragmatic, deals with the ways in which the audience or communicator ascribe meaning to the effects of language. The two ways of thinking about content analysis are compatible: (1) manifest content analysis includes the syntactic approach, and (2) latent content analysis includes both the semantic and the pragmatic approaches. In my case, it is a pragmatic approach, and meaning is ascribed by me, a member of the audience.

Another issue of content analysis stems from the qualitative/quantitative debate that has persisted in sociology. Some hold that content analysis should be strictly quantitative, while others claim that it should only be done qualitatively. One of the major drawbacks of a quantitative approach, is the loss of meaning that occurs. It is not possible to know the true nature of the data by looking at numbers. On the other hand, while qualitative approaches allow you to imagine the producer's perspective of the social world, they are a less systematic way of "identifying, organizing, indexing, and retrieving data" (Berg, 1998; pp. 223).

Weber (1985) points to the issue of using discrete categories, when in actuality, the data may fall somewhere along a continuum. This issue has a great deal of relevance for my project, since I classify articles, based on categories that may have a tendency to overlap. As a solution, he suggests selecting the category for

which the case is best suited. This rather simple solution informs me that avoiding the issue is not possible, but dealing with it is necessary. When deciding the appropriate area or category a particular article represents, I make decisions based on the overall thesis of the article.

A possible resolution to the debates, discussed above, may be to blend the distinctions together. In other words, there is no reason why a study should strictly adhere to either a qualitative or quantitative approach. And a combination of manifest (i.e.syntactic) and latent (i.e. semantic or pragmatic) content analysis may prove to be the optimal technique. My design is quantitative, in the sense that I am comparing numbers in categories; however, it is concerned with the latent meanings of journal articles (the main thesis of the author). My design is based on the design developed by Krogman and Darlington (1996), and straying away from it could be problematic.

Berg (1998) points to another possible problem for content analyses with regard to classifications, and suggests the need for a strict "criteria of selection." This is so that "other researchers or readers, looking at the same message, would obtain the same or comparable results" (Berg, 1998; pp. 243). Andren (1981) and Sepstrup (1981) also point to the issue of reliability, and address the specific issues of "intra" and "inter" reliability. They argue that a good way to account for this potential problem is to employ the use of a secondary coder. The issue of reliability seems to stand out more with latent (semantic or pragmatic) content analyses, which are more concerned with "meaning," than say the actual occurrence of a given word (e.g. the number of times the word environment appears in an article), which is the case in manifest (syntactic) analyses.

Strengths and Weaknesses of Content Analyses

Some of the major strengths of this method, outlined by Berg (1998), are its unobtrusiveness, cost effectiveness, and ability to allow for the study of process over time. The researcher does not influence the data (not to say that the researcher does not influence the interpretation of the data), in such a way that he or she may in survey or experimental research. Additionally, the cost of doing a content analysis is also a lot lower than survey or experimental research. Finally, since the units of analysis are physical forms of communication, they lend themselves favorably to time-based analyses, such as the one in this proposed research project.

A major weakness that has been identified for content analyses, is the temptation to state causal relationships from the data. Berg (1998) suggests that researchers must resist this temptation. The uses of content analysis are limited to descriptive and exploratory studies, and are "virtually useless," in terms of explanatory research. This is an important point that I have struggled with, while attempting to define the type of research that I am doing. I wanted to find out from the data if the future of sociology would be favorable for the theme of the environment. Upon reviewing Krogman and Darlington (1996), I see that they offer some forward looking statements. I have decided alternatively to limit myself to a description of the present status of the discipline, since the data would not be able to *explain* the future of sociology. Any "predictions" I make will be treated as purely speculative.

Using the 9 mainstream journals specified by Krogman and Darlington (1996), I began collecting articles for the specified time period (1994-1998). Once the total number of environmental articles had been determined, I used a code sheet to assess the appropriate categorical placements. As a measure taken to ensure inter-

reliability, I employed the use of a secondary coder. From the population of articles that I collected, I drew a systematic random sample. The secondary coder was asked to analyze this sample along the lines of the criteria outlined in the code sheet (see Appendix A). When this was completed, I calculated 2 coefficients of reliability to assess whether or not there has been any bias between our judgments (see Appendix B).

After classifying each article and tallying up the totals, I proceeded with the calculation of relative proportions. The specific proportions I arrived at were: (a) the proportion of environmental articles in relation to the total number of articles published compared with the previous 25-year period, (b) the proportion of core environmental sociology versus sociology of environmental issues in comparison with the previous 25-year period, and (c) the proportion of articles in each of the topic areas of technological risk, new human ecology, attitudes, values, and behaviors, environmental movement, and political economy.

The second and third part of my design involve an extension of Krogman and Darlington's (1996) research. The second part included information about the authors (department, gender, and number of publications) as well as schools (number of publications originating from each school). I summarized the demographic information of the authors of the articles, describing "who" has been pursuing this line of research.

The third part looked at specialized journals dealing specifically with the environment, in both sociology and environmental studies. The purpose was to see the relative importance of one discipline to the other, and to identify alternative journals for the publication of environmental sociology journals. Table 4 summarizes the purposes and results to be obtained from each of the three sections.

Table 4

Summary of Research Design

Section	Purpose	Results
An Updated Assessment of Journal Articles	To update the proportion of articles in each category of environmental sociology	Compares proportions in each category for the last five years with the previous 25 years
Authorship and School or Institution of Origin	To understand who is publishing environmental sociology and the location from whence they came	Shows dispersion of publications across authors, departments, genders, and schools
Environmental Journals	To understand alternative sources for publication of environmental articles	Shows number of alternative journals for environmental sociology articles

CHAPTER IV

AN UPDATED ASSESSMENT OF ENVIRONMENTAL JOURNAL ARTICLES

The layout for this section is as follows. First, I will offer the findings for the 25-year period, ending in 1993, (Krogman and Darlington, 1996) for each of the classifications I outlined earlier; second, I will compare the percentages for each of the two time periods (5 and 25-year periods) by journal; and third, I will compare percentages for each time period by tier. Based on these comparisons, I will summarize the trends that have occurred. However, it is not my purpose to explore the "why" of it in much detail. Such a goal is beyond the scope of a descriptive analysis, which I have intended to pursue.

Environmental Articles

Overall

At the end of the 25-year period ending in 1993, the total percentage of articles discussing the environment in mainstream sociological journals was 2.3% (n=191) of the total universe of mainstream journal articles (N=8325). Though the number of environmental articles was not large, it was substantial considering the total number of articles published during this time period. It is also significant when considering the many topics that sociology addresses. For the 5-year period ending in 1998, the total percent of articles addressing the environment doubled to 4.6% (n=70) of the total universe of mainstream articles (N=1508). As Table 5 shows, the topic of the environment has been gaining momentum in mainstream sociology journals.

Table 5

Overall Percentage of Environmental Articles

Time Period	Percent of Environmental Articles
1969 - 1993 (N=8325)	2.3 % (191)
1994 - 1998 (N=1508)	4.6 % (70)

Journals and Tiers

With the exception of *ASR* and *AJS*, the percentage of environmental articles has increased across journals. These two journals formulate 2/3 of the upper tier journals. *Social Forces* is the third, and it increased slightly from its original percentage. This means that while the other two journals have basically eliminated the topic, *Social Forces* has taken up the slack as the leading upper tier journal for environmental articles. Perhaps this is due to the fact that *Social Forces* is less prestigious than *ASR* or *AJS*. This suggests a trend relating to prestige, wherein the more prestigious a journal is, the more resistant it is to the topic of the environment.

Since I have chosen to follow Krogman and Darlington's (1996) criterion for tiers (including *AJS*, *ASR*, and *Social Forces* in tier 1, and placing the remaining journals in tier 2), the trend has been a major increase for lower tier journals and a slight increase for the upper tier, due entirely to *Social Forces*. The increase in lower tier journals indicated that the topic has gained momentum. However, the lack of a comparable response for most upper tier journals shows that attention to the topic in prestigious journals is lagging behind. Does this mean that the topic of the environment is simply not as prestigious as other sociological topics? This matter is

open to interpretation, but I am of the belief that this is indeed the case. Table 6 shows the shifts in percentages across journals. In 7 of the 9 journals, the percentage of environmental articles increased. The other 2 were upper tier journals, and they decreased to 0 %.

Table 6

Overall Percentage of Environmental Articles Across Journals

Journal	% Environmental Through 1993 (n = 191)	% Environmental Through 1998 (n = 70)
AJS	2 %	0 %
ASR	1 %	0 %
Social Forces	5 %	4 %
Social Problems	16 %	16 %
Sociological Quarterly	5 %	4 %
Sociological Perspectives	13 %	16 %
Rural Sociology	32 %	34 %
Sociological Spectrum	10 %	16 %
Sociological Inquiry	15 %	10 %

Table 7 shows the changes in percentages across tiers. This combines the journals classified above by their level of prestige. Since *ASR* and *AJS* are the most prestigious they are both in the upper tier. They did not publish any new environmental articles in the last 5 years. This explains most of why the upper tier lost 2 percentage points to the lower tier.

Table 7

Overall Percentage of Environmental Articles Across Tiers

Tier	% Environmental Through 1993 (n = 191)	% Environmental Through 1998 (n = 70)
Tier I	8 %	4 %
Tier II	92 %	96 %

Core Environmental Sociology

Overall

In this sub-section I was interested in finding out if the percentage of articles defined as core environmental sociology had increased over the last 5 years, as Krogman and Darlington (1996) predicted in their review. It appears that their prediction was based on an extrapolation from the trends they identified through 1993. What I found was just the opposite. The percent of core articles through 1993 was 65 %, but instead of an increase through the next 5 years, I found a decrease of 35 % in the total number of core articles (see Table 8). This means that the trend has been increased attention to the sociology of environmental issues. It also means that there has been less research done that considers the biophysical environment as a variable interacting with social variables. In other words, sociology is not only continuing the separation of the 'social' from the 'natural,' which Dunlap and Catton (1979) would view as being symptomatic of the Human Exemptionalist Paradigm, but it is doing so at a rate greater than ever. This has occurred in spite of the fact that the topic of the environment, overall, has doubled.

Table 8

Overall Percentage of Core Articles

Time Period	Core	Issues
1969-1993 (N=191)	65 %	35 %
1994-1998 (N=70)	30 %	70 %

Journal and Tier

For the 25-year period, the percentage of core articles was high for mainstream sociological journals. *Sociological Spectrum* and *Sociological Inquiry* exhibited the highest percentages, with 94 % and 80 % respectively. The lowest were *Rural Sociology* and *ASR*, with 55 % and 50 % respectively. However, a major shift occurred in the 5-year time period that would follow. The highest ranking journals for core articles became *Rural Sociology* (38 %) and *Sociological Spectrum* (36 %), and the lowest were *ASR* and *AJS*, which didn't have any new environmental articles in the last 5 years. Table 9 shows the percentages of core articles across journals.

Table 9

Overall Percentage of Core Articles Across Journals

Journal	% Core Articles Through 1993 (n = 107)	% Core Articles Through 1998 (n = 21)
AJS	67 %	0 %
ASR	50 %	0 %
Social Forces	56 %	33 %
Rural Sociology	55 %	38 %
Social Problems	59 %	18 %
Sociological Inquiry	80 %	14 %
Sociological Perspectives	62 %	27 %
Sociological Quarterly	67 %	33 %
Sociological Spectrum	94 %	36 %

Within tiers, the trend reflects that of the journals. The numbers are too small to draw confident conclusion, but the reduction of core articles in upper tier journals is consistent with the overall trend of a reduction in core articles. Table 10 shows the percentages of core articles across tiers.

Table 10

Overall Percentage of Core Articles Across Tiers

Tier	% Core Articles Through 1993 (n = 107)	% Core Articles Through 1998 (n = 21)
Tier I	7 % (8)	5 % (1)
Tier II	93 % (99)	95 % (20)

Krogman and Darlington (1996) felt that if the upper tier journals failed to become more core, then the Human Exemptionalist Paradigm would maintain a strong foot hold in sociology. The results of my analysis show that this has been the current trend. The shift from the Human Exemptionalist Paradigm to the heralded New Ecological Paradigm has not yet been realized.

Topical Area of Environmental Sociology

Overall

Krogman and Darlington (1996) showed that the most dominant category for the 25-year period was New Human Ecology, followed by Attitudes, Values and Behaviors. The least researched topic was shown to be Technological Risk and Risk Assessment. For the next 5-year period, Technological Risk remained the least researched topic, followed by Political Economy. However, the ordering of the remaining topics shifted. The most research topics became Attitudes, Values and Behaviors, Environmental Movement, and New Human Ecology.

This shift in the order of topics is consistent with the observation I drew earlier that there has been a shift from a preponderance of core articles to issues articles in mainstream sociology journals. The most researched topics subscribe,

more often than not, to the sociology of environmental issues camp. These findings beg the question: what has been making these issues related topics so appealing in the last 5 years? Or, alternatively: what has made the core related topics so unappealing in the last 5 years? Table 11 shows the distribution of percentages across topics.

Table 11

Overall Percentage of Topics

Topic	1969-1993 (N = 191)	1994-1998 (N = 70)
New Human Ecology	26 % (50)	20 % (14)
Environmental Movement	15 % (28)	23 % (16)
Attitudes, Values and Behaviors	21 % (41)	30 % (21)
Technological Risk	10 % (20)	10 % (7)
Political Economy	14 % (26)	17 % (12)

Tier and Specific Topic

For the first 25-year period, the dominant topics in the upper tier were Attitudes, Values and Behaviors and Environmental Movement, typically topics that deal with the sociology of environmental issues. In the lower tier, the dominant topics were Political Economy and New Human Ecology, which tend towards the Core approach.

In the following 5-year period, the dominant upper tier topics became New Human Ecology and Environmental Movement, which are mixture of Core and Issues topics. The leading lower tier topics were Technological Risk and Political

Economy, which are both typically of the Core approach. However, these results are somewhat misleading, since they are based on such a small number of articles. For the most part they show the tendency of the upper tier to resist topics associated with core environmental sociology. Table 12 and Table 13 compare the 2 time periods across topics and tiers.

Table 12

Overall Percentage of Topics by Tier for 25-year Period

Topic	Tier 1	Tier 2
New Human Ecology (n = 50)	8 %	92 %
Environmental Movement (n = 28)	10 %	90 %
Attitudes, Values, and Behaviors (n = 41)	11 %	89 %
Technological Risk (n = 20)	10 %	90 %
Political Economy (n = 26)	4 %	96 %

Table 13

Overall Percentage of Topics by Tier for 5-year Period

Topic	Tier 1	Tier 2
New Human Ecology (n = 14)	7 %	93 %
Environmental Movement (n = 16)	6 %	94 %
Attitudes, Values, and Behaviors (n = 21)	5 %	95 %
Technological Risk (n = 7)	0 %	100 %
Political Economy (n = 12)	0 %	100 %

Chapter Summary

This section on environmental articles published in mainstream sociological journals formulates the main portion of my thesis. I showed that the current trend for environmental articles is a dramatic increase, in relation to other sociological topics. However, this increase was not shared equitably between upper and lower tier journals. The upper tier witnessed only a slight increase in environmental articles, due entirely to articles published in *Social Forces*. *ASR* and *AJS* produced no new articles about the environment.

I showed how the paradigm within which these articles were written with tended to be the Human Exemptionalist Paradigm (Dunlap and Catton, 1979), which was indicated by a rise in sociology of environmental issues articles and a decrease in core environmental articles (considered to be in the New Ecological Paradigm). In spite of earlier speculations that the opposite would occur, I found that the separation of the 'social' and 'natural' aspects of society is growing for the discipline. Whether or not this is seen as problematic, of course, depends on the acceptance or rejection of the thesis given by Dunlap and Catton (1979). I believe that research in either paradigm is valuable, but that a bias towards either is problematic. Seen in this light, the diminishing dominance of core environmental sociology is actually a step in the right direction towards a more rounded environmental sociology, in which core and issues articles are treated as equally valuable approaches.

Finally, I showed how the 5 topical areas have gained and lost momentum among the upper and lower-tier journals. Drawing conclusions about this comparison is risky, since the overall number of articles in each topic and tier was so small for the 5-year period. However, these results seem to support the argument that the lower tier is more open to core articles.

The meaning of all these results, as in any descriptive analysis, is open to interpretation. The increase in the overall number of environmental articles, in relation to articles dealing with other subjects, is encouraging to me. It shows that sociology is integrating the topic more and more. The fact that prestigious journals are producing fewer articles, or none at all, is somewhat disappointing. Perhaps the reason for this can be attributed to the fact the topic of the environment is less traditional than other sociological topics competing to make it into these journals. Another explanation could be that their are more available alternatives for publishing articles. Researchers may find that the audience they want to reach does not match the readership for *AJS* and *ASR*. Maybe the best alternative is to publish in journals specializing in the environment. I will return to this possibility in the section entitled Environmental Journals. Before I do, I would like to address the issues associated with the authors and schools associated with the articles I analyzed.

CHAPTER V

AUTHORSHIP AND SCHOOL OR INSTITUTION OF ORIGIN

In this section I go beyond an update of a previous study and extend the scope to include information pertaining to authorship and school or institution of origin to estimate the extent to which environmental sociology has been either centralized or dispersed over the last 5 years. I also report findings for the department and gender of the first, second, and third authors. If environmental sociology is a sub-discipline or a specialty area of sociology, then it would seem reasonable to assume that environmental articles would originate from a centralized location and a discrete group of people, or perhaps from a small number of centralized locations and a handful of discrete groups of people.

I begin this investigation with an assessment of the number of articles published in the 9 journals by individual authors, in order to identify patterns of centralization among people. How many authors published more than one environmental article in the last 5 years? Do any authors stand out, who could possibly be labeled as "environmental sociologists" because of the number of environmental publications they have? Do any schools stand out as focal points for environmental sociology, based on the authors working on their behalf?

Next, I look at the departments and schools from which these authors originate. Are the people publishing in mainstream sociology journals, who are most concerned with the environment, actually employed by sociology departments, or are they from external institutions or departments? Is environmental sociology dominated by males or females? I will attempt to address all of these questions.

Author and Number of Publications

Table 14 shows the overall distribution of the number of publications for first, second, and third authors, combined. The results show that 11 people (10%) produced more than 1 publication, and that 3 (2.7%) produced more than 2 articles. The most exceptional case, is the author who produced 5 publications (1 %) over the last five years. Overall, there were 110 authors publishing environmental sociology articles. This suggests a rather large number of people interested in studying the environment in some capacity. Considering that these data are limited to mainstream journals, which are more difficult to publish in than other journals, I would guess that there is an even greater number of people doing environmental sociology. However, testing this prediction would require an analysis of the remaining sociology journals.

Table 14

Percentages of Authors and Publications

Percent of Authors With 1 Publication	Percent of Authors With 2 Publication	Percent of Authors With 3 Publication	Percent of Authors With More than 3 Publication
90 % (99)	7 % (8)	2 % (2)	1 % (1)

Schools

This subsection analyzes the percentage of schools and individual publications (the number of publications a particular author has generated as either a first, second, or third author in environmental articles) within the environmental articles. Table 15 shows the distribution of the number of articles across schools.

One of the purposes of my investigation was to assess the extent to which environmental sociology tended to be centralized at a given location(s). Overall, 57 schools produced 65 articles, or less than one (.88) article per school (the location of the article is associated with the school of the first author - the data on publications includes information for all 3 authorships). Since there were more articles than schools, it appears that an argument for centralization is plausible. Schools producing more than 1 article accounted for 20 (35.1 %) of the total number of articles published.

Table 15

Percentages of Schools and Articles

Schools with 1 Article	Schools with 2 Article	Schools with 3 Article	Schools with More than 5 Articles
64.9 % (36)	12.3 % (7)	12.3 % (7)	10.5 % (6)

Overall, 117 authors (first, second, and third combined) had publications in the articles from the 57 schools, for an average of about two author publications per school. As Table 16 shows, the majority (69 %) of the schools produced two or more publications. The largest portion for one school, the University of Wisconsin-Madison with 14 publications (12 %), led all other schools by a substantial amount. The next notable schools were Pennsylvania State University with 8 (6.8 %) publications, and South West Louisiana, which accounted for 7 (6 %) publications. Given these observations, it could be argued that if environmental sociology were a sub-discipline, then these three schools would be its major focal points for the last 5 years. These schools combined for a total of 24.8 % of the overall number of

publications, which is about a quarter of all environmental publications in mainstream journals.

Six schools (11 %), producing five or more publications, accounted for 44 (38 %) author publications. Adding the next 7 highest schools, with 3 author publications each, the total number of publications rises to 65 (56 %) author publications. This suggests that the idea of centralization is occurring, since roughly one fifth (23 %) of the schools are responsible for over half (56 %) of the author publications.

However, note that the distribution suggests a bimodal trend. This means that the topic of the environment tends to be both a topic, on one hand, and a sub-discipline on the other.Only a third (33 %) of the schools fall between these extremes.

Table 16

Percentages of Schools by Author Publications

Percentage of Schools with1 Author Publication	Percentage of Schools with 2 Author Publications	Percentage of Schools with 3 Author Publications	Percentage of Schools with More than 3 Author Publications
31% (36)	14 % (16)	18 % (21)	38 % (44)

Departments

After looking at the information on schools, I turned to an analysis of the departments these authors worked in, to see the proportion of authors who were employed by sociology departments or some interdisciplinary variation (e.g. Department of Sociology and Anthropology). In some journals it was standard to list the author's department after their name; however, other journals did not follow this practice. Regardless of this limitation, I make the argument that the journals that did

follow this standard (n = 39) of listing the department with the author provided enough information to make some conclusions.

Table 17 shows that the first authors were primarily from a sociology department, or some interdisciplinary variation. They formed 69 % of the known departmental affiliations, while outside departments formed 18 %. The remaining 13 % came from outside institutions, such as government or business research institutes.

Table 17

Department or Institution of First Author

Sociology Department	23 % (9)
Some Variation of a Sociology Department	46 % (18)
Other Academic Discipline	18 % (7)
Outside Institution	13 % (5)

Table 18 shows that the second author was more likely to come from academia . Those coming from some form of a sociology department remained approximately the same, making up 66% of the total departments. However, there was an increase in authorship from outside departments (30%), and a decline in contributions from outside institutions (4%), when compared with first authorship.

Table 18

Department of Second Author

Sociology Department	30 % (8)
Some Variation of a Sociology Department	36 % (10)
Other Academic Discipline	30 % (8)
Outside Institution	4 % (1)

Table 19 demonstrates that third authorship was less likely to be from a

sociology department (38%), and more likely to be from an outside departments (38%) or outside institution (24%).

Table 19

Department of Third Author

Sociology Department	15 % (2)
Some Variation of a Sociology Department	23 % (3)
Other Academic Discipline	38 % (5)
Outside Institution	24 % (3)

It can be concluded that the topic of the environment, while being published in sociological journals, is not necessarily the work of people in sociology departments. At best, they were present in about 70% of the cases (first and second authorship). Perhaps this indicates that outside scholars are seeing a value in sociology of which people in sociology departments are unaware. I found this to be an interesting finding, since I expected a greater majority of the authors publishing in mainstream sociology journals to be from sociology departments.

Gender of Authors

In addition to collecting information about how many publications authors published dealing with the environment, I collected information about the gender of these authors. I wanted to know the gender distribution for the topic of the environment. The tables below summarize the genders of the first, second, and third authors.

It is clear that the first authorship of the environmental articles was predominantly male, as is shown in Table 20:

Table 20

Gender of First Author

Males	65.7 % (45)
Females	31.4 % (23)

Table 21 shows, surprisingly, the exact same percentage pattern for second author:

Table 21

Gender of Second Author

Males	65.7 % (25)
Females	31.4 % (13)

Finally, Table 22 shows a more equitable pattern between males and females, but still favoring males:

Table 22

Gender of Third Author

Males	57 % (8)
Females	43 % (6)

The results above show that males are more likely than females to publish articles about the environment. For first and second authorship there is approximately a 2:1 ratio for males and females. Third authorship is more equitable, but still favors males over females by a margin of 14 %.

As I mentioned earlier, the purpose I had for including this subsection was simply to report my findings, in the spirit of a descriptive study, and nothing more.

Chapter Summary

The analysis of authorship and school or institution of origin that I conducted in this section led me to conclude that environmental sociology has characteristics of both a special area of sociological investigation, as well as a topic mixed with more general sociological interests. Individual publications of authors showed a bimodal trend. In the beginning of this section, I claimed that if environmental sociology was a sub-discipline, then the tendency would be to have less authors producing more publications. There were a total of 6 (11 %) schools with 44 (38 %) author publications, and 36 (31 %) with only 1 author publication. This seems to suggests characteristics of both a specialty and a topic. However, the majority of schools (64.9 %) only produced one article dealing with the environment, even though most publications for first, second, and third authors came from a small number of schools. Recall, the distinction I made between the environment as a topic, and the environment as a sub-discipline in sociology. As a topic, I stated that the environment could be addressed by sociologists with more general interests. As a sub-discipline, however, people could delve deeply into the social ramifications of the environment. Either way is useful: in one sense it is addressed broadly, and in the other, it is addressed deeply.

Finally, I looked at the departments and gender of these authors. I came to the conclusion that there are many people publishing from outside departments (other than sociology) or institutions (government and business research agencies). For first and second authorship, only 70% of the articles were done by people in sociology departments. The results of the gender distribution show that environmental sociology is a topic that is dominated by males in first and second authorship by a proportion of 2:1. The gap, however, narrows when considering third authorship to a

margin of 14 %. I stated that I would not explore the reasons for why this is the case, as it is beyond the scope of this study.

CHAPTER VI

ENVIRONMENTAL JOURNALS

This section goes beyond the study of environmental articles, and is concerned with the number of environmental journals an author has to consider when trying to publish. Obviously, the more journals there are to choose from, the less difficult it would be to publish. In addition, the more alternative journals there are, the less an article would need to make it into a mainstream journal, in order to get published. In other words, if there are not many places to publish environmental sociology, then the need to publish in mainstream sociology journals increases out of necessity.

To examine this argument, I turned to the Social Science Citation Index (SSCI). Within the SSCI are a list of journals under numerous subject headings. For my purpose, I focused on the subject headings of "sociology" and "environmental science"/ "environmental studies" (referred to as environmental studies henceforth - they are the same thing, it was just the wording of the subject heading that changed over time). Within each of these subject headings, I looked at the total number of journals. Next, I looked at the total number of overlapping journals.

Total Number of Journals

Over the 30-year period, ending in 1998, the mean number of sociology and environmental studies journals per year was 118, combined. The mean number of journals in the environmental studies category increased over time, which is shown in Figure 2. In the first decade, the number of journals was in the mid 20s (25). In the

following decade, the number increased into the upper 20s to lower 30s (28), and in the most recent decade, the total number of environmental studies journals peaked in the mid 30s (36). This shows a pattern of increase over time.

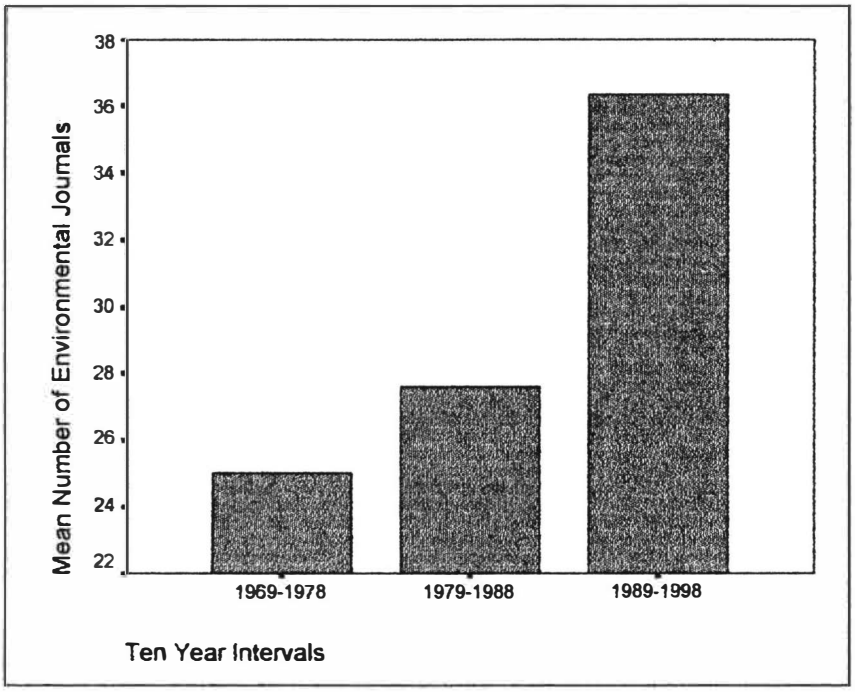


Figure 2. Number of Environmental Studies Journals Over Time.

Unlike environmental studies journals, shown above, the mean number of sociology journals showed a pattern of decreasing over time. In the first decade (1969-1978) the total was in the mid 90s (96), moving down to around 80 the next decade (1979-1988), and ending in the final decade (1989-1998) in the 70s (78). Part of this decrease was due to the relocating of some journals into newly created categories, which were variations of the sociology heading. This redefining of some journal's subject placement accounted for a loss of roughly 30 journals. I chose to stay with my original plan of counting the total number of sociology journals, leaving

the modified categories out. The reason for this was based on the primary argument of my thesis, which was concerned with mainstream sociology, rather than specialized fields within sociology. This decision clearly has an impact on my analysis, lowering the mean number of journals per year significantly. Figure 3 shows the decline in the number of mainstream sociology journals over time.

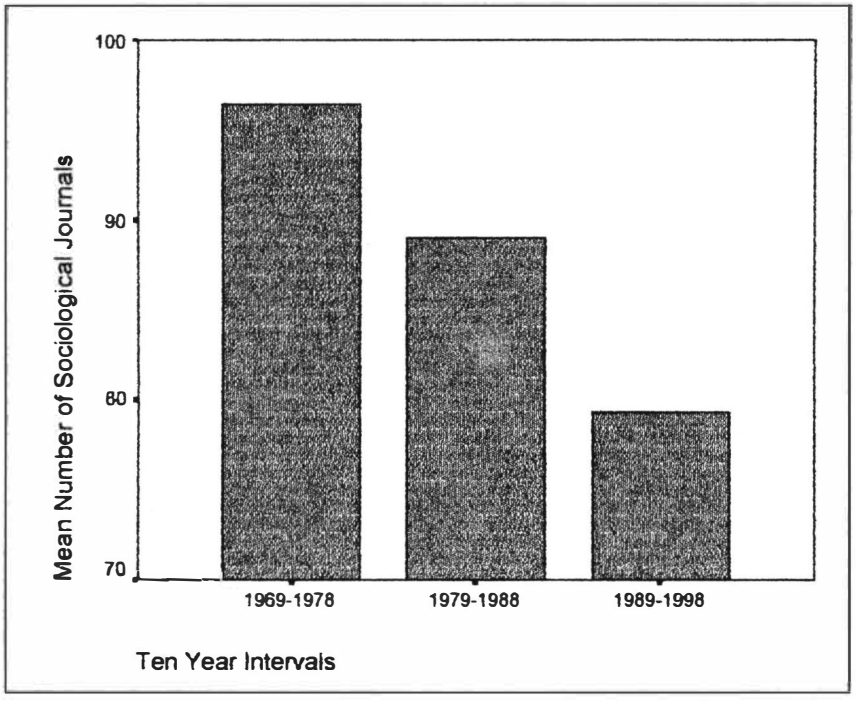


Figure 3. Number of Sociological Journals Over Time.

Overlapping Journals

Within each of the separate categories of sociology and environmental studies were a small number of identical journals. In other words, some journals were considered by the SSCI to be appropriate for both sociology and environmental studies. As Figure 4 shows, the number of overlapping journals, while being low, seems to be showing signs of increasing. This means that the demand for more

journals dealing with the intersection of the environment and sociology is slowly being fulfilled. In the first decade the mean number of overlapping journals per year was 1.2. The following decade, it moved up to 1.6, and in the most recent decade, it rose to 1.9. Therefore, the mean number of overlapping journals per year increased by roughly 1 journal over the last thirty years.

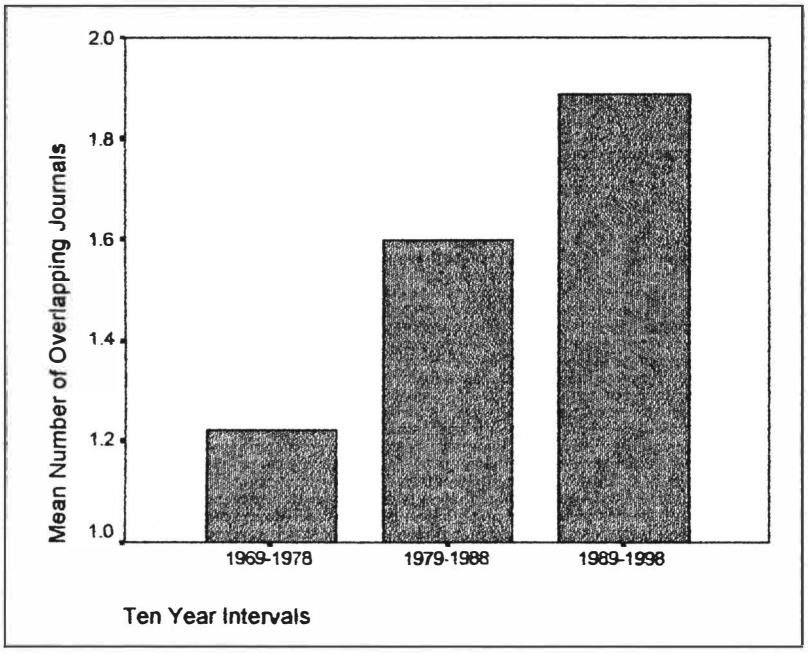


Figure 4. Mean Number of Overlapping Journals Over Time.

Chapter Summary

Based on the findings in this section, I conclude that people who do environmental sociology have more alternative outlets in which their work can be published. This is due in part to the fact that the overall number of environmental studies journals has slowly been increasing. In addition, the total number of overlapping environmental sociology journals has been rising. In light of these facts, and with the understanding that the overall number of sociology journals has

decreased, there is some reason to believe that people would be more likely to publish in these alternative outlets.

Another conclusion that can be drawn is the idea that sociology and the environment are slowly finding more ways to connect. With the number of overlapping journals on the rise, the appeal of this interdisciplinary category also grows. However, the number is too small (1.2 - 1.9) to make any hasty conclusions, and too small to meet a higher demand for publication outlets. More journals of this nature will be necessary if environmental sociology is to flourish as a sub-discipline.

CHAPTER VII

CONCLUSION

Summary

This thesis has been composed of 3 main sections. The first of these sections updated the number and percentage of articles in environmental sociology, and described their contents. I then compared the most recent 5-year period to the previous 25-years, to make conclusions about trends. In the section that followed, I looked at the author and school or institutions of origin, as well as the department and gender of authors publishing environmental sociology articles. And in the third section, I analyzed alternative sources of publications that may have explained current trends in the number of environmental articles being published in mainstream sociological journals.

In the first section I stated that I found an increase in the total percentage of environmental articles. In the 25-year period ending in 1993, the total percentage was 2.3% (191). For the 5-year period that followed, the number increased to 4.6 % (70) of all articles published in mainstream sociological journals. I showed that the proportion of upper tier journals decreased from 6 % to 4 % of all environmental articles between the 2 time periods.. I suggested that the topic of the environment has been gaining popularity in mainstream sociology. However, since the same trend is not reflected in upper tier journals, I concluded that the environment is still not viewed as a fundamental area of sociological research. I went on to show that the type of environmental sociology that was gaining notoriety was not the core

environmental sociology that Dunlap and Catton (1979) decreed, but was instead the sociology of environmental issues. In the sub-section on areas of research in environmental sociology, I showed that the topics increasing in attention, since 1993, have tended to be non-"core," and were addressing the environment in a symbolic manner, minimizing the amount of focus on the actual interaction between people and the biophysical environment. I showed that this was true for both upper and lower tier journals.

In the second of the three main sections, I analyzed the author and school or institution of origin, as well as the department and gender of authors, who published the environmental articles. Data for this section came directly from the first section, which analyzed the number and content of articles. The conclusions I drew were based on the question of whether or not environmental sociology is a discrete sub-discipline of sociology, or if, alternatively, it was a just a topic studied more generally. I argued that if environmental sociology were in fact a sub-discipline, then the tendency would be to find a smaller number of schools and people producing more environmental articles. Instead of there being a small number of schools, I found that many schools were addressing the topic of the environment. However, when I looked at the number of individual publications for each school, I found there to be a bimodal trend consisting of, on one hand, a large number of schools with over 3 publication, and on the other, a large number of schools with only 1 publication. There were few schools in between these extremes. Therefore, my conclusions were somewhat mixed. Environmental sociology has characteristics of both a distinct area of sociological study, as well as a topic addressed by a more general scholarly base. In addition, many of these articles were authored by people outside of sociology departments. For first and second authors, I found that roughly 30% of the authors

were not employed by some form of sociology department. Finally, I reported my finding for the gender of authors. I found that for first and second authors, there was a 2:1 ratio of men to women. Hence, I concluded that the topic of the environment was more favorable to men in mainstream journals.

The third of the main sections looked at "Environmental Journals" as alternative sources of publication. The reasoning for this was that if a researcher writes a piece that is both sociological and environmental, then what reasons would they have for trying to get it published in upper tier sociological journals? And if their are more environmental journals to choose from, what reasons would the researcher have for trying to publish their article in a sociological journal at all. I found that as the 30 year time period passed, the number of environmental journals increased. This makes sense, since the environment as a social problem has been gaining more acceptance, awareness, and attention. On the flip side, I found that the total number of sociological journals decreased. Last, I showed how the number of overlapping journals (between sociology and environmental studies) was slowly on the rise, but still at a level too small to host a large body of literature, which is sure to come with a specialization in environmental sociology.

Discussion

As we move into the new millennium it will be interesting to see the new turns that take place, both for sociology and the broader study of the environment. Future research on this subject could focus on explaining the reasons for why someone is drawn to the intersection of the environment and sociology. On the other hand, research that uncovers ways to overcome the deep seated barriers between sociology and the environment is in demand. How can we encourage more people to

explore this intersection of environment and society?

Explanations are also needed for why core environmental sociology has been losing ground, and why the sociology of environmental issues articles has recently become the dominant area. Is one approach more valid or valuable than the other? In my opinion, both approaches are not only valid, but extremely valuable. The reason I hold this to be the case, is because each addresses a different set of questions. While one focuses on the physical relationship of human society and the biophysical environment, the other focuses on how the environment is treated as a social problem. Each treatment of the environment has something to offer academia as well as people outside of the academy, who are concerned about the environment.

Questions about the desirability of making a sub-discipline out of environmental sociology also need to be answered. I am of the belief that there are advantages to treating environmental sociology in either way. As a specialty area, a deeper level of analysis is possible. This is because more time and effort could be devoted to a specialty area than a topic. However, as a topic it appeals to a broader range of sociologists. The more the environment enters into mainstream sociological discourse, the more historical sociological barriers can be overcome. Will the increase in environmental journals help in this process?

In my effort to describe the content of environmental sociology, I have shown how some forms of environmental research are falling behind and how others are accelerating in relation to each other. I tried to demonstrate the wide range of topics in environmental sociology, and to make it appealing to both people specializing in environmental sociology, as well as a broader base of sociologists. As I suggested in the introduction, I wanted to use this thesis as a way of provoking the imagination of the reader. I hope I have been successful in my attempt to lure them into a sense of

wonder and curiosity. It is exciting to be a part of something that is at such an early phase of development, and which is need of new theory, new research designs, and new applications of sociological knowledge. I hope that we can take advantage of this opportunity, just as others seem to have only begun.

Appendix A

Coding Sheet

Code Sheet: Article/Author Classification

Name of article:

_____
_____
_____

Citation Information (Year, Journal, Vol., No., Pages):

_____
_____
_____
_____

2 Categories of Dunlap and Catton:

__ Sociology of Environmental Issues
__ Core Environmental Sociology

5 Categories of Buttel:

__ Technological Risk and Risk Assessment
__ New Human Ecology
__ Environmental Movement
__ Environmental Attitudes, Values and Behaviors
__ Political Economy of the Environment

Evidence for Classification:

_____
_____
_____
_____
_____
_____

Author 1: _____
School/Institution: _____
Department: _____
Gender: M F

Author 2: _____
School/Institution: _____
Department: _____
Gender: M F

Author 3: _____
School/Institution: _____
Department: _____
Gender: M F

Author 4: _____
School/Institution: _____
Department: _____
Gender: M F

Author 5: _____
School/Institution: _____
Department: _____
Gender: M F

Appendix B

Secondary Coder Results

Secondary Coder: Test of Reliability

To ensure reliability of my content analysis, I've made the decision to employ the use of a secondary coder. The selection of articles will be based on a systematic random sample of the data. Once the secondary coder has completed his content analysis of the selected articles, I will calculate two coefficients of reliability for area and topic.

Systematic Random Sample

k = N/n, where k is the skip number, N is the population, and n is the desired sample size.
k = 70/10
= 7

I randomly selected 5 as the starting point for the analysis, and came up with these articles (the points refer to the level of agreement we had on each article):

Sociological Perspectives	39 (2): 249-262	Teetering at the top... (1,1.)
Sociological Spectrum	14: 1-23	Shrimpers, Conservation..(1,1)
Sociological Spectrum	16: 421-436	Trappers and Trapping in...(1,1)
Sociological Inquiry	64 (2): 199-213	Media Constructions of..(1,1)
Social Forces	77 (2): 567-586	Social Determinants...(1,1)
Social Problems	42 (4):	Recruiting Strangers...(1,1)
Rural Sociology	62 (1): 21-47	Making the Transition...(1,0.)
Rural Sociology	61 (3): 42-45	Local Dependency...(1,1)
Rural Sociology	59 (1): 25-44	Environmental Controv...(1,0)
Rural Sociology	63 (2): 214-234	Is Locally Led Conserva...(1,0)

If we were in complete agreement on both category classifications (area and topic), I gave it a 1,1 rating (7 articles were like this). If we disagreed on one of the two (either area or topic) I gave it a 1,0 rating (3 articles were like this). And if we completely disagreed, I gave it a 0,0 rating (this never happened). The results of the comparison were as follows:

Area Coefficient = 10/10 = 100 % agreement
Topic Coefficient = 7/10 = 70 % agreement

Conclusion:

Based on the coefficient above, we can state that there is a consistency level of 100 % for area inter-reliability, and 70 % for topic inter-reliability.

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