A Critical Assessment of Ian McHarg's Human Ecological Planning Curriculum at the University of Pennsylvania

William John Cohen
University of Pennsylvania

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A Critical Assessment of Ian McHarg's Human Ecological Planning Curriculum at the University of Pennsylvania

Abstract
This dissertation is a critical assessment of the ecological and later human ecological planning curriculum as envisioned and promoted by Ian L. McHarg at the University of Pennsylvania (Penn). An examination is made of the historical development—including its philosophical and academic antecedents—and the ultimate decline of the curriculum, covering the period 1954 to 2000, McHarg's tenure at Penn in the Graduate School of Fine Arts. The ecological and later human ecological planning curriculum became the essence of the Regional Planning program in the Department of Landscape Architecture and Regional Planning that emerged in the 1969–1970 academic year and was finally terminated by 1994. The importance of this examination is twofold: first, to research the intellectual and pedagogical development of a curriculum that would train and prepare almost an entire generation of regional planners. It was widely recognized as the model interdisciplinary academic curriculum in the field of city and regional planning. Second, the importance of the decline and ultimate phasing out of the curriculum, as an intellectual and methodological base for training professional planners and designers, can establish certain parameters for the construction of future curricula that would emphasize ecological or environmental planning.

Investigations relied on two basic sources. First, a group of twelve individuals were selected as a composite group, consisting of former members (or other associates of McHarg) in the Department of Landscape Architecture and Regional Planning, especially during his service as Chairman from 1957 to 1986. Second, extensive research utilized the Bulletins published by the Graduate School of Fine Arts for McHarg's entire tenure at Penn. The Bulletins (from 1954 to 1991) and later catalogues (after 1991) became the primary source of information to track development and changes to the Department's pedagogical statement, course offerings, and the composition of faculty.

The conclusion is that there were many factors—personal, pedagogical-methodological, and external—that were responsible for the decline and ultimate termination of McHarg's human ecological planning curriculum.

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First Advisor
John C. Keene

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A CRITICAL ASSESSMENT
OF
IAN MCCHARG'S HUMAN ECOLOGICAL PLANNING CURRICULUM
AT THE
UNIVERSITY OF PENNSYLVANIA

William John Cohen

A DISSERTATION
in
City and Regional Planning

Presented to the Faculties of the University of Pennsylvania in Partial
Fulfillment of the Requirements for the Degree of Doctor of Philosophy

2003

Professor John C. Keene
Supervisor of Dissertation

Professor John C. Keene
Graduate Group Chairman
DEDICATION

To

Gerald F. Vaughn

Dear friend and alter ego

who helped me carry the torch from beginning to end

and

who continually urged adherence to the dictum

Non Illegitmus Carborundum
ACKNOWLEDGEMENTS

My first advisor and mentor at Penn was Anthony Tomazinis. I express my sincere gratitude for his continued support and sound guidance. A number of professors had a special impact on my intellectual development, and I thank each of them for the scholarly rigor they demanded and challenge they provided: Igor Kopytoff, Seymour Mandelbaum, Elliott Pavlos, Richard Tustian, and Greg Urban. Two staff members who were always there to help and deserve my thanks: Kathleen Crossin (DCRP) and Ernestine Williams, former Registrar in GSFA. Several individuals either assisted in or made my research an easier task. Warm thanks go to George Clark, M.C.P., Amey Hutchins, University Archives, and Diane Pringle, Department of Landscape Architecture and Regional Planning. Special thanks go to Rick Dunn, GSFA Registrar, who provided indispensable assistance. The twelve persons who were interviewed (identified in Chapter 4) gave me unique insights that became a crucial component of this dissertation. Particular thanks go to Nicholas Muhlenberg who steered me in the right direction from the beginning. I have dedicated this dissertation to Jerry Vaughn, friend and colleague for over 30 years, who has been an invaluable supporter and critic. He has my deepest thanks. My dissertation committee comprises three of the finest academic minds I have ever known. Jonathan Barnett has given me a new awareness of urban design. Elijah Anderson has opened my horizons to the varied dimensions of social life through ethnography. Finally, my gratitude is expressed to John Keene, my teacher and advisor, who has always been there, and has served a special role in my life at Penn—encouraging me to reach ever higher.
ABSTRACT

A CRITICAL ASSESSMENT

OF

IAN MCHARG'S HUMAN ECOLOGICAL PLANNING CURRICULUM

AT THE

UNIVERSITY OF PENNSYLVANIA

William John Cohen

John C. Keene
Supervisor of Dissertation

This dissertation is a critical assessment of the ecological and later human ecological planning curriculum as envisioned and promoted by Ian L. McHarg at the University of Pennsylvania (Penn). An examination is made of the historical development—including its philosophical and academic antecedents—and the ultimate decline of the curriculum, covering the period 1954 to 2000. McHarg's tenure at Penn in the Graduate School of Fine Arts. The ecological and later human ecological planning curriculum became the essence of the Regional Planning program in the Department of Landscape Architecture and Regional Planning that emerged in the 1969 – 1970 academic year and was finally terminated by 1994. The importance of this examination is twofold: first, to research the intellectual and pedagogical development of a curriculum that would train and prepare almost an entire generation of regional planners. It was widely recognized as the model
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CHAPTER 1
INTRODUCTION TO THE DISSERTATION
AND
THE FOUNDATION THEMES OF MCHARG'S APPROACH TO PLANNING

Introduction to the Dissertation

This dissertation is a critical assessment of the ecological and later human ecological planning curriculum as envisioned and promoted by Ian L. McHarg at the University of Pennsylvania (Penn). As such, the dissertation will examine both the historical development and the decline of the curriculum, and its philosophical antecedents, principally during the period 1954 to 2000, when McHarg was a member of the faculty in the Graduate School of Fine Arts. The critical assessment will be aimed at understanding the multiple factors that can be attributed to the decline of what had become known as the model interdisciplinary academic curriculum in the field of city and regional planning.

The importance of this examination is twofold: first, to research the intellectual and pedagogical development of a curriculum that would train and prepare almost an entire generation of regional planners, specializing in ecological and later human ecological planning. Second, the importance of the decline and ultimate phasing out of the curriculum as an intellectual and methodological base for training professional planners and designers, can establish certain parameters for the construction of future curricula that would emphasize ecological or environmental planning.
This dissertation is a contribution to knowledge in several areas. To begin, it is the first historic, analytical, and critical assessment of McHarg’s unique multidisciplinary planning and design curriculum in the Graduate School of Fine Arts at the University of Pennsylvania. Second, the dissertation provides, for the first time, a composite representation of critical perspectives about the curriculum—as gathered through a number of key informant interviews—from former students, faculty members, and university colleagues. This endeavor alone provides a unique perspective on the development and decline of the curriculum; it is a story that has not been told before. Finally, this dissertation will contribute a new understanding of Ian McHarg’s work in advancing the practice of planning and design, principally through the two disciplines of city and regional planning and landscape architecture as represented by the pedagogical evolution of the ecological/human ecological planning curriculum in the Department of Landscape Architecture and Regional Planning at Penn.

Structural Presentation of the Dissertation

Chapter 1 is the introduction to the dissertation, declaring that its purpose is to undertake a critical assessment of Ian McHarg’s ecological and human ecological planning curriculum that became the essence of the Regional Planning program in the Department of Landscape Architecture and Regional Planning at Penn. The introduction will also define the areas where the dissertation is a contribution to knowledge, and finally, provide an overview of each of the subsequent chapters. The remainder of Chapter 1 will summarize a number of philosophical and methodological engagements.
that serve as foundation themes to McHarg's approach to planning. These themes are not mutually exclusive, but, in many instances build on each other or meld together as a comprehensive field of fertile ideas, concepts, and methods.

Chapter 2 is intended to simply lay out certain intellectual variables that encompass McHarg's ideas about planning and design, much of which is an extension of the foundation material presented from Chapter 1. The chapter begins by developing a conceptual perspective of planning that reviews certain conventional definitions of planning and ends with a conceptual perspective of infusing ecology into planning. Finally, the chapter will cite the key works of McHarg that serve as primary source material to understand his philosophy and definition of planning.

Chapter 3 identifies several critical perspectives that others have expressed about McHarg's seminal work, *Design with Nature* (1969), as well as his philosophy that has been characterized as "environmental determinism." The critical perspectives analyzed include: the rejection of ecological planning as normative planning theory; selected contemporary critical reviews of *Design with Nature*; and two noteworthy post *Design with Nature* reviews that confront the issue of McHarg's dogmatism in his advocacy for ecological planning and the question as to whether McHarg's prescription was inventory or planning. This last point will resurface again later in the dissertation when the curriculum is discussed. Finally, this chapter will account for the absence of a cultural or human perspective in McHarg's earliest formulation of his approach to ecological
planning. This final critique opened the door, in many ways, to move ecological planning into what later would be called human ecological planning.

Chapter 4 will present the methods and the resource utilization of the ethnographic component of the dissertation. This includes analyses and assessments provided by others as generated through twelve key informant interviews. Conducted over a four month period from October 15, 2002 and February 19, 2003, this valuable source of information has served a crucial role in ascertaining certain perspectives from former students, faculty, and colleagues about the varied dimensions in the evolution of the curriculum. By themselves, the key informant interviews serve as a new form of knowledge about the evolution of the curriculum, and even the multifaceted role of McHarg himself. The chapter will conclude with an outline of the phases in the evolution of the Penn curriculum. This outline will provide the path that the dissertation will follow in chapters 5 through 9.

Chapter 5 will begin with a review of the academic environment that was originally established in the Harvard Graduate School of Design in the 1930’s. The Harvard environment fostered the collaboration and pedagogical cooperation of the three disciplines, architecture, landscape architecture, and city and regional planning. It was this environment that nurtured Ian McHarg as a student in the late 1940’s. It was also the environment that shaped the pedagogical philosophy of G. Holmes Perkins, the Chairman of Harvard’s Planning Department, who would come to Penn in 1951 as the Dean of the
School of Fine Arts. Perkins would hire his former student, McHarg, who came to Penn in 1954 charged with the creation of a Department of Landscape Architecture. The balance of Chapter 5 will trace McHarg's early years at Penn (1954 – 1959), principally examining the way the first curriculum was formed, around a traditional landscape architecture program. The second period covered, 1960 – 1968, saw the emergence of a new Regional Planning program. By the 1965 – 1966 academic year McHarg's Department of Landscape Architecture had added Regional Planning to its name, and the first curriculum was offered to train regional planners based on the natural sciences—in essence, the planting of the seeds of the ecological planning curriculum.

As the decade of the 1970's began a new and growing national awareness of environment issues and concern took on a higher importance than they had ever been before. The passage of new Federal environmental legislation, as well as compatible state and local laws mandated new requirements for development to meet. Concomitantly, on the academic front, the trend to develop curricula in the natural sciences was gaining momentum in many colleges and universities, particularly to train a new cadre of environmental planners. Chapter 6 will lay out this perspective, along with certain pivotal non-academic factors that affected the curriculum in the Department of Landscape Architecture and Regional Planning at Penn. McHarg's Design with Nature, as well as his hosting of a widely viewed television series, The House We Live In during 1960 and 1961, and the inauguration of Earth Day in 1970, all created a new public persona for McHarg. It also provided him outlets to spread his message of "environmental
determinism," that would appeal to a new generation of students, many of whom would enroll in the Regional Planning program at Penn. The formalizing of the ecological planning curriculum within the Regional Planning program took place between 1969 and 1973. A review of the Department's pedagogical statements—that statement of philosophy that appears in the Bulletins and Catalogues of the Graduate School of Fine Arts that explains what the curriculum and related academic engagements are all about—coupled with the numerous course offerings provides significant evidence on the shaping and implementation of the curriculum. The statements and courses, as they change over the years also give indicators of inadequacies, shortcomings, or flaws in the curriculum. This aspect of analysis begins to become especially poignant in Chapter 6. Additionally, this chapter will discuss the important role that McHarg's consulting firm, Wallace, McHarg, Roberts, and Todd played in serving as a testing ground or "laboratory" for the ideas and theories being developed in the curriculum.

Chapter 7 covers the period 1973 – 1979 that witnessed a major refocusing of the curriculum. In 1971 McHarg's Department received a substantial grant from the National Institute of Mental Health that would be the impetus to expand the ecological planning curriculum in the Regional Planning program. This was the beginning of the evolution of ecological planning into human ecological planning, facilitated by the addition of several new faculty who would secure a new pedagogical refinement in the curriculum. An overview of the model and theory of human ecological planning is presented in order to see how McHarg's perspective was changing in juxtaposition to the curriculum. Chapter
also accounts for a number of relevant aspects of the human ecological planning curriculum, including an examination of McHarg's notion of being interdisciplinary in a multidisciplinary world, certainly one of the ingredients that made the graduate program in Regional Planning both popular and successful. Two new avenues to expand the curriculum are presented—one in the design studios offered to the landscape architects, and the other as a new health program in human ecological planning. In 1979 McHarg resigned from his consulting firm, an event that severed a crucial relationship that would markedly impact the curriculum in the coming years. Other changes were taking place, this time inside the Department itself, the most prominent being the resignation of the key faculty member who was teaching computerized spatial analysis, the forerunner of Geographical Information Systems (GIS). In light of the preponderant emphasis in the curriculum on the ecological inventory—or as it was called, the "layer cake"—a lack of GIS instruction would have an impact on keeping the curriculum relevant in light of the changing technology that could increase the reliability and accuracy in undertaking the ecological inventory.

By the early 1980's, the gains that had characterized the curriculum's success would be consolidated. However, there were signs that the curriculum would begin to lose momentum. Chapter 8 examines the increasing disarray that was beginning to take its toll on the program. An examination of the salient issues, emanating from outside the University, as well as those embodied in the curriculum itself, give clear evidence that a number of variables were working against the perpetuation of the human ecological
planning curriculum as McHarg had developed it. These issues are highlighted by changing national environmental priorities that directly reduced the availability of jobs for regional planners, especially in the popular Section 701 comprehensive community planning program and the Section 208 area wide water and waste water management program. Thus, changing market realities directly affected enrollments in McHarg’s Regional Planning program. Student enrollment data is introduced in this discussion and tracks the number of students matriculating in Landscape Architecture and Regional Planning between academic years 1967 – 1968 through 1994 – 1995. A trend analysis of the Regional Planning program shows that the peak enrollments were in academic years 1973 – 1974 to 1976 – 1977, and by the 1980 – 1981 school year, were beginning to decline. An appendix provides a compilation of enrollment data for the Department for most semesters between Spring 1967 to Fall 1995. By the 1981 – 1982 academic year the 501 Studio became the “backbone” of the curriculum, and, for the first time, became required for all entering students in both Landscape Architecture and Regional Planning. The structure of the Studio will be reviewed along with an identification of certain inherent shortcomings. The most important analysis concerns whether the Studio was oriented more toward ecological inventory than planning. The conclusion to this investigation is that in light of how the Studio was presented it was preoccupied with inventory rather than addressing planning. While this factor alone does not appear to have had a relationship to the decline of the curriculum, it clearly points out a flaw in McHarg’s concept of human ecological planning. Another such flaw emerged in the
Landscape Architecture program, where it was found that a human ecological planning approach could not be adapted to design—especially site and micro-scale design.

Chapter 9 will concentrate on the phasing down of the human ecological planning curriculum and the Department’s return to the traditional roots of landscape architecture. The chapter begins in 1986, the year McHarg was replaced as Chairman of the Department, and continues until he taught his last course in the Spring 2000. With a retention of faculty rank, McHarg still participated in the teaching aspect of the curriculum, yet tensions between himself and the new Chairman arose that were exacerbated by the reality of a declining curriculum in the Regional Planning program, which McHarg had considered to be his “legacy.” After 1990, design began to play a more important pedagogical role in the Department and by the 1995–1997 school year, a “new” curriculum was firmly in place that supplanted the human ecological planning curriculum in the Regional Planning program. The Department had by this point returned to its primary mission, as the education of landscape architects.

Chapter 10 is focused on an identification and assessment of the critical factors responsible for the decline of the human ecological planning curriculum. In order to do this task most comprehensively a typology is presented that groups the critical factors into three areas: 1) *Personal Factors*—including those that emanate from the persona of McHarg himself, his personality, his presentation of self to others, and his administrative and teaching style. 2) *Pedagogical and Methodological Factors*—including the various...
elements embodied in the creation, maintenance, and the pedagogical sustainability of the curriculum itself. Throughout its evolution, the curriculum went through a number of modifications, reflecting the changing emphasis as conscripted by McHarg, as he moved from ecological to human ecological planning. The changing nature of the curriculum, seemingly always in flux, played an important role in its ultimate decline. 3) **External Factors**—including changing Federal, as well as state and local, regulatory and planning prerogatives that had a direct relationship to a dwindling job market for regional planners. As a consequence, enrollments in the Regional Planning program declined significantly beginning in the 1985 – 1986 academic year. This chapter concludes with the observation that McHarg may simply have been at the right place at the right time. Such an assertion cannot be proven, but then it cannot be denied.

**The Foundation Themes of McHarg's Approach to Planning**

Ian McHarg’s human ecological planning evolved over a number of years. It rests on several philosophical and methodological schools of thought, including: a way of interpreting and representing nature that came to be called “the picturesque,” transcendentalism, landscape aesthetics, environmentalism, the burgeoning scientific field of ecology, human ecology, the systems approach, landscape geography and resource economics, and finally, the empirical ecological planning approaches of Patrick Geddes, Lewis Mumford, Ebenezer Howard, and Benton MacKaye.
The Picturesque

Beginning in eighteenth century Britain and extending into nineteenth century America, an interpretation and representation of nature emerged that was known as the picturesque. This term was "formulated into an aesthetic category...with particular application to landscape scenery, landscape painting and garden and park design."¹ It is the "persistent archetype of the garden," as James Corner points out, that "portends an ecological consciousness that is simultaneously useful and symbolic, one that is rooted not in an external world of nature but with a particular culture's mode of relating to nature."² The evolution of the picturesque was to capture the interest of poets, writers, and perhaps most dramatically the landscape painters. In establishing the philosophical underpinnings of the picturesque, the many writings of William Gilpin, Richard Payne Knight, Evadale Price, and Humphry Repton had special influence. Associating the written word with landscape painting could be found in the works of William Kent, Capability Brown, J.M.W. Turner, and John Ruskin. It allowed the picturesque to be brought into visual representation.

Why this fascination with the "picturesque"? To begin with, the varieties of shape and form found in nature captivated a human imagination that would envision.

design, or project how those shapes and forms could best be arrayed to achieve an optimal level of satisfaction or appreciation. The picturesque was an intellectual as well as an intuitive process. Richard Payne Knight wrote in 1805, “The sensual pleasure arising from viewing objects and compositions...felt equally by all mankind in proportion to the correctness and sensibility to their organs of sight....” The picturesque as a representative form for expressing nature also offered a distinction between the “Beautiful,” thought of as harmony and regularity and the “Sublime,” envisioned to portray elements of danger and irregularity. Both of these aspects of the picturesque, could, in many ways, be thought of as combining all of the multiple dimensions of nature that could be envisioned in the human consciousness. In the final analysis, the picturesque will play in the mind, the imagination, and an individual sensitivity to interpret nature, encompassing the totality of its awesomeness, beauty, wonder, and excitement. In a very real way the picturesque was an approach that appealed to the senses by conceptualizing views of nature that man could then adapt to enhance his living environment. The history of the picturesque, as representational art, emphasized something akin to a social categorization of beauty. It was conceived, not only to replicate nature but also to improve nature, thereby evoking a full spectrum of potential or idealized human responses to a landscape aesthetic and how that aesthetic would optimize the utilization and enjoyment of a built environment.

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Ian McHarg was acutely aware and admiring of this picturesque art form. He remarked in his autobiography, *A Quest for Life*, that it “was the greatest single act of art in the entire Western tradition.” As a lecturer in landscape architecture at the Royal College of Art in Edinburgh, Scotland in 1951, he wrote a memorandum intended to be the basis of a degree program that would emphasize the great picturesque tradition. As he later wrote, “I submitted the memorandum. Nothing happened. It would be thirty years before it was exhumed.”

**Transcendentalism**

Not surprisingly, as the dawn of the American industrial age approached in the early nineteenth century, man’s views of nature would come under a different rubric. The dominant attitude towards land that emerged, vis-à-vis nature, was that there was vast undeveloped terrain, from sea to shining sea—the great American wilderness—that offered what seemed to be unlimited opportunities for growth and progress. This was a time that witnessed “a new, national understanding of beauty in space.” This “new standard of spatial beauty—or visual quality—ruled the national imagination. Land in agricultural equilibrium—land cleared of wilderness and defended against the evils of

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5 Ibid., 112.
weeds and blights and the return of wilderness—was land likely to remain fertile."

In nineteenth century America a rising cry of concern was expressed about the increasing congestion, overcrowding, and industrial ugliness of the burgeoning cities. It was a literary age and the romantic writers extolled, in both verse and prose, the wonders of nature. Escape to the country, they urged. There you will find peace, solitude, and a world far away from the industrial horrors of the city. Many of the writers invoked poetic metaphors that depicted the American landscape as primal nature, as was so adroitly discussed by Leo Marx. In this regard, the American sensitivity was to look at the landscape as "remote and unspoiled, and a possible setting for a pastoral retreat." This notion of the pastoral would then become "invested with a new relevance and new symbols." I would suggest that in light of Marx's thesis the classic ideals of the picturesque went through a metamorphosis. The change that occurred was that this time there was a new, pragmatic concept of nature as a landscape aesthetic—the pastoral.

The rise of transcendentalism was, in many ways, a literary companion to the picturesque. Ralph Waldo Emerson and Henry David Thoreau led the way in exalting the wilderness and the amenities of nature. They firmly believed that without reference to nature eternal truth could not be known. Succinctly stated, the transcendentalists held that

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“If men and women would transcend the petty, dehumanizing, commercial burdens of their lives, they must maintain creative contact with the diffused presence of God in nature.”

McHarg recalled that as a young boy how he was raised as a Presbyterian by a father who was quite religious. As young Ian was exposed to the obligation of attending church and reading the Bible, he experienced great satisfaction to the brain. “But what of spirituality? And that I found, but not in church, not in the company of men and women, but in the mountains and by the sea.”

His early love for nature and the revelation of God in nature was forcefully stated: “Again and again in lovely landscapes, great hovering clouds, shafts of sunlight falling on the land, granite outcrops, headlands pointing into the sea, violent waves crashing on rocky cliffs. I felt such exaltation, a sublime experience. Here, indeed, was God’s grandeur. Here, God was immanent.”

Landscape Aesthetics

It was the Hudson River school of painting, especially the nature landscapes of Thomas Cole and his student. Frederick Edwin Church, which brought about a popular visual awareness of the beautiful, the sublime, and the picturesque in nature. The nation was entering an age in which the fine arts helped create a new hope, and a new dream that would become embodied in planning for utopian communities and the early suburbs.

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10 Ibid.
One could argue that there was evolving a direct relationship between the romantic yearnings of the poets, writers, and painters and the growing demands for new development, especially as was opening up beyond the traditional cities and towns. This offered new challenges—indeed, new choices. A synthesis was created by merging the romantic ideal and the representation of a landscape aesthetic into the realm of plan making. The greatest advocate of this fusion was Andrew Jackson Downing, a horticulturalist and garden designer. The concept of a landscape as an embodiment of nature emphasized the replication of the beautiful aspects of nature through landscape design, so long as the landscape could be planned—or controlled.

The idea—or, if you will, the ideal—of the representation of nature gained prominence as an important design component of planning as illustrated in an early twentieth century text that was used in the landscape architecture curriculum at Harvard University by Professor Henry Hubbard. In his text we can decipher an intentional blending of the aesthetic elements of nature as an essential component of landscape design. Professor Hubbard stressed that “designs must be, as far as humanly possible, both interpretations of natural character and effective pictorial compositions.” Although he discussed elements of the beautiful as contrasted with the picturesque he continued that “In our present speech much of [the] acquired meaning of [the picturesque] has been again lost, and the word is used more in its simpler sense [as an effect that might be
produced by a picture], although some of the associational flavor remains, as in the antithesis of ‘picturesque’ to ‘pastoral’ scenery in some discussions of park design."  

As the development of cities, towns, and the early suburban communities accelerated after the turn of the twentieth century, an environmental context for the representation of nature became, for the most part, an element in planning. With these changing times new destinies would be shaped. The old garden aesthetic—so fundamental to the origin and perpetuation of the picturesque—would, as one historian wrote, become “increasingly absorbed into that of town planning, which takes its criteria from social and technical concerns, rather than from aesthetic principles.”  

Environmentalism

There were a number of movements that rose and fell as a response to the environmental damage created by the industrial revolution during the nineteenth and well into the twentieth century. These movements shared philosophical and ethical attributes that challenged the dominant scientific world view which generally viewed man as supreme over nature, a theme that would later be embraced by McHarg with fervor. The period between 1860 and 1915 saw the emergence of a body of thought that Donald Worster calls “environmentalism” which had as its central premise the view that “man’s

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welfare depends crucially on his physical environment."  The contributors to this new recognition of the environment included Vermont lawyer, George Perkins Marsh, landscape architect, Frederick Law Olmsted, geologist, Nathaniel Shaler, horticulturalist, Liberty Hyde Bailey, and the president of Harvard, Charles Eliot, among many others. What they all had in common was the raising of an environmental awareness, and the belief that planning must be undertaken to reverse the negative externalities of unchecked development in a burgeoning industrial society.

After 1930 a new wave of naturalists and scientists emerged to provide further evidence and analysis as to the importance of protecting and preserving our natural resources. Prominent among them were Paul Sears. Deserts on the March (1935); Fairfield Osborn. Our Plundered Planet (1948); Rachel Carson. Silent Spring (1962); Barry Commoner. The Closing Circle: Nature, Man and Technology (1971), and of course. Aldo Leopold. A Sand County Almanac (1949). It was Leopold who pushed the twentieth century context of environmentalism to a new plateau when he passionately proclaimed the need for a land ethic and the view that man must become a member of the land-community, not a conqueror of it. When Stewart Udall wrote the "Forward" to McHarg's autobiography, he identified "three individuals who provided the philosophical foundation" of the rise of environmentalism in the 1970's. These included Aldo Leopold, Rachel Carson, and McHarg, who Udall described as having "developed a

14 "Forward" in A Quest for Life xii.
holistic method of ecological planning that has made possible a crucial change in the way
environmental decisions are made." 15

The Scientific Field of Ecology

The development of a broad multi-disciplinary movement under the rubric of ecology
would offer the promise of understanding the natural environment, natural forces, and the
impact of modern technology on the environment. Ecology, as a scientific field, can be
traced back to ancient times and involves an analysis of perceptions to understand how
humans and their environment interact. It has, over time, engaged a community of
scholars from a wide range of disciplines who have sought to decipher social and
institutional changes that have impacted or altered man's relationship to the environment.
In the broadest sense, technological change, resource use, and human adaptation have
become the basic concerns of this understanding. 16

Ecological concepts were being developed in eighteenth century England around the
idea of the "plentitude of nature," incorporating notions of food chains and equilibrium.
Historian Donald Worster has described this early conceptualization of ecology as
including two traditions. The first was the arcadian perspective toward nature that
"advocated a simple, humble life for man with the aim of restoring him to a peaceful

15 Ibid.
16 See Lester J. Bilsky, ed. Historical Ecology: Essays on Environment and Social Change (Port
coexistence with other organisms.” 17 The second early conception of ecology is termed by Worster as an “imperial tradition.” This is represented by the work of Francis Bacon (1561-1626), the philosopher of the scientific method, and the founder of the science of botany. Carl Linnaeus (1707-1778). The principal tenet of the “imperial tradition” is that man’s domination over nature may be secured through the exercise of reason, and by hard work. 18 The word ecology derives from the Greek, oikos, and means a house or place to live in. Ernst Haeckel, the nineteenth century German biologist, is generally credited with first using the term ecology in his study of plants. History of Creation (1868). However, ecology as a scientific mode of inquiry did not become fully established until the beginning of the twentieth century as an important branch of the biological sciences. The first major works included Eugenus Warming’s, Oecology of Plants (1909) and two textbooks by F.E. Clements: Research Methods in Ecology (1905) and Plant Physiology and Ecology (1907).

It was in the writings of Charles Darwin and Alfred Russel Wallace (a contemporary advocate of the idea of evolution) that the theoretical parameters would be established, as a frame of reference for modern ecology, first in scientific fields and later in the social sciences. This frame of reference advanced three essential conceptions: First, that there is a web of life in which organisms adjust or seek adjustment to one another. Second, that

18 Ibid. See pp. 3-55 for a thorough treatment of these two traditions.
this adjustment process is a struggle for existence. And finally, that the environment consists of a complex set of conditions that influence the adjustment process.

Ecology, embraces the biological perspective, and is commonly thought of to be broken down into three disciplinary branches: Plant ecology, begun with the works of Haeckel in the nineteenth century and Warming in the early twentieth century; animal ecology, which had its beginning in the early twentieth century, principally through the works by C.C. Adams. Guide to the Study of Animal Ecology (1913) and V. E. Shelford. Animal Communities in Temperate America (1913); and finally, human ecology, that incorporated a natural science preoccupation with relationships to social science concerns and issues.

Today, ecology is known to be the study of the relationship of organisms to their environment. In most uses, an ecological context is most often associated with natural science, particularly biology. The term, ecosystem, also developed out of the biological sciences and was first used in 1935 by Sir Arthur Tansley, a British botanist. The ecosystem concept therefore expanded the essential term, ecology, to embrace a more focused, organizing principle in evaluating or studying both the biological and non-biological aspects of a total environment.

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It was during the nineteenth century that sociologists and anthropologists picked up on the ecology theme and began to develop the epistemological basis for the study of what would become known as human ecology. This social science twist (primarily derived from plant and animal ecology) was fashioned as a more comprehensive approach to understanding human relations. Sociologist Amos Hawley defined the composite development of human ecology from the biological sciences as “the study of the form and the development of the community in human population.” that became “a logical extension of the system of thought and the techniques of investigation developed in the study of the collective life of lower organisms.” 20 According to June Helm, “The ecological approach in anthropology proceeds from the first aspect or level of the adaptive system—man in adjustive and exploitative interaction, through the agency of technology, with his inorganic and biotal milieu. But this level had immediate implications for the second aspect of the adaptive system, that of the relations between men.” 21 Moreover, there is evidence that as social science utilized the concept of ecology to study human affairs, natural science was not oblivious to the human or cultural dimension. In 1935 the noted botanist, J.W. Bewes first published Human Ecology where he summarized the environment-culture connection by concluding that ecology involves

three variables. First, he argued, ecology is a science: “it analyzes and investigates the phenomena of nature.” Second, ecology has a very comprehensive viewpoint of its own, “a special way of regarding the ultimate reality of life and nature.” In this sense, ecology may be regarded as a philosophy. Finally, according to Bews’ description, ecology may be looked upon as an art since it “provides a plan, a pattern into which can be fitted everything that we know of man, his responses, his activities, and his works.”

Broadly viewed, the movement from a scientific focus of ecology to a human focus of ecology, is to decipher and investigate the distinction Robert Nisbet made between continuities and discontinuities (or random action) of social change. In Nisbet’s view, “The real objective is to [look for] genetic continuity: to the fixed notion within the conventional wisdom of social science that one change necessarily engenders another. That one ‘stage’ of developmental change produces the next stage, just as one stage of growth does in the organism.” An argument could be made that there is a linkage between man the natural form and man as a cultural expression. But, what is of concern here is that from the view point of human ecology man as cultural expression is uppermost. Here enters the interplay between human ideas, values, beliefs, and even dreams—dreams of the perfect, and the ideal—with the wide variety of manifestations that influence the creation of the human habitat and adaptation to the environment. Clifford Geertz expressed the idea that “Man is to be defined neither by his innate

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capacities alone, as the Enlightenment sought to do, nor by his actual behaviors alone, as much of contemporary social science seeks to do, but rather by the link between them, by the way in which the first is transformed into the second, his generic potentialities focused into his specific performances."

It is fair to say that the initial explication of the concept of human (and later social or cultural) ecology, especially as it examines man’s activities and relations in a community context, rests in two disciplines: sociology and anthropology. Cultural (or human) geography and land (or resource) economics also engaged similar conceptual relationships. The writings that were produced by the Chicago school of urban sociology between 1915 and 1940 began to explore questions of human interactions in the urban setting. In 1925, Park, Burgess, and McKenzie first published their collective work, *The City*, which contained “both theoretical expositions and interpretative essays about the cultural patterns of urban life.” The bridge between human ecology and plant and animal ecology can be highlighted by McKenzie’s summary view that the spatial relationships among humans “are the products of competition and selection and are continuously in [the] process of change as new factors enter to disturb the competitive relations or to facilitate mobility.” As a result, “Human institutions and human nature

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itself become accommodated to certain spatial relationships of human beings.” 26 The institutional organization of community—as an ecological factor—was later to be defined by Amos Hawley as “the structure of relationships through which the localized population provides its daily requirements. In some instances the bounds of ecological organization and of community are coterminous, in others ecological organization extends well beyond the limits of a single community embracing two, three, or any number of communities.” 27 Anthropologist Marston Bates wrote that ecology can be considered “as a pervasive point of view rather than as a special subject matter… whereby the organism is regarded as a whole unit functioning in its environmental context.” As a consequence, there is a “carry over from the biological sciences [that] might thus be especially helpful in relating the concepts of the one field to those of the other.” 28 In the final analysis, human ecology, especially as it has become embraced by a number of social science disciplines, is really a synthesis. Conservationist. Paul Sears.

26 Roderick D. McKenzie, “The Ecological Approach to the Study of the Human Community.” in The City. 64. An interesting divergence from this classic sociological view was written many years later by Canadian ecologist, Pierre Dansereau: “Food, space, housing, services, recreational facilities, etc., can all be distributed according to a plan which is more ecological than sociological, if one considers the origin of the resource needed for each one of these needs.” Dansereau, “An Ecological Framework for the Amenities of the City.” Diogenes 98 (Summer 1977): 12.


correctly stated this view when he argued that human ecology "is not so much a specialty as a scientific activity which must draw upon a wide range of specialties." \(^{29}\)

**The Systems Approach**

I would surmise that there appears to be a curiosity that underscores the study of human relations that embrace an ecological premise, whether that study focus be historically grounded from an evolutionary viewpoint or focused on a present condition. For sure, a number of disciplines in the social sciences have inculcated an ecological perspective in their investigations. Seemingly, the crux of this curiosity is to impose an ecological premise for the human or social growth and development of the organism to its surrounding environment as being analogous to the biological growth and development of the same organism to the same environment. Yet, the social scientist would still draw a distinction as highlighted by sociologist William Ogburn, who maintained that "human behavior never occurs except in a cultural milieu and the social heritage could not grow except by the group activities of biological man. Ogburn believed that there is a distinction between the cultural and the biological. "It is sometimes desirable to know how much behavior of biological man in a cultural environment is determined by activities of the biological equipment and how much is shaped by culture." \(^{30}\)

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“In anthropology,” according to John Bennett, “cultural-environmental research was not considered ecological until Julian Steward used the term ‘cultural ecology’ in the late 1940’s. However, there are many ecologies in anthropology, if we use the word as a general referent for studies of organism-environmental interrelations.” 31 Steward, in his pioneering work, cited Hawley’s “most recent and comprehensive statement of social ecology,” that relied on identifying that “man reacts to the web of life as a cultural animal rather than as a biological species.” which he found conformed to “the widely accepted anthropological position that historical factors are more important than environmental factors.” 32 The essence of Steward’s contribution, that later would be fused with the concept of human ecological planning, rested on his identification of the “culture core—the constellation of features which are most closely related to subsistence activities and economic arrangements. The core includes such social, political, and religious patterns as are empirically determined to be closely connected with these arrangements.” 33 Consequently, “Cultural ecology pays primary attention to those features which empirical analysis shows to be most closely involved in the utilization of [the] environment in culturally prescribed ways….It considers that the entire pattern of technology, land use, land tenure, and social features derive entirely from culture.” 34 Clifford Geertz performed such “empirical analysis” and concluded, “The necessity of seeing man against the well-outlined background of his habitat is an old, ineradicable

33 Ibid., 37.
34 Ibid.
theme in anthropology, a fundamental premise. But until recently this premise worked out in practice in one or two unsatisfying forms, 'anthropology' or 'possibilism;' and the turn to ecology represents a search for a more penetrating frame of analysis within which to study the interaction of man with the rest of nature than either of these provides.”

Geertz’ contribution was to apply ecosystem theory to agricultural ecology. To him “The guiding question shifts from: ‘Do habitat conditions (partly or completely) cause culture or do they merely limit it?’ to such more incisive queries as: ‘Given an ecosystem defined through the parallel discrimination of culture core and relevant environment, how is it organized?’ ‘What are the mechanisms which regulate its functioning?’” From the perspective of cultural (or human) ecology Geertz relied on evaluating the nuances of a systems approach and cause and effect factors that acknowledge the interdependence of cultural phenomena with the environment.

One of the theoretical foundations that would be absorbed into McHarg’s ideas for human ecological planning would account for a composite of Julian Stewart’s culture core concept and a systems approach to its utilization. This relationship is fairly close to the concept expressed by Robert Redfield in contrasting parts and wholes. Although not a cultural ecologist, Redfield’s studies of the “the little community” provide a way for the anthropologist and sociologist to intuit the “whole” and then decipher the “parts.”

36 Ibid., 10.
way interrelations can be understood: a system is constructed.\textsuperscript{37} Redfield also discusses man-environment relationships as more than simply a factual reality, it is mental: “In towns and cities men build their environments into their very houses and streets so that the land and the weather are pushed outside of the system. And in every community, primitive or civilized, what most importantly surrounds and influences the people are the traditions, sentiments, norms, and aspirations that make up the common mental life....The world of men is made up in the first place of ideas and ideals.”\textsuperscript{38} John Bennett’s \textit{The Ecological Transition} must be considered the crucial contribution from cultural anthropology that would seal the perceptual linkage between ecology and human ecology in the context of the systems approach. To Bennett the ecological transition is “the progressive incorporation of Nature into human frames of purpose and action....”\textsuperscript{39} Moreover, he defines cultural ecology as the “study of how and why humans use Nature, how they incorporate Nature into Society, and what they do to themselves. Nature and Society in the process.”\textsuperscript{40}

\textbf{Landscape Geography and Resource Economics}

As the discipline of geography became an academic focus in the early twentieth century—the first North American department of geography was established at the

\textsuperscript{38} Ibid., 29-30.  
\textsuperscript{39} Bennett. \textit{The Ecological Transition}, 3.  
\textsuperscript{40} Ibid.}

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University of Chicago in 1903—its components were diversified into specialized branches such as geomorphology, climatology, and biogeography. In his presidential address to the Association of American Geographers in 1922, Harlan Barrows, proclaimed "that geography should concentrate on those themes which lead towards synthesis, with an economic regional geography occupying a central place." 41 Geography as human ecology would become an increasingly important perspective, especially with the development of landscape geography that sought to understand the physical and human elements of a region within a spatial context. Specifically, "landscape geography focuses on the human experience of being in landscape....Further, there is explicit acknowledgement that landscapes, like regions, reflect and affect cultural, social, political, and economic processes." 42 Nuances to this approach captured the idea expressed by Yi-Fu Tuan that space becomes place when it develops meaning. 43

There is an integrative element between geography and resource (or land) economics which better attempts to explain human relations with the environment, primarily as this implies human thought and meaning relative to environmental resources. As explained by resource economist, Gerald Vaughn, "Human adaptation to the environment implies purposive action, and individual behavior collectively becomes

43 Yi-Fu Tuan. Space and Place: The Perspective of Experience (Minneapolis: University of Minnesota, 1977), 136.
social action usually resulting in public policy and programs. The dynamics of human adaptation constitute the largely unexplored frontier of behavioral geography and behavioral economics." 44 Similar to the sociologists, land economists have clearly made a connection between human ecology and land use. However they emphasize the idea of scarcity of the land resource and how that variable impacts the competition for the allocation of the land resource. For example, land economist, Roland Renne stated the relationship this way: "An impersonal competition for existence occurs among human beings just as it does among plants and animals. Competition also occurs between man and other forms of life in his environment, but it is most ruthless between man and man." 45

Empirical Planning Approaches: Geddes, Mumford, Howard, and MacKaye

The earliest thrust in formulating an empirical approach to planning, predicated on ecology, begins with the work of a biologist turned town planner—Patrick Geddes. In 1884 Geddes sounded an ecological warning, "When any given environment or function, however apparently productive, is really fraught with disastrous influence to the organism, its modification must be attempted, or, failing that abandonment faced." 46 The pioneering practical technique proposed by Geddes that would later become the basis of McHarg’s method of ecological planning, was the systematic surveying of bioregions.

before any planning would be undertaken. Between 1904 and 1914 Geddes, through his philosophy and field work, developed the idea of integrating what he described as "place, work and folk," as a means to understand the interactions between humans and their environment. By refusing "to see a clear separation between theory and practice, planning and participation, thought and action," Geddes "viewed place in terms of people and their life, [relating] physical planning to the natural environment." 47 He was a unique thinker who would have significant influence on the eventual development of an ecological approach to planning. Philip Boardman, Geddes' biographer, described his comprehensiveness this way. "Geddes's life shows a constant interpenetration of the general and the particular, the philosophical outlook and the scientific outlook, the universal and the regional...." 48 In effect, Geddes laid down the basic structure that would later become the basis for an ethnographic perspective for planning. It was through the emergence of human ecological planning in the 1970's that the Geddes concept of "place, work, and folk" became a fully operationalized method incorporated into contemporary planning.


48 Philip Boardman. *Patrick Geddes: Maker of the Future* (Chapel Hill: University of North Carolina Press, 1944), xi. One of the early proponents of Geddes work was sociologist, economist, ecologist, and philosopher, Radhakamal Mukerjee, who studied with Geddes in India between 1914 and 1915. Mukerjee argued for the "give-and-take between Man and Environment or between culture and region...." This is predicated on his view that "In human evolution we have reached a stage where genotypes of individuals not only fit themselves to or select their suitable environments but also can control and change the environments for themselves and for the species in terms of their own values." *The Philosophy of Social Science* (London: MacMillan & Co., 1960), 25.
Lewis Mumford first read Patrick Geddes' pamphlets in 1915 and referred to him as "master" during their thirty-year correspondence and friendship. It was Mumford who would absorb and advance Geddes' teaching about the environment, ecology and planning. The dominant intellectual role that Geddes played in Mumford's development would prefigure the influence that Mumford would later have on McHarg's prescription for both ecological and human ecological planning. After an analysis of the correspondence between Geddes and Mumford, Frank Novak concluded that "What Geddes taught Mumford about how to study cities remained an important influence throughout his long career. The 'method and outlook' Geddes advocated provided a model of 'how to look at cities, how to interpret their origins, their life, their cumulative history, their potentialities.'" 49 Mumford believed that all aspects of the environment, consisting of communities, cities and regions, were governed by organic rules of growth related to their function. If those limits are exceeded then we invite catastrophe. Modern technology must be subordinated to human needs, rather than be thought of in purely economic terms. When Lewis Mumford wrote, *The Culture of Cities*, he expressed the notion that man—the organism—is not strictly implicated in an "environment in space," which "has its own line of growth....its own curve of development, its own span of variations. its own pattern of existence." but we are "also implicated in time, through the biological phenomena of inheritance and memory; and in human societies it is even more consciously implicated through the necessity of assimilating a complicated social heritage

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which forms, as it were, a second environment."  

This very point holds special relevance in the pursuit of human ecological planning, since societal development and growth must be predicated on a clear acknowledgment of the interconnection of the two "environments."

Ebenezer Howard's Garden City movement, after the turn of the twentieth century, also influenced Mumford with its emphasis on reconciling man to both his social and natural environment. It was the Garden City that strove to marry town to country and restore the city to a humane place. It was a concept that allowed Mumford to formulate his notion of an "organic" approach to planning, which does not begin with any preconceived goal. Rather it moves from "need to need, from opportunity to opportunity, in a series of adaptations" that become coherent and purposeful in order to generate a "complex, final design."  

Mumford's attraction to the Garden City, "as the foundation for a new cycle in urban civilization," was predicated on a prescription that "the means of life will be subservient to the purposes of living, and in which the pattern needed for biological survival and economic efficiency will likewise lead to social and personal fulfillment."  

The American response to the Garden City movement in England was to produce a number of inspired plans, and built communities, that replicated the Garden

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City ideal. Notably among them were Forest Hills Gardens, New York, built in 1912 and planned by Frederick Law Olmsted, Jr. with architectural designs by Grosvenor Atterbury. Radburn, New Jersey became the prominent Garden City example by the end of the 1920’s, planned and designed by architects Clarence Stein and Henry Wright.

From an institutional perspective, the American Garden City had its greatest support with the establishment of the Regional Planning Association of America that functioned between 1923 and 1941. What distinguished the R.P.A.A. from the English Garden City movement was “its insistence on regarding housing and planning goals in terms of (to use Mumford’s phrase) an ‘organic ideology’ of the human environment.” 53 Mumford was one of the key organizers, along with Clarence Stein, Catherine Bauer Wurster, Henry Wright, and Benton MacKaye. It was MacKaye, trained as a forester, who became an important intellectual ally of Mumford in promoting the concept of the connection between ecology and regional planning.

We must control the metropolitan invasion, MacKaye wrote in *The New Exploration* (1928), and we must think of regional planning as applied ecology. Clearly, in the tradition of Patrick Geddes, MacKaye saw the benefits of pursuing a more realistic understanding of the environment-man relationship that would shape the settlement pattern of the region. McHarg’s thoughts run parallel to this tradition. Even though he would eventually acknowledge Geddes as “the founder of modern town planning.”

McHarg also acknowledged that Geddes was "fascinating but difficult to read." \(^{54}\) Mumford, on the other hand, would become an important mentor to McHarg, especially when they served as colleagues at Penn. Mumford, whom McHarg called "The wisest man I have ever known," \(^{55}\) would write the introduction for *Design with Nature*, and most certainly influenced McHarg's thinking about Geddes, regional planning, and the culture-man-environment connection.

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\(^{54}\) McHarg, *A Quest for Life*, 93 and 112.
\(^{55}\) Ibid., 202.
CHAPTER 2
MCHARG'S APPROACH TO PLANNING AND DESIGN
AND
THE ECOLOGICAL PLANNING METHOD

The foundation themes of McHarg's approach to planning that were presented in the previous chapter have given a starting base from which to understand the various components of his theory and method of planning and design. This chapter begins with a general sampling of various definitions of planning, concluding with an overview of ecological planning. The balance of the chapter will be devoted to certain technicalities that need to be presented to explain McHarg's approach to planning and design. This will include his ideas behind the theory of ecological planning and a description of the ecological planning method. The distinction between the theory and method will become crucial for an ensuing discussion (in Chapter 3) that deciphers between the ecological inventory and ecological planning. Finally, an analysis of McHarg's conception of regional planning will be presented.

What Kind of Planning?

To city and regional planners there are perhaps as many definitions of planning as there are ways in which people attempt to understand the present and project a future. Both the history of planning theory and the practice of planning have provided certain guidelines or definitions as to what planning is, should be, and ought to accomplish. Over
the years countless numbers of books and articles have engaged the concept of planning and molded it into a working definition for use in practice. The process of planning, as a human endeavor to manage or affect change in the future, has remained constant over time. What has changed is the manner in which planning is done, and that relates directly to how it is defined, to accomplish a specific end.

Perhaps one of the most fruitful ways to approach the question, what is planning? is to recall the typology established by John Friedmann. Here we find planning related to intellectual traditions—traditions that come and go, with bits and pieces of one captured or modified by another. Friedmann links knowledge to action in defining four major traditions of planning thought: social reform, social mobilization, policy analysis, and social learning. These pave the way for an enunciation of not just one, but three definitions of planning, that are each underscored by two operative terms: social guidance and social transformation. Friedmann’s three definitions of planning are:

1) Planning attempts to link scientific and technical knowledge to actions in the public domain: 2) Planning attempts to link scientific and technical knowledge to processes of social guidance: and 3) Planning attempts to link scientific and technical knowledge to processes of social transformation.56 In a concise way, Ernest Alexander provides an understandable perspective that cites a number of historic and evolutionary trends that he finally brings together in the hope of advancing at an “acceptable synthesis” as to what

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planning is—and should be. According to Alexander, "Planning is the deliberate social or organizational activity of developing an optimal strategy of future action to achieve a desired set of goals, for solving novel problems in complex contexts, and attended by the power and intention to commit resources and to act as necessary to implement the chosen strategy. Two tests of the relevancy of this definition would simply be first, is this a meaningful and manageable description of what planning is?; and second, is this what planners do? In a broad sense the answer to both tests could be in the affirmative. Yet, when one considers the evolution of planning—as a process and as a profession—a broad-brush, all inclusive definition does not account for the incredible impact that a wide range of intellectual and pragmatic influences have had in shaping how planning has attempted to invent, synthesize or formulate an ideal future condition for people, their environment and their culture. Moreover, the broad-brush definition does not address changing professional—and societal—perspectives as to what planning should be. The unique challenge, both in theory and in practice, in formulating or adjusting a definition (or definitions) of planning is how different disciplinary approaches to problem identification and problem solving become fused under the rubric, what is planning? For example, Stuart Chapin, in the second edition of his classic text, Land Use Planning, wrote that "land use planning is part of this larger process of city planning." that emphasized a shift from the designer-craftsman notion of planning to the embodiment of

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a scientific approach to planning. Thirty years later, with the publication of the fourth edition of Chapin’s text, the notion of planning was described as now encompassing a number of changes: 1) “Incorporating microcomputer technology in the organization and analysis of information and the presentation and evaluation of plans;” 2) the “integration of plan and action;” 3) “Extension of the planning process beyond advance planning to development management and problem solving;” and 4) “The evolving governmental context for local planning, which features greater state influence and more attention to the consistency between plans and action, and between local and regional plans.”

A brief sampling of some of the perspectives that have appeared in the planning literature during the last four decades to address the question, what is planning? become a potpourri of approaches. For example, Alan Altshuler invoked the proposition that the function of a master plan or comprehensive plan is “to guide the deliberations of specialist planners.” Meyerson and Banfield have distinguished a difference between comprehensive planning—when “the principal acts by which all of the most important ends are to be attained” from partial planning—where “some but not all of the most important ends are to be attained or only how ends of subordinate importance are to be attained.” On a different theme. Britton Harris viewed planning as “essentially

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anticipatory decision-making.” 62 In a standard introductory text, John Levy proposes that “Planning in its generic meaning is a ubiquitous activity.” that shares a common denominator—among its meanings—to be “a conscious effort to define systematically and think through a problem to improve the quality of decision making.” 63

However one defines planning—philosophically or intellectually—and however one pursues planning—in practice—one aspect of understanding what is planning? has to do with making it a relevant endeavor that addresses defined problems, with implementable solutions that can be realistically achieved. Moreover, whether one assumes a generalist or specialist view of planning, one of the most significant defining issues has been what kind of planning is most applicable in addressing the exigencies of society and projecting a future condition for people in society. Under such schemes as social enhancement, systems analysis, political power, physical design, economic cost-benefit, resource allocation and growth management, planning and its many components has, in most instances, aimed at projecting a better future. If this be the case then the important question becomes what knowledge needs to be acquired to make planning work in the world of reality—a reality that can be projected as an ought-to-be for the future. As history has shown, we have seen planning move from the traditional design of cities and

the creative design of urban and non-urban space to the provision of social service delivery systems at the federal, state, and local levels. We have also seen the evolution of all sorts of planning: land use planning, environmental planning, social planning, public policy planning, economic development planning, advocacy planning, and even virtual reality planning. If we think about the elementary concept that lies at the root of what is planning? one could argue that it is an activity of human consciousness to determine optimal relationships among people and their environment. People form bonds and structure those bonds in the form of settlements—villages, towns, cities, and regions. People also need and use resources—air, water, and land. People express social and cultural values and create governmental and other institutions to better their lives. Thus, with the inevitable association of people to people and people to resources, the concept and utilization of planning becomes an essential and purposeful function to maximize the benefits of those relationships while minimizing the negative consequences that might damage those relationships.

**McHarg's Approach to Planning and Design**

**McHarg’s Works**

An understanding of McHarg’s approach to planning and design can be ascertained from the primary sources as contained in his many writings. Generally, McHarg’s writings serve two purposes. First, they expound his evolving theory and method of planning and design. Second, and of importance to this dissertation, they provide the substantive elements that would be inculcated into the ecological and human ecological
planning curriculum at Penn. McHarg’s writings can be classified as falling into four categories with a fifth added to account for what McHarg has said and what others have written about him.  


2. The important scholarly and related articles and writings that have been selected to provide “a useful retrospective” and consolidated in a publication edited by McHarg and Frederick Steiner, *To Heal the Earth* (1998).


4. A number of professional reports, plans, and designs conducted through the University of Pennsylvania (1963-1992) and as principal with the consulting firms of Wallace-McHarg Associates (1963-1964), and Wallace. McHarg, Roberts and Todd (1965-1980), and reports, plans, and designs produced after 1980.

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64 The most comprehensive bibliography of McHarg’s works, as well as references to works done by others may be found in *A Quest for Life*, 387-405.
5. A potpourri of sources that include a) McHarg's participation in films, television programs, and video; b) profiles and critical reviews by others; c) published interviews and panel discussions; and finally, a miscellany of excerpts and articles that have been done by others.

An Overview of McHarg's Theory of Ecological Planning

In a broad sense, the development of ecological planning in America was influenced by the changing perspectives from the 1930's through the 1950's of how humans, not only respond to, but rely on environmental resources. Forster Ndubisi, in a comprehensive account of the profusion of ecological approaches, has argued that three significant aspects have established the parameters of ecological planning. First, there is the continued evolution of ecological ideas; second, the translation of ecological ideas into planning and the articulation of ethical principles that govern human use of the land; and finally, the refinement of techniques for the application of ecological ideas to planning efforts. There are two principles that form the focus of ecology as the basis of planning. First, following from the perspective of the biological sciences, the concept and very definition of ecology is that all organisms, including plants, animals, microorganisms and people are interdependent—and exist in complex relationships with their environment. Second, planning is predicated on elements of understanding, establishing, modifying, or projecting these relationships—among people and between people and their environment.

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This is the theme within which McHarg would develop his theory of ecological planning. The principal thrust of McHarg's contribution is that we must design with nature in order to insure the most beneficial living environment for both immediate and long-term survival. Put in this context, ecological planning becomes the means for meeting humanity's continuing process of adapting to a living environment. This process of adaptation recognizes that there is an undeniable relationship between all living organisms and their environment. As a result, this inextricable interdependence must not just be understood, but it must be promoted as the underpinning of all land use planning—and development. The strong underlying theme is, simply stated, that ecological planning offers the best hope for people to achieve the maximum social, economic and environmental benefits in designing our present and future towns, cities and regions. Therefore, in order to achieve this end, ecological planning would be McHarg's alternative to the prevailing emphasis on a rational, comprehensive planning model.

McHarg's "notion of planning" stems from "two fundamental characteristics of natural processes: creativity and fitness." Creativity, he held, "provides the dynamics that govern the universe," while fitness derives "from Darwinian notions about how organisms adapt and survive." When planning is linked to ecology the goals and

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purposes become subject to the resources of the place and "ecological planning" becomes an instrument for revealing the "interacting and dynamic natural systems having intrinsic opportunities and constraints for human use."  67 Underscoring his philosophy of planning—and design—is the essential premise that McHarg would continually describe as "ecological determinism," the title of a paper he presented in 1965 at the Conservation Foundation sponsored conference, to discuss the "future environments of North America." As in so many of McHarg's pronouncements, his characterization of ecological determinism was presented as a rather straightforward and simple construct. The framework of his staunch viewpoint was simply that "Understanding of natural process is of central importance to all environmental problems and must be introduced into all considerations of land utilization."  68

The principal work that represents the McHargian construction of ecological planning is *Design With Nature*. It begins with the proclamation that "The world is a glorious bounty." and ends with the prospect that "In the quest for survival, success and fulfillment, the ecological view offers an invaluable insight. It shows the way for man who would be the enzyme of the biosphere—its steward, enhancing the creative fit of man-environment, realizing man's design with nature."  69

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67 Ibid. 143.

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ecological determinism were multiple and varied. They found an essential justification in a biophysical understanding of how the “fittest” organisms—including humans—survive (in light of Charles Darwin’s observations), and how the organism will find the “fittest” available living environment to meet its needs (as described by Lawrence Henderson). To McHarg the idea of ecological determinism, or as he often called it, the ecological imperative, could evolve quite logically from this biophysical understanding, and would have direct and inevitable “implications of natural processes upon the location and form of development.”

Distinguishing Between Ecological Planning and Ecological Design

An important distinction that McHarg made, which would carry over into the realm of the curriculum, is that his concept of ecological planning was different from ecological design. It should be mentioned that McHarg had graduated from Harvard University where he received the Master of Landscape Architecture (1950) and the Master of City Planning (1951). The two disciplines were to interweave as he constructed ecological and later human ecological planning. In fact, when I once asked him, “How do you think of yourself, professionally?” he responded curtly, “I am a landscape architect and regional planner.” Although there may be some overlap between the two disciplines of landscape architecture and city or regional planning, they embody different approaches and methodologies in viewing two different parts of the whole—in this case the whole

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becomes the total living and natural environment. McHarg was quite clear about the distinction. And this would play into how he would structure and modify the ecological and human ecological curriculum at Penn. In 1997 he clearly laid down the distinction between ecological planning and ecological design.

- **Ecological planning** is that approach whereby a region is understood as a biophysical and social process comprehensible through the operation of laws and time. This can be reinterpreted as having explicit opportunities and constraints for any particular human use. A survey will reveal the most fit locations and use.\(^2\)

- **Ecological design** follows planning and introduces the subject of form. There should be an intrinsically suitable location, processes with appropriate materials, and forms. Design requires an informed designer with a visual imagination, as well as graphic and creative skills. It selects for creative fitting revealed in intrinsic and expressive forms.\(^3\)

**Fusing Ecological Planning and Regional Planning**

Is there a distinction between ecological planning and regional planning? I have previously (in Chapter 1) reviewed the empirical planning approaches of Geddes, Howard, Mumford, and MacKaye, as well as other intellectual and design traditions that

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\(^2\) "Ecology and Design" (1997), McHarg and Steiner, *To Heal the Earth*, 195.

\(^3\) Ibid.
have established a kind of philosophical base that influenced McHarg in his enunciation of ecological planning. Mumford, who was the important influence on McHarg, defined regional planning to contain four "stages." 74 First, there is the survey—originally Geddes' idea—as the means to disclose "by first-hand visual exploration and by systematic fact-gathering, all the relevant data on the regional context." 75 The second "stage in [regional] planning is the critical outline of needs and activities in terms of social ideals and purposes." 76 The third "stage" Mumford called "imaginative reconstruction and projection." This becomes the plan and is based on "known facts, observed trends, estimated needs, critically formulated purposes in order to develop "a new picture of regional life." 77 In the final "stage, the plan undergoes a readaptation as it encounters the traditions, the conventions, the resistances, and sometimes the unexpected opportunities of actual life." 78 Benton MacKaye would push Mumford's "stages" to have a more direct connection between human ecology and regional planning. MacKaye distinguished between the region "as a unit of environment" and "planning [as] the charting of activity...affecting the good of the human organism: its object is the application or putting into practice of the optimum relation between the human and the region. Regional planning in short is applied human ecology." 79

[4] Frederick Steiner has written that the Geddes approach, that was advanced by Mumford and later accepted by McHarg, "contends that a region represents an entity that can be understood by an examination of its parts. The components include physical, biological, social, and social phenomena...." Human Ecology: Following Nature's Lead (Washington, D.C.: Island Press, 2002), 97.
[6] Ibid.
[7] Ibid., 380.
[8] Ibid., 378.
A composite of the Mumford – MacKaye descriptions of regional planning establish
the linkage between environment and man, by fusing ecology with human ecology in the
context of regional planning. However, as McHarg was developing the Regional
Planning curriculum at Penn in the early 1960's, he seemed to be more interested in the
ecological approach to regional planning, and only later, when human ecological
planning was developed, did he move closer to MacKaye's applied human ecology as
regional planning. In a paper written in 1963 McHarg wrote that the "criteria for land-use
planning...should be based upon an understanding of the natural processes in the
region." 80 In his autobiography, McHarg would make the point even clearer. "My
wholehearted endorsement of ecology...was directed toward its application. I was firmly
committed to ecology as the scientific foundation for landscape architecture, but I also
submitted that it could perform invaluable services if employed in environmental and
regional planning." 81

From McHarg's own account we might infer that originally he thought of regional
planning as ecological planning, and, of course, that became the essence of the Regional
Planning program created at Penn.

80 "Regional Landscape Planning" (1963), Ian L. McHarg and Frederick R. Steiner, eds. To Heal
81 McHarg, A Quest for Life, 191.
The Ecological Planning Method

The indispensable technique that McHarg developed to make his theory of ecological planning a usable form is the ecological method. In order to construct a method that could be utilized by planners, McHarg developed a straightforward utilization of data and information. This would become a two-step process. First, an assemblage of natural resource and physical features characteristics would be portrayed as a layer in what would become known as the "layer cake" analysis, as illustrated by Figure 1.

Each layer represents a component of the natural and physical environment and includes, for example, the mapping of bedrock geology, surficial geology, groundwater hydrology, geomorphology, surficial hydrology, soils, vegetation, wildlife, land use, and climate. Each layer would then be superimposed on each other to show the composite of the information, and how each variable (of data) related to each other. The diagrammatic arrow in Figure 1 represents the time element that is directly related to the interaction of the layers over time. For example, bedrock geology (the oldest phenomenon) must be understood before soils (a later phenomenon).
The second task in the method is to determine which areas, in any given locale, or on any given site, are suitable for specific kinds of development through a four step procedure. Thus the locations containing the most propitious (i.e., suitable) factors for development would require less work for adaptation and development and development there would cause the fewest negative impacts on the environment. This becomes the suitability analysis aspect or procedure of the ecological planning method and is illustrated in Figure 2.

The suitability analysis procedure has oftentimes been considered analogous to McHarg's conception of planning, and that ecological planning really stops here. Frederick Steiner proffered that "The ecological planning method is primarily a procedure for studying the biophysical and sociocultural systems of a place to reveal where specific lands uses may best be practiced." 82 Even though among some practitioners the ecological planning method is *de facto* ecological planning, the McHarg approach is to render each of them as separate parts of an entire process—a process that begins with inventory through the "layer cake," then proceeds to suitability analysis, and finally to planning. There is a distinction since the ecological planning method is clearly a technique to do evaluation. Planning would require additional steps including an identification of alternatives, implementation measures, and on-going administration. 83

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Figure 2

The Suitability Analysis Procedure

STEP 1
MAP DATA FACTORS BY TYPE

Example 1
A - 0 - 10%
B - 10 - 20%
C - 20 - 40%

STEP 2
RATE EACH TYPE OF EACH FACTOR FOR EACH LAND USE

<table>
<thead>
<tr>
<th>Factor Type</th>
<th>Agriculture</th>
<th>Housing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example 1</td>
<td>A - 1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>B - 2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>C - 3</td>
<td>3</td>
</tr>
</tbody>
</table>

Example 2
A - 1 - PRIME SUITABILITY
B - 2 - SECONDARY
C - 3 - TERTIARY

STEP 3
MAP RATINGS FOR EACH AND USE ONE SET OF MAPS FOR EACH LAND USE

Example 1
AGRICULTURE
1
3
2

HOUSING
Example 2
1
3
1

STEP 4
OVERLAY SINGLE FACTOR SUITABILITY MAPS TO OBTAIN COMPOSITES. ONE MAP FOR EACH LAND USE

Example 1
AGRICULTURE
LOWEST NUMBERS ARE BEST SUITED FOR LAND USE
HIGHEST NUMBERS ARE LEAST SUITED FOR LAND USE

The "Ecological Imperative"

The underlying theme of all of McHarg's thinking and practice is that he was an indefatigable advocate for ecological planning that he embraced with a religious fervor. He exuded a charisma that was exhibited from the classroom at Penn to many consulting projects that he engaged in worldwide. His singular message, as professor, landscape architect, and regional planner, was that one had to accept his philosophy of an "ecological imperative" as the prescription for survival. Such a strong position, regardless of its intellectual grounding, emotional appeal, or acceptance as a legitimate form of practice, would become the subject of academic criticism and even refutation in certain quarters.

A critical evolution in McHarg's theory and method of ecological planning would take on an important twist as he moved to formulate human ecological planning. This evolution not only advanced his thinking, but pushed the academic program at Penn to a new plateau. In the following chapter I will present the chief critics of ecological planning, as well as McHarg himself, and how some of that criticism paved the way for human ecological planning.
CHAPTER 3
CRITICAL PERSPECTIVES:

DESIGN WITH NATURE, ECOCLOGICAL PLANNING. AND IAN MCHARG

This chapter will present a review of the significant criticism that McHarg received after the publication of Design with Nature. First, there were the critics of McHarg's prescription of ecological planning as normative planning theory. This criticism was leveled by the planning theorists or those planners in the academic wing of the profession.

Second, the critical reviews of Design with Nature that appeared in scholarly journals, for the most part, became concerned with specific elements of both the theory and method of ecological planning. Even though most of the reviews were complimentary, there were details that the reviewers felt needed to be included.

Third, the post Design with Nature critique was advanced on several fronts. To begin, McHarg had his detractors. After all he was a dynamic personality, and he would be criticized for exaggeration; he would also be charged with being dogmatic in his representation of the ecological imperative. Two other elements are essential in that they would directly impact the theoretical and methodological relevance of ecological planning. On this level, a basic question is posed that hits at the very essence of ecological planning: is it inventory or is it planning?
Finally, a powerful critique was aimed at the very epistemological foundation of ecological planning that drew its reference to a biophysical model of the environment. Critics charged that there was no inclusion of cultural and human use values relative to how man adapts to the environment, or, for that matter, adapts the environment for human use. It was this last critique that was to play an important role in the emergence of human ecological planning, a subject that will be further explored in Chapter 7.

The Rejection of Ecological Planning as Normative Planning Theory

What, then, has been the theorist’s response to ecological planning? And more important, has it taken a place in normative planning theory? To begin we should turn to an article that appeared in 1971 that described “The ‘New’ Environmentalism: An Intellectual Frontier.” A distinction is made between the “old” environmentalism—“understood as design determinism writ large on the socioeconomic screen”—and the “new” environmentalism—that is a composite of several social, economic, information, and management subsystems. Hagevik and Mann stressed the need to recognize “that environmental planning is one kind of socioeconomic planning.”

Surprisingly, in this discussion, the subject of ecological planning as well as any reference to McHarg and Design With Nature were noticeably absent from both the body of the article and the references.

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The first important work on planning theory to be published after *Design With Nature*, included a 1978 article by McHarg, “Ecological Planning: The Planner As Catalyst.” The editors, Robert Burchell and James Hughes of Rutgers University, acknowledged that this article was a delineation of “the functional roles and tasks of planning within an even more tightly defined sector of the planning spectrum— ecological planning.” 85 The editors continued their description of McHarg’s contribution as follows: “Rationality, a systems orientation, and non-biased, apolitical perspective dominate the McHargian tenets of environmental planning.” 86

The inclusion of McHarg in a planning theory text was important to gain, if not the allegiance, at least the attention of the academic theorists. Many years later Frederick Steiner would write: “Throughout his academic career, McHarg continued to rub up against the ‘orthodox’ city planning tradition, frequently irritating planning theorists but also influencing and changing their ideas about planning.” 87

Notwithstanding the above, there seems to have been almost a total failure among the theorists to discuss McHarg’s direct and rather uncomplicated approach to planning. McHarg wanted to pave the way to a new approach—or paradigm—for planning. Acceptance by the theorists, or at least some of the leading thinkers in the discipline

86 Ibid., xxiv.
87 “Planning the Ecological Region,” McHarg and Steiner, *To Heal The Earth*, 89.
would have been an accomplishment. However, the "conversations" among planning theorists bemoaned the fact that there was a "breakdown of the rational paradigm." As Ernest Alexander pleaded, "If a paradigm is revealed as flawed to the point that it becomes useless for any conceptual or practical purposes, look for another."  

Certainly one of the most productive and admired planning theorists is John Friedmann whose 1987 work, *Planning in the Public Domain*, describes the major traditions in planning theory. Friedmann is chiefly concerned with social theories of planning and how knowledge is linked to action (as discussed earlier in this dissertation). Yet, somewhat surprisingly he does not even mention ecological planning—although McHarg’s *Design With Nature* is cited in a footnote. By 1992 Ernest Alexander’s planning theory text declared that "As of this writing 'ecological planning' does not seem to be catching on as a popular concept either among planning theorists or practitioners, nor does anyone seem to see it as a wave of the future."  

For certain, ecological planning challenged the scientific worldview ensconced in a paradigm that valued most rationality and technology—devoid of much consideration of values or ecological interconnections. It is not unrealistic conjecture to say that ecological planning was probably viewed by many planning theorists, to paraphrase Doug Aberley, as a weed in the "Cartesian Garden."  

McHarg’s disappointment with this lack of discussion of

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89 Alexander, *Approaches To Planning*, 106.
ecological planning and normative planning theory by mainstream planning theorists was highlighted in the twenty-fifth anniversary edition of *Design With Nature* in 1992. "I have one deep dissatisfaction," he wrote. "The theory presented in *Design With Nature* was never reviewed. I had presented the material on many occasions...it had elicited some surprise but also approbation. But in print it elicited no responses whatsoever." 91

I would speculate that there were three reasons McHarg’s *Design With Nature* did not receive recognition as an important contribution to planning theory. First, the planning theory community itself was in somewhat of an intellectual dilemma. How could you reconcile a rational comprehensive planning model—the dominant view in the late 1960’s through the 1970’s—predicated on natural resource constraints, that rational planning could not control?

Second, McHarg developed his method (centered on the “layer cake” analysis) to correspond with his theory. This approach in itself was a rather dubious undertaking for most planning theorists who often had difficulty proposing an operational model for their own theories. From another perspective it could be argued that McHarg consciously tried to confront the perennial difficulty in reconciling theory and practice. For whatever the reason McHarg’s ecological planning did not convince the important planning theorists

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that such a direction was worthy of further explication, dialogue, and ultimate acceptance as a legitimate planning paradigm. 92

A final reason why ecological planning may have failed to achieve a standing in the universal community of planning theorists can be ascribed to the intellectual interest of the theorists themselves. They were simply neither attuned to nor concerned with biological science and environmental thinking as a planning paradigm. 93 Their preoccupation was with the social science and public policy aspects of planning, so, for the most part, ecological planning fell on deaf ears. Perhaps, ecological planning was not intellectually challenging enough—it was just too pragmatic: perhaps it did not fully account for the myriad social and political movements with which planning theory of the 1960’s, 1970’s and 1980’s had become enamored. Perhaps, planning theorists, in Jonathan Barnett’s view, simply “reacted to the evident failure of their theories...by condemning society, and by indulging in escapist fantasies.” 94

The Critical Reviews of Design with Nature

In his autobiography, Ian McHarg wrote that “The book [Design With Nature] was very well reviewed: indeed there were several hundred reviews, with only one bad

92 Thomas Kuhn had said that “to be accepted as a paradigm, a theory [or method] must seem better than its competitors.” The Structure of Scientific Revolutions (Chicago: University of Chicago Press, 1962), 17.
93 See for example, Ramón Margalef, Perspectives in Ecological Theory (Chicago: University of Chicago Press, 1968).

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criticism. I was accused of prostituting science." It is not the intent here to examine all of the reviews but rather to focus on selected, salient issues that can be classified as normative critiques. While most reviews contain numerous complimentary remarks and expressions of support, we can discern some key elements that have impeded an acceptance of ecological planning as a cornerstone of a normative planning paradigm.

McHarg's construction of ecological planning as embodied in *Design with Nature* has been criticized on several fronts, including: a) it is elitist in its orientation; b) it is confusing; c) the method is unsystematic and incomplete; d) it ignores the ecology of the city; e) there is a need to incorporate political and moral values; f) the treatment of population growth is vague; and finally, g) it does not address the economic allocation of land resources.

- The Charge of Elitism.

Two planning professors at the University of California (Berkeley) wrote the first review of *Design With Nature* to appear in what was then the *Journal of the American Institute of Planners*. To Burton Litton and Martin Krieger, it was a "beautiful book."

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[6] My perspective on the reviews, or any critical assessment of *Design with Nature* (or McHarg for that matter) rests on the following. It seems that an evaluation of critical assessments needs to be placed in the context of addressing two fundamental questions: first, is the initial or original contribution (e.g., *Design with Nature*) truly an advance of the art or science of a particular discipline? Second, are the critical assessments—of that original contribution—intellectually worthy of providing it with a more in depth or meaningful understanding, either as theory or as practice? If the answer to both questions is in the affirmative, then we should admit that the critical assessment has merit. We can then dismiss the usual nit-picking professional jealousy, and occasional sarcasm that may be found in some so-called critical reviews.
sensitive to the need to strengthen "the scientific basis for design." However, "it is, unfortunately, also elitist and technocratic in orientation at a time when these values are being seriously questioned." 97 The reviewers point out that people in less developed countries have a greater need for food and work rather than a "natural landscape."

- The Questioning of the Philosophy.

Litton and Krieger assail the philosophy of McHarg in the following way: "The philosophical sections seem rather confusing on first reading....On repeated reading and rumination, it becomes apparent that this is McHarg's way of elaborating on the complex elements making up an ecological viewpoint—and suggesting implications for a prospective environment." 98

A review by Robert McClintock at Columbia University was quite positive toward Design With Nature. However, it found that McHarg's critical assessment of the Judeo-Christian tradition comes down to an individual perspective on history. "Although McHarg is not at his best in the history of ideas, it matters little. Whether one agrees or disagrees with his historical interpretations does not determine whether one can be moved by his vision of nature." 99

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98 Ibid. 51.
McHarg’s position relative to the impact of the Judeo-Christian tradition in imbuing a Western attitude concerning land and nature values is a crucial point in his philosophy that plays into his justification for ecological planning. McClintock has perhaps stated the most apt way any individual can respond when he says: “The real strength of [McHarg’s] position lies in the fact that his chosen route to the goal [of ecological planning] is not the only one possible. As a result, many of us who are not ready to give up our humanism or theism for his naturalism may still eagerly agree, for reasons of our own, with his conviction that the nature of design is to design with nature.” 100

- The Method is Unsystematic and Incomplete.

“There are deep problems with his technique,” according to Litton and Krieger, who stress that “McHarg’s ideas of what we should know are quite unsystematic. They argue that McHarg’s use of ecology is “piecemeal and ad hoc.” and that he “prostitutes scientific knowledge in an attempt to make it a justification for his ideas.” On this point they conclude that McHarg does not provide a “suitably powerful technique for achieving his aims.” 101 However, Litton and Krieger do say that “McHarg is inspired.” and that “The problem of a design method, such as his, is that it must convert those who are inspired but not geniuses into competent practitioners.” 102

100 Ibid.
102 Ibid., 52.
In 1971 Michael Laurie wrote a brief review in *Landscape Architecture* in which he proclaimed, "I don't believe Design With Nature sets out to provide a method. If it does it is clearly incomplete." Later Laurie says, "Why is he not describing a method? Tell us what to do and how to do it. But that is not the intention, nor should it be." McHarg's work, he concludes, should properly be seen as representing certain values.

- Ignoring the Ecology of the City.

Litton and Krieger take issue with what they consider "the limited ecological technology...that ignores some emerging aspects of the ecology of the city." They consider the organization of information and knowledge and education to be more vital resources than the organization of biological systems.

- The Need to Incorporate Political and Moral Values.

Planning involves political issues as well as ecological issues, state Litton and Krieger who stress, rather sardonically, that poor people, for example, "will [not] see planning heavily influenced by ecology any more desirable, than planning heavily influenced by a beaux arts tradition." As a result, they call for a design approach "so that political and

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104 Ibid., 248.
106 Ibid.
moral values are represented....so that those who are not of the profession can participate in the design process." 107

Michael Laurie in addressing this issue commented that "McHarg's work should properly be seen as representing certain values and an approach specific to a particular time and place." He continues that "We must develop and be equally sure of our own values....Methods are easy. Values are very hard to articulate, let alone hold consistently. This is what McHarg is about and it is for this that we should be grateful." 108

- The Treatment of Population Growth is Vague.

After writing a highly positive review, Diane Ringger and Forest Stearns (at the University of Wisconsin), made one critical point: "McHarg is vague in treating the problem of population growth. Likewise he fails to take into account how our economy and natural resources will be able to support the people he is planning for. It is unclear to us, for example, how New York City will support thirty million people." 109

- The Economic Allocation of Land Resources.

Andrew Gold, a professor of economics at Trinity College in Hartford, provided an

107 Ibid., 52.
economist's critique. He argued that even though "Nature provides the matrix within which human decisions must be made." McHarg's construct of ecological planning does not resolve the "economists' problem of how scarce land resources should be correctly allocated." \(^{110}\)

Using a market analysis methodology that prefers a "comparative advantage" to allocate land uses—rather than McHarg's use of "absolute advantage"— Gold carries out his critique "to show that McHarg's method is incomplete and may lead to wrong results." \(^{111}\) After performing a series of straight-line diagramatics that always pervade economic analysis, Gold concludes "The McHarg scheme fails to recognize that it is 'intrinsic suitability' in conjunction with the values people place on the use of 'intrinsically' suitable land that should determine the correct allocation [of land uses]." \(^{112}\)

Of course, we must remember that that as an economist, Gold is chiefly concerned about productivity and value as intrinsic suitability variables really to the exclusion of other potentially desirable intrinsically suitable variables. For example, he posits the following: "One can show that private decisions may not lead to socially optimal

\(^{111}\) Ibid.
\(^{112}\) Ibid. 286.
results—city uses may spoil recreational water use through pollution, or agricultural feedlots may poison city water supplies, but that is another matter. We know that private decisions will not yield socially optimal results for beauty, quiet, and other amenities but that, too, is another matter.” 113

More Recent Critiques

While the reviews of Design with Nature assailed specific points of McHarg’s theory and method, critiques that came later involved other salient matters that have a broader potential impact on an understanding and utilization of ecological and later human ecological planning.

- Political Circumstances

After the publication of To Heal the Earth: Selected Writings of Ian L. McHarg (1998), Wendy Kellogg of Cleveland State University provided generally favorable comments on the selected writings. She wrote that “An important missing part of this retrospective is an account of some of the challenges McHarg has faced and how he and his associates overcame them.” 114 She was particularly concerned with the “political circumstances” that were involved with the many projects that were presented (as case studies). Kellogg went on to ask, “What strategies did he use to convince decision makers

113 Ibid.
and clients that the ecological approach was important?" 115 The Kellogg review is especially timely since McHarg’s work spanned a period of almost four decades, beginning in the 1950’s—a period that witnessed many changes in the development and political acceptance of environmentally based land use regulations and laws, at the local, state, and national levels.

- Exaggerated Claims of Originality and Dogmatism

Some of Ian McHarg’s most vociferous critics have been professional and allied colleagues, especially in the discipline of landscape architecture, and to a lesser degree, in city and regional planning. The heart of collegial criticism is that often times McHarg exaggerated his contributions and that he did not invent all of what he said he did. In addition, his attitudinal penchant is nothing less than dogmatic. Perhaps the most dramatic critique in this regard to each of these cases was written by Ann Whiston Spirn, a student of McHarg’s from 1973 to 1977. She was later appointed McHarg’s successor as Chairman of the Department of Landscape Architecture and Regional Planning at Penn, serving from 1986 to 1993. Spirn writes the following

McHarg ignored precedent when he asserted, as he has many times, ‘I invented ecological planning in the 1960’s (‘Ecology and Design.’ in Quest for Life). The importance of McHarg’s contribution is not diminished when seen in the context of work by others such as Phil Lewis, Angus Hills, and Arthur Glikson, who pursued similar ideas from the 1950’s and early 1960’s, not to mention many prior figures such as Patrick Geddes and Warren Manning. This tradition was not acknowledged...when I was a

115 Ibid.
student…nor did we draw from it in our work at Wallace, McHarg, Roberts and Todd during that period. Though both department and firm made numerous innovations, there were also many reinventions. 116

In the above citation, the reference to "Ecology and Design" refers to a paper that McHarg presented at a 1992 symposium that was held at Arizona State University. The paper was first published in 1997 and in the following year in To Heal the Earth. 117 In his autobiography, A Quest for Life, McHarg gave—a somewhat belated—accolade to Charles Eliot (1859-1897), a Harvard trained landscape architect, who had performed what arguably could be called the first ecological inventory on Mount Desert Island, Maine in 1880. He was referred to by McHarg as the “innovator, inventor of what we would now call ecological planning [and] was destined to become the major figure in the field of the environment in the United States.” 118 McHarg further acknowledged that he was a “strong advocate” of Eliot whom he characterized as “the founding father” of ecological planning. 119

McHarg said in his autobiography, “I invented ‘intrinsic suitability,’ a device [the layer cake model] to identify and array both propitious and detrimental factors for all land uses….I believe that this was the first demonstration of a device to establish fitness for

prospective land uses, and it has held up well." 120 McHarg was clear in what his
direction was. He acknowledged Angus Hills as the person who "conceived of 'carrying
capacity,' a measure to determine suitable factors, notably for agriculture and forestry."
However, McHarg's objectives were different. "I was interested in developing a method
to locate the 'most fit' environments for all prospective land uses." 121

In their article that traced the history of the use of overlaying mapped information and
data, Carl Stenitz, et al., asserted that "The earliest evidence of the use of data overlays
as an analysis technique in this country is a study done for the town of Billerica,
Massachusetts, in 1912 by Warren Manning, a landscape architect and one time associate
of Frederick Law Olmsted." 122 True, the overlay "concept was not original with
McHarg," as landscape architect, William Thompson wrote. But, "It took McHarg to turn
an old refrain into an environmental call to arms." 123

It seems that the relevant point is not who was the first to use a particular technique or
method, but rather how was the technique used and what was its sustaining impact, if any.
McHarg, while not originating the overlay method, utilized it in a unique way, a way that
was readily adapted into professional practice. Likewise, "he was not the first to blend art

120 Ibid., 330.
121 Ibid.
122 Carl Steinitz, Paul Parker, and Lawrie Jordan, "Hand-Drawn Overlays: Their History and
123 William Thompson, "A Natural Legacy: Ian McHarg and His Followers," *Planning* 57
(November 1991), 14.
and science, and design and planning;" yet, he "is still the revolutionary mind and spirit in the [landscape architecture] profession’s collective memory." 124

Even though "Ian McHarg’s *Design with Nature* led to fundamental changes in the teaching and practice of landscape architecture," according to Anne Whiston Spim, his claim that "science is the only defensible authority for landscape design...[proves] particularly damaging to discourse and practice...." 125 Spim continues that "Such aggressive overstatements no longer advance the field, and have provoked equally dogmatic reactions from those who seek to promote landscape architecture as an art form." 126

On its face value, such a critique—whether it be directed at McHarg, or anyone else for that matter—might appear to have merit. However, when extended to include the important contributions of those who have made an impact on the utilization of a discipline in practice, such a critique becomes a *non sequitur*.

One could identify in the history of any discipline, points of view, or logically deduced positions that will have their supporters and opponents. Whether nature is real in a scientific sense or is a contrived metaphor in an artistic sense is of interest in

126 Ibid.
philosophical discussions and does have value to establish, let us say, a design or planning perspective.

But, beyond any stated philosophical perspective lies the challenge to address a reality of shaping a total human environment and how an understanding of that total environment becomes better understood. If designers and planners are fully dedicated to that end, concerns surrounding the question of dogmatism about any particular perspective seem to grow dimmer in a real world context.\(^ {127}\)

- Ecological Inventory or Ecological Planning?

In the early 1980's Brenda Lee of the Institute for Environmental Studies at the University of Toronto wrote a paper, "An Ecological Comparison of the McHarg Method with Other Planning Initiatives in the Great Lakes Basin." Lee wrote that McHarg's method "is primarily an information synthesis; it analyzes spatial relationships and organizes information. Its only guidelines relate to human use: ecosystem potential for

\(^ {127}\) It is not my intent to engage in a debate on this issue, but I do harbor the view that philosophical discourse notwithstanding, the ultimate test of the validity of a particular persuasion lies in its acceptability to others who either incorporate it into their own views, or adapt methods in practice. As an example, the following was offered by Robert Yaro who acknowledged in the "Forward" of To Heal the Earth, that "McHarg had a particularly profound impact on the nearly two generations [sic] of students he taught at the University of Pennsylvania. Many of them became leaders in the design professions as government officials, consultants, and teachers, and most have put Ian's environmental dogma and practices to work in their own careers." (p. x). Richard LeGates and Frederic Stout in their introductory essay to an excerpt from Design with Nature wrote: "Since publication of Design with Nature, an entire field of environmental impact analysis and planning has developed. Thousands of planners have read McHarg and incorporated his approach into their environmental impact statements, studies, and plans. Physical city and planning of all kinds incorporates environmental values to a much greater extent than before Design with Nature." The City Reader (London: Routledge, 1996), 132.

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use and the effects of use." While it is true that McHarg’s approach is heavily dependent on an ecological inventory, the question still remains as to whether it constitutes ecological planning? To explore this issue I will begin with the most recent intellectual contribution made to the understanding of the various approaches to ecological planning and then look at some of McHarg’s own work. However, a still further avenue of investigation must wait for the discussion on the development of the Penn curriculum in Chapters 5 through 9.

Forster Ndubisi in his comprehensive historical analysis of the development of ecological planning offers a definition that emphasizes ecological planning as “a way of mediating the dialogue between human actions and natural processes….It is a view of the world, a process, and a domain of professional practice and research….It is also a recognized activity of federal, state, and local governments….“ Ndubisi concludes his analysis with the perspective that “Fundamentally, ecological planning is more than an approach or a method. It is a world view for managing our relations with the land to ensure that the ability of future generations of the ‘biotic community’ to meet their needs

128 Landscape Planning 9 (1982), 158.
129 Ndubisi. Ecological Planning: A Historical and Comparative Synthesis. 5. Ndubisi develops a typology that includes six approaches to ecological planning: 1) the first landscape suitability approach (up to 1969); 2) the second landscape suitability approach (after 1969); 3) the applied-human ecology approach; 4) the applied-ecosystem approach; 5) the applied-landscape ecology approach; and 6) assessment of landscape values and landscape perception. McHarg theory and method falls principally in the first landscape suitability approach and the applied-human ecology approach.
Ndubisi's treatment of ecological planning is a carefully presented evolution of the several approaches that he discusses. Moreover, it clearly shows that there is not just one way to do ecological planning. This analysis is consistent with and complementary to the view promoted some years ago by planning theorist, Seymour Mandelbaum, who argued that it is impossible to have a general theory of planning since "A general theory must generate a set of propositions which relate all the necessary categories of processes, settings, and outcomes." He advocates a mode of theorizing that is a process, not a product. "Its worth lies in the tension it generates against practice rather than its unique claim to validity."

If we weave together Ndubisi's conclusion that emphasizes multiple paths for defining ecological planning with Mandelbaum's conclusion that there can be no single general theory, we should push the investigation and ascertain McHarg's portrayal of ecological planning as a precursor to determine if it is "inventory or planning." Such an avenue will allow an understanding as to where McHarg fits into this continuum of many approaches to ecological planning.

In a sampling of McHarg's writings and projects during the period 1965 to 1997 a distinction can be drawn between inventory and planning. In discussing the "Plan

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130 Ibid., 240.
132 Ibid., 70.
for the Valleys” (for the Green Spring and Worthington Valleys in Baltimore County), the report consisted of “two forms,” including the “technical report” and “five concepts” that would “have a wider relevance as conceptual tools for planning for metropolitan growth.” A subsequent article, “An Ecological Method for Landscape Planning (1967), asserted that the “maps of intrinsic suitability,” were “not a plan.” In essence there is a four step process that begins with understanding “nature as process insofar as the natural sciences permit,” continues with a revelation of “casualty,” followed by an interpretation of “natural processes as resources, to prescribe and even to predict for prospective land uses,” and finally by producing “a plan.”

Two notable projects highlight the incorporation of this procedure. The first involved the highway route selection method used for a study (completed in 1965) of a section of I-95 between the Delaware and Raritan Rivers in New Jersey. The second was the ecological planning study done for the Woodlands, a Texas new town completed in 1973. In the latter case, after finishing the suitability analysis an “overall plan” was proposed to locate “the best areas for development, including high and low-density residential, commercial, recreational, municipal, industrial and open-space land uses...derived from the inventory of the landscape.”

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133 “Plan for the Valleys vs. Spectre of Uncontrolled Growth” (1965), McHarg and Steiner, To Heal the Earth. 272.  
134 Ibid., 214-215.  
135 Ibid., 215.  
McHarg's use of the inventory of the natural resource base as a predecessor to actual planning was a distinct two-step process. In one of his last published papers McHarg again reiterated in a table entitled “Baseline Natural Resource Data Necessary for Ecological Planning,” that it is “likely to be of significance in planning.” On a corollary point, this is not far removed from the concept promoted by Angus Hills in his 1974 paper, “A Philosophical Approach to Landscape Planning,” where he wrote:

“Landscape planning is a hierarchical complex of a number of investigations…[that] constitute the basis for the formulations in the next order in the hierarchical progression at the apex of which is the land use plan.” An obvious conclusion to this discussion is that there can be no ecological planning without the ecological inventory.

In the previous chapter I presented McHarg's definitions of ecological planning and ecological design. It was a distinction that he clearly laid out. In this chapter I have attempted to show that McHarg also made a distinction between inventory and planning, and that the former must precede the latter, especially in how he approached specific projects. However, as McHarg developed the curriculum at Penn in ecological planning, it became perhaps unavoidable that the greater emphasis was placed on inventory than on planning. It can be assumed that this was a conscious desire on McHarg's part since the inventory was more closely aligned with his interests in achieving the interdisciplinary analysis that is the basis of his whole understanding of planning. This will become more

137 “Natural Factors in Planning” (1997), Ibid., 79.
138 Landscape Planning 1 (1874), 341.
readily apparent as the evolution of the curriculum is presented in the subsequent chapters.

**The Absence of a Cultural or Human Perspective**

*Design with Nature* was predicated on a bio-physical approach to determining fit environments for human use. The notion of human-user values in juxtaposition to the constraints posed by understanding natural suitability variables did not enter McHarg’s prescription for ecological planning. This would later change.

When Lewis Mumford wrote the introduction to *Design with Nature*, he expressed not only great praise for the landmark position of the work, but also for McHarg himself. Mumford called McHarg “an inspired ecologist.” and proclaimed that while “McHarg’s emphasis is not on either design or nature by itself, but upon the proposition with, which implies human cooperation and biological partnership” [bold in original]. Mumford continued that “So, too, in embracing nature, he knows that man’s own mind, which is part of nature, has something precious to add that is not to be found at such a high point of development in raw nature, untouched by man.” A close reading of Mumford’s depiction of *Design with Nature* would suggest that this goes beyond what McHarg had intended. I would further suggest that it was Mumford who truly wanted McHarg’s work

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139 McHarg, *Design with Nature*, viii.
140 Ibid.
to serve a wider frame—to go beyond embracing simply a natural environment to embracing a human environment as well.

I would conclude that McHarg was challenged by Mumford in this introductory statement to have *Design with Nature* become more than it was. For sure there were chapters that dealt with the human impact on the environment: using the environment as aggrandizement for personal pleasure; destroying the environment through insensitive development; generally not recognizing the resource importance of the environment for human use; and the condemnation of Western attitudes of man toward nature. It seems that Mumford desired, perhaps was even testing the waters, to have McHarg’s approach ultimately encompass a human ecology along with a bio-physical ecology.

In the twenty-fifth anniversary edition of *Design with Nature*, McHarg confessed to “one significant omission….social systems were neglected.” 141 The impetus to include a human user perspective that inevitably would transform ecological planning into human ecological planning was provided initially from a telephone conversation in 1973 with Richard Wakefield of the National Institute of Mental Health, who offered a substantial support grant that would allow McHarg to hire anthropologists, especially ethnographers, to be included in the ecological planning curriculum at Penn. (This development will be more carefully explored in Chapter 7.)

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Human ecological planning emerged as the next evolution in Ian McHarg's development of ecological planning. He expressed a concise view of this change that proceeds from a recognition of human ecology and how that becomes incorporated as human ecological planning. McHarg wrote that "ecology must be extended to include man. Human ecology can then be defined as the study of the interactions of organisms (including man), and the environment (including man among other organisms)." ¹⁴²

To McHarg, human ecological planning would encompass physical, biological, and cultural elements. Thus, as described by McHarg, there emerges a three-step process that underscores human ecological planning. ¹⁴³

- Geophysical and ecological regions are identified as cultural regions in which characteristic people pursue means of production, develop characteristic settlement patterns, have characteristic perceptions, needs and desires and institutions for realizing their objectives.

- Hypothetical future alternatives are derived from expressed needs and desires of groups. These are matched against the physical, biological and cultural resources.

¹⁴² "Human Ecological Planning at Pennsylvania" (1981) in McHarg and Steiner, To Heal the Earth, 143.
¹⁴³ Ibid., 144.
• Preferred hypothetical futures can be derived for each group with its associated value system.

Although McHarg’s work would be subject to further discussion, debate, criticism and even modification by others over time, the importance of the evolution of ecological planning to human ecological planning was the most significant advance made by McHarg himself. Its practical impact was explained by Frederick Steiner. “Human ecology dominated the Penn Department of Landscape Architecture and Regional Planning research agenda throughout the 1970’s.” In an earlier paper, Steiner, along with Gerald Young and Ervin Zube remarked that “McHarg has advanced well beyond his theoretical-methodological conceptualization of 1969 and has responded to criticisms raised at that time (Krieger and Litton 1971). He has developed a theory of human ecological planning that is central to the curriculum and its content.”

An understanding of McHarg’s penchant and strong—or as some would claim, unwavering—predilection for environmental sanctity, would become the crucial underpinning of his development of the ecological planning curriculum at Penn. I have attempted in Chapters 1, 2 and 3 to establish important background information and analysis. Now, I will proceed to the principal thrust of this dissertation, to critically

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144 “Planning the Ecological Region” in McHarg and Steiner, To Heal the Earth, 91.
examine the rise and decline of the ecological planning curriculum at Penn. This will be presented in Chapters 5, 6, 7, 8, and 9. However, before proceeding, Chapter 4 will review the methodological approach developed for the research both to gather key informant information and how it was utilized. This will play an essential role in understanding the rise and decline of the curriculum.
CHAPTER 4
ETHNOGRAPHIC METHODS OF KEY INFORMANT INTERVIEWS.

RESOURCE UTILIZATION.

AND
PHASES IN THE EVOLUTION OF THE CURRICULUM

Introduction

This chapter is a presentation of the principal sources of the information gathered for the dissertation and how that information was utilized. It also falls within the realm of the ethnographic method of key informant interviews, which becomes a significant part of this dissertation. By themselves the interviews could stand alone as a unique and valuable source of information that sheds light both on McHarg personally, and on the academic curriculum. The primary source of resource information came from the Bulletins and Catalogues of the Graduate School of Fine Arts. This became an indispensable source of information concerning the evolution of the curriculum. In the final section of this chapter I will then articulate the phases in the evolution of the ecological and human ecological planning curriculum

Ethnographic Methods and Key Informant Interviews

Interview Group Selection

To begin, a research design was developed to select a composite group of individuals who had had direct engagement with McHarg during his career at Penn. This group
would essentially consist of professional and academic colleagues, some of whom were students in the ecological/human ecological planning curriculum. McHarg's autobiography, *A Quest for Life*, is replete with recitations of names and events. McHarg had a remarkable memory that could bring forth, years later, a recollection of countless situations and the individuals who played important roles in those situations. Several individuals who had made important contributions to the intellectual formulation of human ecological planning and the development of its curriculum have died, such as Loren Eiseley, Lewis Mumford, Yehudi Cohen, Richard Wakefield, and Narendra Juneja.

The process of selecting the persons to be interviewed was a "reflective" one that operated throughout every stage of a project. In this way the interview group could be expanded during the investigation based on empirical revelations. Specifically, the interviews were performed with three primary objectives in mind.

- To gather information about important events and individuals and their relationship to substantive aspects of the curriculum.

- To confirm or put into question certain assertions or descriptions made by Ian McHarg, either in his various writings or in other recorded statements.

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• To understand, through interviewee recollection and perspective, salient elements that affected the development and implementation of the Penn ecological/human ecological planning curriculum, particularly during McHarg's active tenure as Chairman between 1954 and 1985.

There is a strategic reason to consider the interviewees as a composite group rather than as a representative group, since the overriding objective is to elicit information that will permit the delineation of and perspective from the role that each person had relative to the academic curriculum. Thus, there was no attempt to seek unanimity or consensus of opinions about certain aspects of the curriculum, but rather to seek individual perspectives from those who shared an area of particular interest, concern, or academic engagement.

A further characteristic of the interview group is that most (but, not all) individuals selected were in his or her own way a "team member" of what could be characterized as the "ecological planning team" headed by McHarg. This notion is consistent with Erving Goffman's representation of the team "as a set of individuals whose intimate cooperation is required if a projected definition of the situation is to be maintained."147 Moreover, the team, as used in this reference, becomes a grouping "in relation to an interaction or series


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of interactions in which the relative definition of the situation is maintained." 148 Of particular importance in analyzing the interview results—to continue the "team" analogy—is the fact that "we commonly find that the definition of the situation projected by a particular participant is an integral part of a projection that is fostered and sustained by the intimate cooperation of more than one participant." 149

Epistemological Approach

An important dimension of this ethnographic component is that it is at variance with traditional theory building in the social sciences. It relies more on what Howard Becker described as "practical epistemology, how what we do affects the credibility of the propositions we advance." 150 Moreover, the epistemological approach eschewed "abstract sociological theorizing" for the basic reason that it "is likely to get out of hand, leading to a generalized discourse largely divorced from the day-to-day digging into social life that constitutes sociological science." 151 Consequently, each of the interviews was approached with no preconceived notions of a predetermined outcome, or, for that matter, any generalized a priori theory. The expectation has been that hypotheses and

148 Ibid.
149 Ibid., 77-78.
concepts (or theory) will "not only come from the data [the interviews], but [also are] systematically worked out in relation to the data during the course of the research."  

Structure of the Interviews

As interviewer, I asked only that each person respond openly and frankly to a series of questions that would elicit information and perspectives about McHarg's role in building the Penn curriculum, his or her relationship both with McHarg and the curriculum, and any retrospective insights that came to mind. I also inquired about the faults, misgivings, problems, or impediments faced in the curriculum. Essentially, I made every attempt to encourage each respondent to talk about both the positive and the negative aspects of the curriculum. I was acutely aware that each person would respond with his or her bias about McHarg and the academic program. As a result, I would have to, in many instances, measure what I heard with the overriding mission in mind of placing individual perspectives within an overall framework of critically assessing the value, worth, and general stature of the curriculum. In the final analysis, however, I had to remember constantly, as Elijah Anderson advised, "to provide a truthful rendition and analysis of the social and cultural world of the subjects."  

I was also mindful that as a general...

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principle that "research subjects respond most to the things in the research situation that seem most important to them." 154

In most cases the interviews were tape recorded, with the interviewee's permission. In those situations I made only cursory notes that were organized around the central themes discussed. Later, I transcribed the tape and added the details, including pertinent quotes, to my thematic outline. This process also allowed me to bring together various comments on a common theme that may have appeared at different intervals during the interview. In this manner, a fairly complete documentation was made of the interview.

Utilization of Interview Information

It became clear during the transcription and organization of the interview information that there were a number of avenues for subsequent research. For example, the most significant finding is that everyone had personal recollections and their own assessment of Ian McHarg's persona, that extended beyond his role as professor and consultant. I found, not to my great surprise, that all who have come into contact with McHarg professionally—for any sustained period of time—had strong opinions about the man, his presentation, his style, and his intellectual contribution.

It cannot go unmentioned that the powerful influence that McHarg exercised over the Penn curriculum, the standing and visiting faculty, and of course, the students, had both positive and negative aspects. I found that in every case, and taken collectively, the interviews opened up certain psychological dimensions of McHarg’s many relationships that I found went beyond the focus of this dissertation. These findings could well serve as a valuable follow-up analysis to the present effort, but I have included only those that bear directly on the dissertation’s main objective.

However, I have included from my interview notes with proper citation, comments concerning McHarg’s persona and style when they were appropriate to advance an understanding of the curriculum—how it was designed, how it was taught, and how it declined. From an ethnographic perspective, it is not entirely possible to differentiate between the “cognitive and emotional aspects,” since “to separate meanings from feelings... is to distort the experienced world.” 155 I was mindful of this connection during the interviews as each person assessed McHarg’s role on the one hand and expressed their personal feelings for him on the other. Some interviewees seemed conflicted regarding McHarg, the professional, as opposed to McHarg, the man. Other assessments blended these aspects together as a composite point of view. Yet, in no way did I use interview information to frame personal judgments about Ian McHarg, the person.

The Interviews as Knowledge

Taken in their totality the interview findings themselves comprise a body of knowledge. However, that body of knowledge should not necessarily be viewed in the context of providing some ultimate truth, arrived at through a generalization of the survey results. In the final analysis the value of the interviews, for this dissertation and beyond, is that they provide new knowledge through a variety of perspectives rather than serve as the basis for the formation of generalizations. 156

The interviews reveal that there were many reasons for the decline of McHarg's ecological planning curriculum. There was no single or main cause. In the final analysis, the interviews helped to identify and document the varied causal factors that led to the ultimate phasing out of the human ecological planning curriculum in the Graduate School of Fine Arts.

156 This becomes a hallmark of ethnographic research as it relies on a qualitative assessment of social situations. Succinctly stated, “ethnographic data are spatially and temporally nonindependent, with distributions that are nonnormal and generally unknown. For these reasons, ethnographic findings cannot be used for statistical generalizations.” Alex Stewart, The Ethnographer’s Method (Thousand Oaks, Cal.: Sage Publications, 1998), 47.
The Key Informant Interviews

The following comprise the key informant interview group, along with the identification of their relationship to the curriculum or McHarg. The date of the interview is in parenthesis.

1. Jonathan (Jon) Berger – Regional planner; student and faculty member in the Department of Landscape Architecture and Regional Planning; leader of the 501 Studio Human when it became the "Core" of the curriculum (November 27, 2002).


3. Arthur Johnson – Soil scientist and geologist; faculty member in the Department of Landscape Architecture and Regional Planning (December 3, 2002).

4. Setha M. Low – Cultural anthropologist in the Department of Landscape Architecture and Regional Planning; directed the Health Program in Human Ecological Planning (January 31, 2003).
5. **Nicholas Muhlenberg** – Resource economist, with a specialty in forestry; faculty member in the Department of Landscape Architecture and Regional Planning; principal designer of the original ecological planning curriculum (October 18, 2002).

6. **G. Holmes Perkins** – Professor of Architecture and McHarg’s professor and advisor at Harvard; Dean of the Graduate School of Fine Arts who recruited McHarg to come to Penn (October 15, 2002).

7. **Dan Rose** – Anthropologist and ethnographer; faculty member in the Department of Landscape Architecture and Regional Planning (January 14 and 16, 2003).

8. **Lenore Sagan** – McHarg’s long time administrative assistant in the Department of Landscape Architecture and Regional Planning from 1965 – 2000 (October 16, 2002).

9. **Anne Whiston Spirn** – Art historian and landscape architect; student, faculty member, and McHarg’s successor as Chair of the Department of Landscape Architecture and Regional Planning in 1986 (December 13, 2002).
10. Frederick Steiner – City and regional planner; student and faculty member in the Department of Landscape Architecture and Regional Planning; principal associate and collaborator with McHarg in the preparation of *A Quest for Life* and *To Heal The Earth* (February 19, 2003).

11. Ann Louise Strong – Land use and environmental law; faculty member, Chair of the Department of City and Regional Planning, and Associate Dean, Graduate School of Fine Arts (November 25, 2002).

12. David A. Wallace – City planner; faculty member in the Department of City and Regional Planning; McHarg’s first consulting partner that would become the firm of Wallace, McHarg, Roberts, and Todd (December 19, 2002).

**Utilization of Primary Source Material**

The principal source of published primary information that tracks the evolution of the curriculum is contained in the *Bulletins* and *Catalogues* of the Graduate School of Fine Arts. I will continually make reference to the “school year” or the “academic year” rather than the calendar year. This is consistent with how these documents have been published by the University of Pennsylvania. In utilizing these sources I will refer to the “pedagogical statement.” This is defined as the statement of departmental philosophy that explains what the curriculum and related academic engagements are all about.

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Phases in the Evolution of the Ecological and Human Ecological Planning Curriculum

The essential purpose for establishing a set of phases is to provide a chronological framework—a periodization—that traces the rise and decline of the curriculum in ecological planning and human ecological planning that was first developed in McHarg’s Department of Landscape Architecture (later renamed Landscape Architecture and Regional Planning beginning in the 1965 – 1966 academic year).

After assessing how the curriculum changed between 1954 (the year McHarg began his duties as Assistant Professor) and 2001 (the year of McHarg’s death), it became obvious that five phases could be identified. This will cover the entire gamut of the ecological/human ecological planning curriculum at Penn attributed to McHarg. The five phases, including certain benchmark subdivisions, can be identified as follows and will be further explored in Chapters 5, 6, 7, 8, and 9.

Before the actual periodization of the evolution of the curriculum is presented, the “Harvard roots,” going back to 1936, are discussed in order to place the academic environment at Penn in perspective. These “roots” are important since they established a particular academic philosophy that was first instituted at Harvard and replicated by G. Holmes Perkins when he came from Harvard to Penn as Dean of the School of Fine Arts in 1951. When McHarg arrived at Penn in 1954 a collaborative approach for the
disciplines of architecture, city planning and landscape architecture was already established.

Phase I – 1954 to 1968 The Preparatory Years at Penn: Lighting the Torch

Chapter 5

1954 – 1959 marks the early years and includes McHarg’s first academic assignments and the creation of a Department of Landscape Architecture separated from the Department of Land and City Planning.

1960 – 1968 witnessed the expansion of the Department to include regional planning. During this time “Man and Environment.” McHarg’s premier course, was first presented. This would be akin to an intellectual testing ground for the publication of Design with Nature in 1969. The seeds for an ecological planning curriculum were planted during this period, as the separated curriculum in regional planning was begun.

Phase II – 1969 to 1973 The Developmental Years: Advancing the Curriculum in Ecological Planning

Chapter 6

1969 – 1973 is the primary period in the development of the ecological planning curriculum that was highlighted by a strong emphasis on the physical and natural
sciences. A number of forces, both inside and outside of Penn drove McHarg’s curriculum to international acclaim.

Phase III – 1973 to 1979 The Golden Age: The Human Ecological Planning Curriculum is Established

Chapter 7

1973 - 1974 represents the setting of the stage for the period of transition from ecological planning to human ecological planning.

1974 – 1979 human ecological planning becomes solidified as the basis of the curriculum in the Regional Planning program.

Phase IV – 1980 to 1985 Increasing Disarray and the Loss in Momentum

Chapter 8

1980 – 1985 was the period that saw many modifications to the human ecological planning curriculum in response to changing conditions emanating from outside of the University and declining enrollments.

Phase V – 1986 to 2000 Phasing Down of the Human Ecological Planning Curriculum and Termination

Chapter 9

1986 – 1993 a new Chair of the Department replaces McHarg and the emphasis on
design moves forward in the curriculum.

1994 – 2000 represents the termination of the human ecological planning curriculum in the Regional Planning program and the curriculum in the Department returns to the traditional roots of landscape architecture.
CHAPTER 5

THE ACADEMIC ENVIRONMENT:

HARVARD ROOTS AND THE LIGHTING OF THE TORCH AT PENN

1936 - 1968

This chapter will begin by providing an overview of the pedagogical tradition that focused on a collaboration of the disciplines of architecture, landscape architecture, and city planning that began at Harvard University and was continued and advanced at the University of Pennsylvania by Dean G. Holmes Perkins. The importance of this pedagogical approach at the Penn Graduate School of Fine Arts is that it provided an indispensable intellectual climate for the pursuit and advancement of interdisciplinary cooperation. Indeed, it could be hypothesized that without such a climate, the curriculum that Ian McHarg designed in ecological planning— itself interdisciplinary and encompassing disciplines beyond architecture, landscape architecture, and city planning—probably would not have evolved as it did.

I will then discuss and analyze the first phase of McHarg’s tenure at Penn, his first courses, and the various factors that planted the seeds of the ecological planning curriculum including the noteworthy course, “Man and Environment.” From this point on to the conclusion of the dissertation I will focus on the analysis and assessment of the rise and decline of the ecological planning and later the human ecological planning program taking into account three dimensions in varying degrees: a) the composition and disciplinary affiliation of the key faculty; b) what I shall refer to as the pedagogical

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statement that appears for each department of the Graduate School of Fine Arts in the University's published bulletins and later catalogues; and c) the structure of the curriculum itself as represented by courses and studios.

1936 – 1954 Harvard Roots and the Academic Environment at Penn

The Harvard Graduate School of Design was established in 1936 and brought under one academic focus a uniting of the three disciplines of architecture, landscape architecture, and city and regional planning. Dean Joseph Hudnut is credited with being the intellectual force to effect such a unification, conceptually developed during his previous post at Columbia University. Hudnut was principally responsible for hiring the modernist architect, Walter Gropius who became Chairman of the Department of Architecture. In 1937 Gropius was assisted in a studio course by G. Holmes Perkins, whom Hudnut noted, "is very popular with the students and is generally in sympathy with your work." 157 The Graduate School of Design’s approach was described as “elegant in its simplicity” for training “a modern practitioner of architecture, landscape architecture, or city and regional planning” by offering a core curriculum of “four closely integrated courses taught in the first year to all students by an interdepartmental team of instructors.” 158

158 Ibid., 196.
By 1945 the School opened its doors to returning veterans, and it was during this wave that McHarg entered Harvard in the fall 1946. With Perkins now Chairman of the Planning Department, as well as Charles Dyer Norton Professor of Regional Planning—and McHarg's advisor—new seminars and courses involved faculty from many departments of the university “in order to encourage a multifaceted training.”

Anthony Alofsin has assessed this integrated approach that flourished from 1945 to 1950 as having unprecedented impact. He writes, “Judging from the professional success of its students and its role as a model for other schools, the GSD reached an apogee in this period. The students who attended during this fruitful time ultimately became a Who's Who of American and international architecture, landscape architecture, and planning, some of them among the most successful practitioners of the twentieth century.... As teachers, they passed on the ethos of the Harvard training to their students and in the programs they created and implemented.”

McHarg was educated in this milieu, and, as later years would prove, he would become one of the prime beneficiaries of this academic innovation. His own assessment of his student encounters would become an important factor in how he would ultimately develop his own pedagogical philosophy as a teacher. For example, in his autobiography McHarg reflects on the positives and negatives of his educational experience—an experience that would grant him three degrees: the Bachelor of Landscape Architecture

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159 Ibid., 201.

160 Ibid., 202.
(1949), the Master of Landscape Architecture (1950), and the Master of City Planning (1951).

There are three aspects of the Harvard education that McHarg especially critiqued. First, he felt that the graduate program in landscape architecture did “not engage the mind, far less challenge it.” 161 City planning, on the other hand, did challenge the mind. He found that the “planning studios, conducted by practitioners from public agencies and private firms, were excellent examples of professional education.” 162

Second, he held that while the “instincts” at the Harvard Graduate School of Design were splendid, and the energy and commitment admirable…there was a notable absence of wisdom. Yet this quality existed in the person of Lewis Mumford….He warned of the dangers of deifying technology, [and extolled] the necessity of giving primacy to human values.” 163

Finally, his course of study did not include any exposure to the natural sciences or ecology since engineering was more compatible with the designs of modernism and current technology. “Modern architecture had a deep antinatural content….Nature, if considered, was believed to provide the podium for the building and, perhaps, its

161 McHarg, A Quest for Life, 71.
162 Ibid., 77.
163 Ibid., 83.

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The collaborative dream at Harvard ended as tensions between Hudnut and Gropius mounted. Faculty retirements and departures became noteworthy, the most significant being the move by Perkins in 1951 to the University of Pennsylvania to become Dean of the School of Fine Arts and Chairman of the Department of Architecture. At Penn Perkins "proved to be a strong, vigorous dean, bringing rapid and dramatic change." The essence of the change was to restructure the curriculum at the graduate level so that it effectively became a transplant from Harvard of the shared academic offerings for the three disciplines of Architecture, Landscape Architecture, and (as then called at Penn) Land and City Planning.

So, for the first year, there were identical courses for all students, regardless of their undergraduate backgrounds. In retrospect, Martin Meyerson, a former student of Perkins who would come to Penn as a member of the city planning faculty and later become President of the University, commented "that the visions of interdepartmental

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164 Ibid., 85.
collaboration Perkins had absorbed at Harvard under Hudnut and Gropius were carried out more fully at the University of Pennsylvania than at Harvard.” 166

By his own account, Holmes Perkins had to play “certain tricks” to make it work at Penn. One of the things that was most successful was the way he formed juries in all three programs. “The jury members—I picked them every time—I made sure that on every jury you had somebody from each one of the areas. It made them argue with each other...as part of the education of the students.” 167

After Holmes Perkins assumed his duties at Penn, he choose to include landscape architecture within the Department of Land and City Planning. There had previously been a Department of Landscape Architecture, but effectively it had been suspended during the previous decade. Perkins had hoped to create an independent focus for landscape architecture, which became a reality with the hiring of McHarg, who began his tenure in the fall of 1954.

1954 – 1959 The Early Years of McHarg at Penn

When he arrived at Penn McHarg was “charged with the role of introducing a curriculum in landscape architecture....I had no office, no secretary; there were no students, no budget. The first year was devoted exclusively to designing a new

167 G. Holmes Perkins. interview with the author 15 October 2002.
According to Perkins, "It was his job to make landscape architecture a separate program." 169

McHarg’s initial appointment was as Assistant Professor in both landscape architecture and city planning. As a junior member of the Department of Land and City Planning, McHarg found himself in the company of what he would later characterize as the “entire leadership of the planning movement.” 170 Perkins had assembled a brilliant faculty (as listed in the 1954–1955 Bulletin of the School of Fine Arts), one that would undeniably distinguish Penn. The faculty included Robert Mitchell as chairman, William Wheaton, Martin Meyerson, Blanche Lemco, Charles Abrams, Edmund Bacon, John Dyckman, Chester Rapkin, Anatole Solow, and Lewis Mumford. 171

The Institute for Urban Studies, established in 1951, was allied to the teaching Department of Land and City Planning with advisory faculty from a number of University departments, including the Fels Institute, Sociology, Economics, Political Science, and Engineering. Its purpose was to focus on urban research with the participation of faculty and graduate students, and was “the first venture of the School of Fine Arts into research.” 172 By the mid-1950’s the Institute staff included additional luminaries in the

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168 McHarg, A Quest for Life, 135.
170 Strong and Thomas, The Book of the School, 139.
planning field such as Herbert Gans, William Grigsby, and Britton Harris. William Wheaton served as Director of the Institute, and McHarg was a member of the research staff.

Ann Strong and George Thomas in *The Book of the School* remarked that “Though theory and curriculum provide direction, it is on the selection of faculty that a school rises or falls....In an era presumed to have little use for history, Perkins’s first position was offered to the historian and social critic, Lewis Mumford.” 173 When asked years later about the intellectual role that Mumford played, Perkins remarked that in the beginning years of the program “All of us at that stage were very much under the general influence of Mumford. He provided the breadth of interest that we were really looking for. When McHarg first came, he was only talking about landscape gardening and the exposure to people like Mumford expanded his breadth.” 174

In the Department of Land and City Planning, McHarg’s first courses included “Introduction to Design for City Planning,” that would analyze the terrain and the appropriate types of design solutions as well as elements of general site layout. 175 In landscape architecture he presented two courses: “Landscape Architecture and Planting Design,” that focused on site planning, engineering calculations, “and the development of planting plans.” A second course, “Landscape Architecture,” concentrated on two

173 Ibid., 135.
problems of which one is in collaboration with students of city planning on the design of a new town." 176

The curriculum in landscape architecture was pedagogically oriented to train practitioners to work with city planners and architects in offering "those services whereby the earth's surface is moulded [sic] for human use and enjoyment." 177 At the basic level, in pursuing the Bachelor of Landscape Architecture, the student would concentrate on a combination of "personal field" investigations combined with "successive drafting room courses." in order to bring together "as an indissoluble unity a concept of space, structure, and materials which grows out of the needs of man and his resources." 178

For the next school year, 1955 - 1956 McHarg's teaching expanded to include three new courses: one titled "Landscape Construction," another called "Municipal and Highway Engineering," and a third that was co-taught with George Tatum, Assistant Professor of the History of Art, and titled, "History of Landscape Architecture." 179 Other faculty during this academic year included: John M. Fogg, Jr., Professor of Botany, John W. MacGuire, Assistant Professor of Architectural Engineering, and Ralph Koliner, Assistant Professor of Civil Engineering. 180

176 Ibid., 32.
177 Ibid., 29.
178 Ibid., 31.
180 Ibid., 32.
The pedagogical statement of the Department of Landscape Architecture—that appeared in the 1955 - 1956 School of Fine Arts Bulletin—was slightly modified from the previous year, and this time appears to reflect for the first time either the authorship of McHarg, or at least his preferences for the structure of the curriculum. "The emphasis of landscape architecture has changed,"—stated the narrative that presented the pedagogical philosophy of the Department of Landscape Architecture—"while still concerned with the private garden, the direction has turned more towards the design of open space in housing, urban space, municipal parks and playgrounds, national and state parks." 181 The statement continued that the landscape architect must "re-examine his techniques, disciplines and materials and evolve a new body of principle." 182 Although the representation of the academic program relied on the "study of plant materials" and the discipline of "landscape engineering," the department stressed that central to training in landscape architecture is design—"the synthesis of function and material which is art." 183 By 1957 McHarg's Department of Landscape Architecture "became independent of Land and City Planning." 184

By 1958 "with new faculty appointed in all departments, new curricula established, doctoral programs approved, and research opportunities for faculty and graduate students increasing, the School was renamed the Graduate School of Fine Arts." 185 Indeed, the

181 Ibid., 28.
182 Ibid.
183 Ibid., 29.
184 Strong and Thomas. The Book of the School. 139.
185 Ibid., 136.

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pedagogical statement for McHarg's Department of Landscape Architecture for the school year 1958 - 1959 broke away from the seemingly confining approach of the previous years. A new temperament was evident. "One of the most conspicuous failures of 20th century western society has been the environment created. Squalor and anarchy are more accurately descriptive than are efficiency and delight....Despoliation of landscape, the accretion of ugliness as cities [sic] are inevitable consequences of such values." This bluntness, which clearly reflects McHarg, shows that the Department was moving in a new direction. In this regard, the graduate curriculum was "dedicated to the search for a body of principle and a formal expression for design in open space by which the landscape architect can make a significant contribution to the creation of a superior social and physical environment." 

The Department of Landscape Architecture offered "special opportunities and facilities" in order to link the teaching curriculum with actual "field projects." Contacts were established with a number of agencies in Philadelphia including the National Park Service, city planning agencies, redevelopment authorities, and park and recreational agencies. Within the University the Department developed contacts with the Botany Department, the Morris Arboretum, and the various engineering schools. In addition, the

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187 Ibid., 92-93.
Institute of Urban Studies provided an opportunity for research in landscape architecture. 188

Although the course offerings in the curriculum for the school years 1958 - 1959 and 1959 - 1960 did not shift appreciably from the preceding few years, a new awareness and direction seemed to be taking hold under McHarg's leadership.

1960 - 1968 Landscape Architecture and Regional Planning

During this period the Department of Landscape Architecture began to expand into a new McHarg inspired direction that would plant the seeds of the ecological planning curriculum. McHarg's first theoretical paper, "Man and Environment" (1963) was published, taking its title from the highly acclaimed course that McHarg would use as the intellectual backbone of the development of the ecological planning curriculum. The faculty would grow and a regional planning component would be added. Finally, Design With Nature (1969) would become McHarg's seminal publication for setting out the theory and practice of ecological planning.

"Man and Environment" and "Ecology of the City"

In the fall of 1960 McHarg introduced a new course, "Landscape Architecture, Man and Environment." Taught by McHarg—who by now had been promoted to Associate Professor and to full Professor the following year—the course was aimed at exploring

188 Ibid., 93.
"the scientific view of creation, religious attitudes to environment, the interaction of
environment on man, of man on environment and the quest for an ethic for man and
environment." 189 McHarg considered this course "the most powerful act I initiated....I
originated the conception and was the impresario." 190 The course had more far-reaching
consequences than simply providing a learning requirement for matriculating students—it
was a learning mechanism for McHarg himself. It brought him into contact and under the
intellectual influence of many of the outstanding thinkers and recognized experts of the
time in the natural, physical, and social sciences, as well as theology. Speakers included,
among others: George Wald, Theodosius Dobzhanshy, René Dubos, Carlton Coon,
Margaret Mead, Loren Eiseley, Yehudi Cohen, Paul Tillich, Alan Watts, Erich Fromm,
Paul Sears, Eugene Odum, and Paul Ehrlich. 191 McHarg has described both how the
course was presented and how it would provide a springboard for collateral undertakings.

Most of the lectures were given by guest speakers; I introduced and concluded each segment. All other lectures were provided by visiting professors. The subjects were the scientific conceptions of matter, life, and man: the views of God, man, and nature in the major philosophies and religions, and, last, an examination of the interaction of man and nature, mainly ecological. This became the forum for my continued education for a quarter of a century. It, in turn, begat the television series for CBS entitled The House We Live In and provided much of the scientific basis for Design with Nature, written in 1967, which in turn propagated the movie Multiply and Subdue the Earth. 192

190 McHarg, A Quest for Life, 140.
191 A complete listing may be found in Ibid., 159-160.
192 Ibid.
The "Man and Environment" course would be presented year after year as the ecological planning curriculum emerged and developed. According to Nicholas Muhlenberg, who joined the Department of Landscape Architecture faculty in 1963, "The course presented a sequence—where you start philosophically; how we begin, and how we possibly end." To Muhlenberg "ecology is a kind of cosmology" and there was a distinct "McHarg cosmology" that was expressed in three ways. It was expressed in "Man and Environment:" it emerged in the literature with Design with Nature; and it was realized through the "layer cake" model to determine land use suitability.

In 1963 "Man and Environment," would become the title of a chapter in a book edited by Leonard Duhl. The Urban Condition. This was McHarg's "first serious theoretical writing," according to Frederick Steiner, who characterized it as a "tremendous leap in scale. He changed his focus from small-scale urban concerns to a larger regional vision." By McHarg's account, "This involvement encouraged me to introduce another course, entitled "Ecology of the City." in an attempt to focus ecologists, ethologists, and epidemiologists on the problems and remedies of the urban plight."

Beginning in the 1964–1965 school year McHarg taught "Ecology of the City" for the first time. The succinct course description announced that the course would be "an

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193 Nicholas Muhlenberg, interview with author 18 October 2002.
194 Ibid.
195 McHarg and Steiner. To Heal the Earth, 6 and 10.
196 McHarg. A Quest for Life, 141.
examination of the city "as a complex of physical and biological systems amenable to analysis through the insights of ecology." 197 In his autobiography McHarg offered the following assessment: "‘Man and Environment’ was immensely successful, growing to 250 students. ‘Ecology of the City’ never achieved great success. It was clear that scientists were not attracted to the city." 198

A New Regional Planning Curriculum: The Seeds of Ecological Planning

The Department of Landscape Architecture, during the 1964 – 1965 school year, offered two "areas of concentration." One was in Civic Design and the other in "Regional Land Planning," both in conjunction with the Department of City Planning. In the case of the latter, the Department of Landscape Architecture "will design curricula for selected students interested in Regional Problems." 199

An important turn of events occurred with the appointment of Nicholas Muhlenberg, a resource economist, as Assistant Professor of Landscape Architecture, in 1963. Muhlenberg had been on the faculty of the University of California at Berkeley and the Pennsylvania State University. He held a master’s degrees in forestry from the University of Michigan, a master’s degree in economics from Yale University, and a Ph.D from the

198 McHarg, A Quest for Life, 141.
Yale School of Forestry in 1959. Muhlenberg’s impact would be both decisive and far-reaching, as recounted by McHarg: “Muhlenberg was the first faculty member in the Graduate School of Fine Arts who was informed in ecology and familiar with the literature and many of the scientists....Nick gave direction to our tentative exploration. Here was a body of knowledge that must be incorporated into the curriculum. Here at last was the theoretical basis for the practice of landscape architecture....He would be our intellectual leader. 200

Because of his academic background and breadth of knowledge in ecology and natural resources conservation, McHarg asked Muhlenberg to design a natural sciences curriculum in regional planning. When questioned about how he started, Muhlenberg stated that “McHarg had the broad concept; I was leaned on to structure the curriculum.” 201 As a point of departure, Muhlenberg analyzed the curricula in both forestry and natural resources conservation at Yale University, the University of Michigan, and the University of California at Berkeley. When asked why he choose these three schools he commented that “Each of these schools were powerhouses in their regions: Yale in the East, Michigan in the Mid-west, and Berkeley in the West. Next, there were astonishing people at each one of them—Paul Sears at Yale, Stanley Cain at Michigan, and Henry James Vaux at Berkeley, among many others. Finally, each of these

200 McHarg, A Quest for Life, 172. Lenore Sagan, McHarg’s long time Administrative Assistant, said in an interview with the author (October 16, 2002) that “Mr. McHarg thinks [sic] that Dr. Muhlenberg is the smartest person on our faculty. He thought he [Muhlenberg] was a genius.”
schools was heavily supported by the Ford Foundation to develop strong curricula in "resources for the future," that emphasized resource conservation." 202

Muhlenberg became impressed with the idea of fashioning a multidisciplinary approach, with a strong natural resource component, that would become the heart of the Penn regional planning program. For example, Stanley Cain, Chairman of the Department of Conservation in the School of Natural Resources at the University of Michigan, described such a curriculum as giving "special emphasis to what we think is an important and growing area of usefulness to persons with training in natural resources and conservation: this is the broad field that includes watershed management, area development, and regional planning." 203 The crux of the multidisciplinary construction of a curriculum was further described by Cain as a building up of "a faculty with a diversity of professional backgrounds: the present small staff can point to biology, ecology, education, public administration, economic geography, and economics as areas of special competence." 204

At Penn, the Regional Planning curriculum (emphasizing the natural sciences), as designed by Nicholas Muhlenberg, first appeared during the 1965 - 1966 school year.

202 Ibid. The Ford Foundation would later underwrite the regional planning program at Penn.
204 Ibid.
This was also the first academic year when the Department of City Planning now became the Department of City and Regional Planning. Regional Planning, as a program of study, was now "offered cooperatively by the Department of Landscape Architecture and the Department of City Planning in the Graduate School of Fine Arts and the Department of Regional Science in the Wharton School, under the general guidance of an interdepartmental committee." 205 The pedagogical statement, as promulgated in the Bulletin for the 1965 - 1966 school year, now appeared under the heading, "Department of Landscape Architecture and Regional Planning." Consistent with the Department's expansion to include regional planning, the program was "directed towards the training of Regional Planners based upon the natural sciences, [and] satisfies an important deficiency in the field of planning by developing spokesmen for physical and biological processes." 206 Some of the faculty included, among others, Peter Shepheard, Visiting Professor of Landscape Architecture, Anthony Walmsley, Assistant Professor of Landscape Architecture, and Jack McCormick, Lecturer on Botany. 207

This new Regional Planning curriculum consisted of "two streams with a common core of planning courses." One "stream" was based upon student preparation in the natural sciences, while the other was based on preparation in the social sciences. Both culminated in the Master of Regional Planning degree (M.R.P.) after two years of full

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205 "Graduate School of Fine Arts, 1965-1966," University of Pennsylvania Bulletin LXV: 3 (December 1964): 49. The program advisors were McHarg, Muhlenberg, and Gerald A.P. Carrothers, Chairman of the City and Regional Planning Department.
206 Ibid., 50.
207 Ibid., 44.
time study.  

The degree of Master of Landscape Architecture (M.L.A.) was also offered as the advanced professional degree in that field. The Department's complete course offerings were detailed under the two fields of landscape architecture and regional planning, with graduate courses listed in the "related professional fields" of architecture, biology, botany, city planning, geology, regional science, and zoology.  

For the following three school years—beginning in 1966-1967—the Regional Planning program in the Department took on a slight variation when it was effectively prescribed as two sub-curricula picking up on the two "streams" approach of natural science and social science. In this manner the regional planning emphasis could broaden its appeal by welcoming students who had either a background (i.e., a bachelors degree) in a field in the natural sciences or in the social sciences. In the case of the latter, "Students entering the Regional Planning program through the Department of City and Regional Planning are required to develop a thorough grounding in the social sciences with emphasis in a selected area (e.g., economics, political science, regional science)."  

Ecology became the "unifying discipline," and as a consequence, "studies of the environment of necessity had to be inter- and multidisciplinary."  An expanded faculty was made possible by a Ford Foundation grant in 1967 in the amount of $500,000.

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208 Ibid., 49.
209 Ibid., 53-56.
211 McHarg, A Quest for Life, 173.
that supported the move into regional planning concentrating on the natural sciences. Initially McHarg recommended that potential students have a background in the various environmental sciences (physical or biological) that could be expanded and augmented through an examination of contemporary problems. \(^{212}\) As such, a multidisciplinary faculty would be recruited to advance this teaching approach.

The reliance on the perspective of ecology as the basis of a regional planning curriculum would continue to accelerate over the next several years and would culminate in a comprehensive and complete cross fertilization of disciplines in the natural, physical, and social sciences that would provide the essential preparation for a new generation of city and regional planners and designers. In fact, the curriculum would serve as a kind of laboratory to nurture and advance what would become known as the "McHarg method"—a method of inventory and planning that would determine the locations or suitability for certain land uses for a particular site or an entire region.

The Institute for Environmental Studies

In *The Book of the School*, Ann Strong and George Thomas point out that Dean G. Holmes Perkins’s "emphasis on the unity of education and research reached a fitting conclusion in 1965 with the creation of the Institute for Environmental Studies, into which were merged the Institute for Urban Studies and the Institute for Architectural Research. The name was appropriate, given the growing importance in the School and in

\(^{212}\) Ibid., 191.
the nation of environmental issues." 213 Its specific function was “to carry on a continuing program of study and research focused on the nature and control of man’s environment, considered be the concern common to all teaching divisions of the Graduate School of Fine Arts.” 214

The Institute was established to engage in a diverse research agenda, that would address the interests from the three professional departments of Architecture, City and Regional Planning, and Landscape Architecture and Regional Planning. By 1967 the following “research groups” were in place and would offer a wide latitude to conduct projects that could have an impact on McHarg’s curriculum: “Studies on Legal Aspects of Planning and Development Control” (chaired by Ann L. Strong); “Research on Natural Sciences in Landscape Architecture and Regional Planning” (chaired by Nicholas Muhlenberg); “Planning Sciences” (chaired by Britton Harris); “Regional Planning Studies” (chaired by David E. Boyce); and “Transportation Research” (chaired by Anthony Tomazinis). 215 The first Director of the Institute came from the Department of City and Regional Planning, Gerald A.P. Carrothers, Professor of City Planning. He was followed by Michel Chevalier, and in 1970, Ann L. Strong, Professor of City and Regional Planning, became Institute Director.

The Dawning of the Golden Age of Ecological Planning

As the 1968 – 1969 academic year began, the regional planning program was firmly established with both new faculty and an expanded curriculum. In the next school year the ecological program in regional planning would attract a growing recognition and an increasing student body. It would not be long before the Penn graduate program in ecological planning would become well known as a unique multidisciplinary curriculum. In many ways it would be standard bearer in the environmental education of planners and landscape architects, who would spread McHarg’s philosophy and technique of ecological planning throughout the world. The next chapter will cover the developmental years 1969 to 1972.
The academic curriculum at Penn that is attributed to Ian McHarg's advocacy for the acceptance of ecology as the basis of planning and design in his Department of Landscape Architecture and Regional Planning was, to a large degree, spurred on by the changing attitudes toward the environment. The 1970's have been popularly called the environmental decade, fostered by a new awareness of a growing segment of the population that human activities were having destructive effects on the natural environment. McHarg became nationally recognized as one of the most eloquent spokesmen in this accelerating movement. Several elements account for his increasing recognition and stature, all of which would have direct impacts on the development of the ecological planning curriculum and the attraction of students to Penn.

Furthermore, in the early 1970's, there were the beginnings of a trend to develop curricula in the environmental sciences. Although not new, an environmental sciences...
perspective, with a predilection for human ecology, was considered the next progressive step from the conservation education that relied on the biologically based natural sciences, forestry, and wildlife conservation. In a 1968 symposium, Pierre Dansereau proclaimed that “The crying need for a ‘new science’ of environmental study, with ecology at its core and medicine at all of its outlets, is now being met by a few institutions of higher learning.” He called on universities to be more than “diploma factories” and provide leadership “towards a better understanding...of whole environments.” The individuals that Dansereau hoped would usher in this emphasis would be “gifted coordinators [who] have something to ordain and they are bound to collaborate with workers in several fields who are themselves specialists, and possibly narrow ones....The truly gifted make up in depth what they may lack in breadth, and by shifting their gaze, they develop range.” Ian McHarg was a participant in that symposium.

**Pivotal Non-academic Factors Affecting Curriculum Development**

There are four important events that accelerated the development of the ecological planning curriculum at Penn. McHarg’s involvement in these events outside of the strictly academic milieu where he was an administrator and teacher, had a direct influence on the manner in which the curriculum evolved and was marketed to potential students.

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218 Ibid.

219 Ibid., 13.

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students. These factors included the publication of *Design with Nature*, two important public media ventures, and the first celebration of Earth Day in April 1970.

*Design with Nature*

McHarg’s work, *Design with Nature* (1969), stands as the hallmark in presenting his theory and method of ecological planning to the nation. As he stated, it was his “single most powerful identification.” 220 In chapter 3, I have discussed the various criticisms that were leveled at *Design with Nature*, and the theory and method of ecological planning, more generally. My reference here to *Design with Nature* is that it established specific procedural and substantive engagements that were part and parcel of the evolving ecological planning curriculum at Penn. The impact of *Design with Nature* came fast and furious, and it would, as McHarg stated, raise him from “obscurity and [give] prominence to my person and my views.” 221 In fact, McHarg saw the prescriptive direction from *Design with Nature* as having a direct bearing on the curriculum: “[I] concluded very early that introduction to the ecological method should be the foundation of the curriculum and should be presented to students upon entry.” 222

George Thompson and Frederick Steiner have written that in *Design with Nature* “McHarg reminded us—and taught a new generation of scholars, students, and practitioners—that landscape architecture involves art and science, nature and culture.

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221 Ibid., *A Quest for Life*, 175.
222 Ibid., 198.
city and region, the public good as well as the need to make a living. His tone was revolutionary, and oriented heavily toward the use and implementation of ecological design and planning—so much that a good portion of the field resented the seeming dismissal of art as a viable part of the profession.” However, under McHarg, landscape architecture—as art—was being modified to rest on an ecological premise. The momentum was accelerating, and McHarg was becoming the undaunted promoter for ecological planning, especially as the audience expanded beyond the academic halls of Penn.

Ventures in the Public Media

McHarg had been the host of a widely viewed television series during 1960 – 1961 called *The House We Live In*. that brought together a blue ribbon assortment of scholars and philosophers, representing a number of perspectives and disciplines. McHarg’s format was to interview “many of the world’s leading thinkers about human-environment relationships, focusing largely on religious, ethical, and philosophical issues.” In a way, this venture in the public media could be considered as a companion intellectual threshold to his course “Man and Environment” that was first taught in 1960, and discussed in chapter 5.

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221 Ibid., *A Quest for Life*. 206.
223 Ibid., 162.
After the publication of *Design with Nature*, McHarg was invited to be the main participant and commentator in a film produced by WGBH in Boston, and titled *Multiply and Subdue the Earth* (1969). It allowed him to present, to a wide viewing audience, a number of projects that he had participated in and that were based on the concept of ecological planning—the Plan for the Valleys in Baltimore County, the ecological study for Minneapolis-St. Paul, and Sea Storm and Survival, for the New Jersey coastal community. Harvey Cedars. 225

These two ventures in the public media brought McHarg’s message of environmental concern and the essential need to embrace an understanding of ecology into focus to an empathetic and curious public. People were starting to take notice, and potential students were becoming eager to learn.

**Earth Day**

Biologist Barry Commoner wrote, “The environment has just been rediscovered by the people who live in it. In the United States the event was celebrated in April 1970 during Earth Week. It was a sudden, noisy awakening....Everyone seemed to be aroused to the environmental danger and eager to do something about it.” 226 McHarg, as one of the organizers of the celebration in Philadelphia described it as “an exciting time....the

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225 Ibid., 204-205
great and unexpected efflorescence in environmental sensitivity.” 227 He addressed a crowd numbering in the thousands, bringing a strong and powerful message to raise awareness of the technological threat to our future survival. During Earth Week, McHarg would accept many invitations to speak on college and university campuses, spreading the word, and increasing his public persona as an intellectual force to be reckoned with, especially as an educator who would direct the development of what would become the preeminent graduate program to train ecologically oriented planners. 228

1969 – 1972 The Ecological Planning Curriculum

Formalizing the Ecological Program in Regional Planning

In a retrospective review done in 1981, it was stated that “As the environmental decade influenced academic institutions, many university departments and programs added the prefix ‘environmental’ to their course and program names. But very little change occurred in the course content. In order for ecological knowledge to be linked to action, fundamental changes are necessary.” 229 McHarg and the University of

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227 McHarg, A Quest for Life, 208.
228 McHarg addressed an overflowing crowd of 650 “students and adults” at the University of Delaware on April 20, 1970. This was when I was first introduced to the message about, “diseases infesting our planet” and the “must” for ecological planning,” as reported in the student newspaper, The Review two days later. I was a municipal planning director at the time, and after that talk, like so many others, I was swayed to embrace ecological planning in my own work.

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Pennsylvania were singled out as having "been primarily responsible for developing an ecological approach for community, regional, and resource planning." 230

In the Graduate School of Fine Arts, beginning in the 1968 – 1969 academic year, the curriculum in regional Planning was available through either the Department of City and Regional Planning or the Department of Landscape Architecture and Regional Planning and consisted of two "streams," with a common core of planning courses. In the former program concern was "with the locational pattern and relationships of residential and work places and other urban activities, the systems of transportation and public utilities, the production of housing and urban physical renewal programs and the three dimensional quality of the physical environment." 231 In the Department of Landscape Architecture and Regional Planning the emphasis was "based on the premise that planning requires the contribution of those who understand nature as process, responsive to laws, constituting a value system, proffering opportunities but with inherent limitations, and that such an understanding is derived from the natural sciences and is integrated by ecology." 232 The principal distinction was that in the Department of City and Regional Planning the orientation was toward the social sciences to train planners while McHarg's program was based on the natural sciences and ecology to train planners

230 Ibid., 496.
232 Ibid., 39.
The growing stature of infusing ecology both into planning and landscape architecture, as well as McHarg's increasing public personality, was directly reflected in the pedagogical statement of the Department as it began the 1969 - 1970 school year. This can be considered as the critical time line for the legitimization and advancement of the ecological planning curriculum at Penn. There are two discernible directions that advanced the curriculum. The first was in landscape architecture and the second was in regional planning.

For landscape architects, the Department's pedagogical statement asked, "What is the role of landscape architecture as we confront despoliation, anarchy and the inhibition to the spirit represented by the modern city?" The answer was self evident: "In the search for a scientific basis of Landscape Architecture, this Department holds that ecology is the single integrative science which permits both diagnosis and prescription....Ecology provides the single indispensable basis for landscape architecture and regional planning." Not only is ecology indispensable, but it is "vital in the search both for understanding form in nature and the creation of form....The ecological method allows one to understand form as an explicit point in [the] evolutionary process."

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234 Ibid.  
235 Ibid.  

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In the 1969 – 1970 school year the Department of Landscape Architecture and Regional Planning curriculum for the first time described “An Ecological Program in Regional Planning.” According to Dean Perkins, McHarg brought the landscape architecture curriculum “to life, especially through the regional [planning] perspective.”²³⁶ In a very poignant way the curriculum became an intellectual call-to-arms when it was proclaimed that “The urgent need for a profession of Regional Planners is self-evident. For proof it is enough to look at the countryside, the metropolis and the city. There could hardly be a more propitious time for such an examination—on the eve of the Bi-Centennial, a time for re-appraisal and new resolution.”²³⁷

Beginning in the 1970 – 1971 academic year the “Description of the Curriculum” for landscape architects in the Department of Landscape Architecture and Regional Planning was more cogently presented than it had been earlier. This time it clearly delineated the three major subject areas.

- The first consisted of the biological sciences, “with an emphasis on botany, ecology, plants and design.”
- The second consisted of the physical sciences, “notably geology and engineering.”


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The third "contains history and theory."  

By the 1971–1972 school year, the course offerings in the progression of study was prescribed for landscape architects, first in a workshop course followed by a studio: regional planners began with a seminar course followed by a studio. This would allow the weaving together of a common set of core courses that would be taken by students in both fields. This would evolve further as the curriculum was modified, during the next several years and become the 501 Studio (to be discussed in Chapter 8). Certainly one of the key advantages of a curriculum that has a multidisciplinary faculty is the richness and the breadth of the subject matter that courses can offer. On the other hand, this presupposes that the courses themselves have been designed to offer an engaging and challenging learning experience to the student. In this regard, the designing of the individual courses in the curriculum was left to the faculty.

According to Arthur Johnson, a soil scientist and geologist, who would join McHarg’s faculty in the mid-1970’s. “As long as the bases were covered and people were competent to do their job [in teaching the students], McHarg left the work to the faculty to design their courses—there was a great deal of latitude.”

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239 Arthur Johnson, interview with the author 3 December 2002.
During the next academic year, 1972 – 1973, the Department added anthropologists to the faculty, albeit, visiting, and included David and Vera-Mae Fredrickson, and Yehudi Cohen from Rutgers University. Cohen’s initial course, “Social Processes,” was designed to “explore the varieties of adaptive strategies in human societies.”

To some degree this faculty expansion would be the pedagogical predecessor to the movement of the curriculum from ecological planning to human ecological planning.

**Computer Spatial Analysis: Forerunner to Geographical Information Systems (GIS)**

The first course that used computer capability to facilitate the use of data as part of the inventory of ecological resource information was presented in 1969, by E. Bruce MacDougall, the first geographer on the faculty. MacDougall’s course, “Computer Programming for Spatial Problems,” was aimed at the application of “common computer languages to computer graphics, computer mapping and the processing of map data.”

McHarg had a strong interest in the adaptation of computer methods to ecological planning, since “The conception of large-scale ecological inventories has always been dependent on computer capability.”

Even though spatial computation was evolving and geographical information systems (GIS) was still in its early stages. MacDougall, along with Lewis Hopkins

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(another faculty member who had received a Ph.D from Penn in 1975), developed a computerized route selection model for a highway project. McHarg’s consulting firm, Wallace. McHarg. Roberts and Todd, was hired by the Delaware Department of Transportation to design a process to select a highway route in 1973. McHarg would later write that this project served as his “initiation into computerized ecological planning.” While the importance of this application was to underscore the value of using digitized data in suitability analysis (as contrasted with the hand overlay technique), a somewhat murky future lay ahead for the curriculum relative to incorporating the important advances in GIS technology.

Table 1 on the following page provides a listing of the Faculty during the 1972 – 1973 academic year, the zenith of the ecological planning curriculum.

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Table 1
Faculty in the Department of Landscape Architecture and Regional Planning
1972 – 1973

Ian L. McHarg, M.L.A., M.C.P., Professor of Landscape Architecture and Regional Planning, Chairman.
Peter Shepheard, B.Arch., Professor of Architecture and Environmental Design, Dean of the Graduate School of Fine Arts.
Nicholas Muhlenberg, M.F., M.A., Ph.D., Associate Professor of Regional Planning.
Anthony J. Walmsley, B.Arch., M.C.D., M.L.A., Associate Professor of Landscape Architecture.
Yehudi Cohen, Ph.D., Visiting Associate Professor of Landscape Architecture and Regional Planning.
Robert Giegengack, Ph.D., Assistant Professor of Geology.
Ronald B. Hanawalt, Ph.D., Assistant Professor of Regional Planning.
Robert Hanna, B.Arch., M.L.A., Assistant Professor of Landscape Architecture.
Narendra N. Juneja, B.Arch., M.L.A., Assistant Professor of Landscape Architecture.
Michael Levin, Ph.D., Assistant Professor of Landscape Architecture and Regional Planning.
E. Bruce MacDougall, Ph.D., Assistant Professor of Landscape Architecture.
Arthur Sullivan, Ph.D., Assistant Professor of Regional Planning.
Ruth Patrick, Ph.D., Lecturer on Landscape Architecture.
Jack McCormick, Ph.D., Lecturer on Landscape Architecture.
David A. Fredrickson, Ph.D., Visiting Lecturer on Landscape Architecture.
Vera-Mae Fredrickson, M.A., Visiting Lecturer on Landscape Architecture.

Shaping the Curriculum – Shaping the Students

But what about the students, and what was the attraction to this intellectual adventure?

"There was a surfeit of applications to the department," according to McHarg. "Many candidates had Ph.D.'s, and even more had master's degrees before admission. We

244 Ibid., 8.
regulated the numbers: sixty landscape architects, sixty regional planners....Standards were very high, as was enthusiasm." 245 Arthur Johnson explained as follows:

The reason that the students were attracted to the program was that this curriculum was fashioned to be put into action. When the students completed the program and left college—they left wanting to change the system. There were enemies of nature and we kind of knew who they were. One of the things that McHarg was very able to do was to find the environmental villains. It always gave students comfort to know that there was a contest, and that the good guys were always smarter than the environmental villains were, and you could always get them in the end. McHarg’s ideas were broad enough to do the job, and they were marketed with superb skill. 246

Students entering the curriculum were given several options of study based on their background preparation. 247 Students with a social science bachelor’s degree would pursue a three year program; students with a bachelor’s degree in geology or biology would study for two years. In both cases, a graduate professional degree of Master of Regional Planning would be the final award. All students were to come under the spell of the following dictum: “We need planners who are competent...who are instinctively activists and wish to engage in social processes. This is the most challenging adventure, and it is in this spirit that your interest in the study of regional planning is sought.” 248

245 McHarg, A Quest for Life, 213.
246 Arthur Johnson, interview with the author 3 December 2002.
247 Dean Perkins “always had to see every folder [the student application]”, according to Lenore Sagan. “He wrote the letter of admission or rejection...he signed every letter. Everybody [the students applying] had to pass muster. We had to send portfolios over [to the Dean].” Interview with the author 16 October 2002. Nicholas Muhlenberg provided another perspective. “Ian broke all of the rules—he wanted students that he felt could be disciples rather than relying on test scores or grades.” Interview with author 18 October 2002.

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The integrative structure of the curriculum established the critical dimension of making this offering unique in higher education. For example, the progression of study was explained this way. The student would proceed through the curriculum towards a competence in these areas. Their synthesis is obtained in a sequence of cases studies. This begins with regional problems emphasizing the importance of natural processes to planning. The next consideration is social process in planning. Subsequent case studies are directed towards the resolution of social problems in the context of natural processes through planning and design. The final exercises are conducted at the project scale, emphasizing design, and are realized in working drawings and specifications.²⁴⁹


In the early 1970's, a number of opportunities for research and the application of that research to address real world problems became solidified as important adjuncts to McHarg's curriculum in landscape architecture and regional planning—now firmly predicated on ecology. Three situations are particularly noteworthy since they would have, not only an essential research-practical correlation, but an important impact on the curriculum.

²⁴⁹ Ibid.
Center for Ecological Research in Planning and Design: The Medford Study

Since the Institute of Environmental Studies was the established "research arm" of the Graduate School of Fine Arts, the Center for Ecological Research in Planning and Design would be ascribed a new level of visibility and importance. For several years the Center had been the "research group," for the Department of Landscape Architecture and Regional Planning. By the 1972 – 1973 academic year the Center was described as the "research arm" of the Department, "whereby the faculty and graduate students may synthesize the perceptions of their individual sciences in the description, analysis, and prescriptions of whole natural systems, and whereby data, interpretation and method for ecological planning can be elaborated and improved." Two projects were underway: one being the digitizing of maps from ecological data for the Oak Ridge National Laboratory and the other, an ecological study for Medford Township, New Jersey.

The Medford study began in 1971 after a meeting between McHarg and Township officials who were concerned about the seemingly uncontrolled development that was threatening their community. Although McHarg was the Principal Investigator of the ensuing study, along with the faculty of the Center and a number of graduate students.

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250 "Graduate School of Fine Arts, 1972-1973," *University of Pennsylvania Bulletin* LXXII: 6 (December 1971): 30-31. Cf., Table 1 for a listing of most of the faculty of the Center in 1972-1973. The disciplines represented in the Center and their associated faculty were: limnology (Patrick); Geology (Giegengack); Seymour Subitzky (hydrology); Hanawalt (soil science); Levin (plant ecology); Robert Snyder (animal ecology); Sullivan (regional planning); MacDougall (quantitative methods); Muhlenberg (resource economics); Juneja (landscape architecture); and Robinson Fisher (landscape architecture).
Narendra Juneja was Deputy Principal Investigator for planning. Juneja had emigrated to the United States from India in 1963 to study at Penn, receiving the M.L.A. in 1965. He was considered by many to be brilliant, and as McHarg would later say, “He was fascinated by order.” Juneja became the author of the ecological study that consisted of a natural resources and historic resources inventory of the Township, as well as an assessment of “social values.” Finally, a series of suitability analyses for different types of development (e.g., rural, urban, and suburban) was presented.

The principal means of incorporating “social values” into the study came about as a result of an extensive public participation program, and a concerned citizenry. Arthur Palmer, the member of the study team specifically responsible for drafting environmental ordinances, observed “that the level of public understanding of the problems involved in changing from random development to controlled development [was] reasonably well understood, as well as changing from a philosophy of economic values to a philosophy of environmental values.”

However, the unique thrust of the effort was to establish—through the inventory data and analysis—a defensible position upon which the Township could adopt ecologically-based ordinances to regulate and control new development. McHarg wrote in the Introduction that it was “a landmark study [if]...the people of Medford...will assume the

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251 Strong and Thomas, *The Book of the School*, 230. The important role that Juneja would play in the curriculum, as a member of the teaching faculty, will be discussed later.

power to control and regulate growth through ordinances....America awaits an example of intelligent and effective planning.\textsuperscript{253}

The Medford study (which was finally published in 1974) became perhaps the single most important product of the Center for Ecological Research in Planning and Design. In 1989 there was a "re-examination," as McHarg addressed a return to Medford with colleagues Jon Berger and John Radke to propose a digitizing of the entire ecological inventory, that did not happen.\textsuperscript{254} Nonetheless, the Medford study would establish an important threshold for future planning studies to meet.

In his autobiography, McHarg said that "it became the bible for the township and remains so to this day. It affected the creation of the pinelands Preserve, was a model for the 1990 New Jersey State Plan, and was employed as the basis for many other studies, including Lake Austin, Texas, and Sanibel, Florida."\textsuperscript{255}

Design of the Environment Program

In 1973, a new program was begun that offered an interdisciplinary undergraduate liberal arts major in the School of Arts and Sciences. It also served as an undergraduate pre-professional program for those intending to continue on for graduate study in

\textsuperscript{254} McHarg, A Quest for Life, 286.
\textsuperscript{255} Ibid., 287.
architecture and landscape architecture. Dean Peter Shepheard created The Design of the Environment Program with the objective "to foster an understanding of the centrality of the natural environment in the creation of humane man-made environments." The first director was Robert Hanna, who had degrees in architecture from the University of Washington and landscape architecture from Harvard. Hanna first met McHarg when he taught a studio of city planners and landscape architects at Harvard in 1966, and had been an Assistant Professor of Landscape Architecture in McHarg's department since 1969.

The Program's emphasis was "on studio work based on design projects for buildings and landscape supported by lectures dealing with [the] natural and man-made environment." It served as an important academic bridge, connecting the graduate program in Landscape Architecture and Regional Planning to undergraduate studies.

Wallace, McHarg, Roberts and Todd

David A. Wallace and Ian McHarg had been classmates at Harvard and when Wallace joined the city planning faculty in 1962 their friendship was renewed. By 1963 a consulting practice was formed, Wallace - McHarg, with two early employees, William Roberts and Thomas Todd, who two years later would form the nucleus of a new partnership, Wallace, McHarg, Roberts and Todd (WMRT). Nicholas Muhlenberg described the initial association this way. "Wallace was a highly organized person;

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256 Strong and Thomas. The Book of the School, 256
McHarg was an inspirational leader. The two of them were a great combination.\textsuperscript{258} McHarg’s participation in this consulting arrangement would continue for the next sixteen years, until McHarg resigned in 1979.

There was created a valuable and almost indispensable link between the curriculum in the Department of Landscape Architecture and Regional Planning and the consulting firm. McHarg spoke of the relationship in that “Ideas were developed at the university, wherein was the repository of knowledge in the sciences, and their application was accomplished by WMRT. Data generated by the office were more accurate, the methods more precise. Hypotheses were tested and if successful, were immediately incorporated into teaching. Through this method, research and development continued. Every project, either in the department or at the office, was seen as a research investigation.”\textsuperscript{259}

Not only did WMRT provide the base for a reciprocity of ideas and theories, and the “testing” of those ideas and theories in practice, but it also served as an important employer for students, as well as other faculty who would be drawn in on consulting projects that required their special expertise. The firm’s philosophy, as a private consulting practice, embraced the same multidisciplinary collaborative approach to

\textsuperscript{258} Nicholas Muhlenberg, interview with the author 18 October 2002.
\textsuperscript{259} McHarg, \textit{A Quest for Life}, 213. A complete listing of projects completed during McHarg’s consulting association between 1963 and 1964 with Wallace and McHarg, and between 1965 to 1980 with Wallace, McHarg, Roberts and Todd, may be found in \textit{A Quest for Life}, 393-399.
projects that was embodied in the Graduate School of Fine Arts—to synthesize the
practice of architecture, landscape architecture, and city and regional planning.

1970 – 1973 Other Factors Affecting the Curriculum

In the early 1970’s some changes and a new reality at the University of Pennsylvania
would have a direct impact on McHarg’s Department. The first change took place in
1970 when Martin Meyerson succeeded Gaylord Hamwell as President of the University.
Meyerson and McHarg had known each other since their student days at Harvard and had
been colleagues in the Graduate School of Fine Arts. Now, with Meyerson as University
President, McHarg “had much support.” 260

The second change occurred when G. Holmes Perkins retired as Dean in 1971. Peter
Shepheard, who shared Perkins’s view of the unity of the three disciplines (architecture,
landscape architecture, and city and regional planning) would become the new Dean of
the Graduate School of Fine Arts and serve from 1971 to 1979. Trained as a landscape
architect in the School of Architecture at the University of Liverpool, Shepheard had
been, on and off, a visiting professor in McHarg’s Department for over a decade. Now
with Shepheard heading the Graduate School of Fine Arts, “McHarg could do anything
he wanted.” 261

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260 Nicholas Muhlenberg, interview with the author 18 October 2002. Meyerson would serve as
University President until 1981.
261 Ibid.

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The new reality that Dean Shepheard faced, as well as all departments, was that "By the University's calculations, the Graduate School of Fine Arts was awash in a sea of red ink." It was time that all graduate Schools would have to be "financial responsibility centers." This reality would affect McHarg's curriculum, in both the short and long run, and the Department's ability to hire faculty.

Moving Forward

The ecological planning curriculum, as an academic offering in graduate education for professional planners and designers, was prospering as the 1972 – 1973 school year drew to a close. Robert Hanna provided this overview.

What Ian did, more than anything else (in addition to raising our consciousness about ecology) was to develop a method that made decisions and information explicit, as he always said, 'reproducible,' so that you didn’t have to take it on faith. You could go back over the evidence and examine it and draw your own conclusions, in a more or less rational way. The problem is that ultimately it’s never rational; it assumes a judgment, it assumes values. In this sense his quest could never be totally realized. A lot of people thought it [the ecological method] ought to be an absolute scientific method that was achievable.264

During the mid 1970’s McHarg’s program was observed for a year first hand by a visitor from the University of Stellenbosch in South Africa. J. H. Giliomee later wrote that this experience allowed him to become "thoroughly acquainted with, and to evaluate.

262 Strong and Thomas, The Book of the School, 253-254.
263 Ibid., 253.
the ecological planning method developed and taught in that department." 265 Giliomee was impressed and convinced "that ecological planning has put urban and regional planning on a much higher level as a scientific discipline, and it is difficult to understand why it is not even mentioned in some recent textbooks on the subject. It completely breaks away from what is still prevalent in a great deal of modern planning." 266

A final point made by Giliomee corroborates and extends Hanna's observation. "The method is replicable in the sense that any planner working with the same data should come up with basically the same result... What the method does not do is to indicate who the users will be, or how many of them—this is a function of the socio-economic dynamics of the region." 267 Giliomee called for what he referred to as a "convergence in a final synthesis" of ecological planning and socio-economic planning. 268

The next step in the evolution would find the ecological planning curriculum taking on an added dimension. Human ecology would move into the forefront and become the basis for a restructuring of McHarg's Regional Planning program. This would open the door to witnessing the transition of ecological planning into human ecological planning, a development that will be discussed in Chapter 7.

266 Ibid., 190.
267 Ibid., 191.
268 Ibid.
CHAPTER 7

THE GOLDEN AGE:

THE HUMAN ECOLOGICAL PLANNING CURRICULUM IS ESTABLISHED

1973 – 1979

The shift of the ecological planning curriculum to formally incorporate a cultural or human perspective would become a logical—and pragmatic—evolution of McHarg’s Department of Landscape Architecture and Regional Planning. Two events became the real impetus behind the shift. First, McHarg’s Design with Nature was criticized for lack of the human dimension, so he added the first anthropologist to the faculty, Yehudi Cohen, as a visiting professor in the spring 1971. Cohen would teach the first course addressing social process. Second, there was a significant grant from the National Institute of Mental Health (NIMH) that provided funding in order to expand the curriculum to engage in social and health issues under the aegis of ecological planning. And finally, the NIMH grant permitted the hiring of key new faculty, including Jon Berger, Setha Low, and Dan Rose. As a result, course offerings were expanded under the disciplinary rubric, cultural anthropology, more specifically referred to as “environmental anthropology” and “medical anthropology.” These events would effectively shape and transform the curriculum into human ecological planning for the next several years.
1973 – 1974 The Period of Transition

Setting the Stage

Although the pedagogical statement of the ecological planning curriculum did not change, the presence of Cohen as a visiting professor in the Department would greatly influence the development of the human ecological planning curriculum. He was known in both academic and outside circles for his editing of a three volume series, *Man In Adaptation*, between 1968 and 1971. This milestone work in cultural anthropology brought together over 106 essays focusing on understanding cultural anthropology as "cultural evolution"—a sequential change in the organization of social relations over time—and how that change affects the habitat, to make it a more fit place to live. The pedagogical emphasis in the curriculum—that would complement the contributions of the natural and physical scientists—would be to study the history of cultural development from the human perspective. Cohen's contribution was to address human predilections toward use of the immediate environment, explaining how attitudes and values have become institutionalized as sanctioned patterns in how humans use their environment.269

In the 1974 – 1975 academic year Cohen would teach a new course, "User Preference in Living Patterns." that concentrated on the "principles that govern people's affiliations with each other in urban and suburban localities through exploration of the circumstances under which members of different ethnic groups and occupational groups live side by

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side and the consequences of living in different kinds of localities for people's self-definition."  

**The National Institute of Mental Health Grant**

McHarg recounts how in June 1973 he received a telephone call from Richard Wakefield of the Center for Studies of Metropolitan Problems of the National Institute of Mental Health. “He had a proposition. Ecological planning had developed very well and was efficacious, he said, but it concentrated on physical and biological science. Could it not be extended to include social science and people? Moreover, could it not focus on planning for human health and well-being? This seemed reasonable but difficult...Wakefield persisted: surely there were compatible views within the social sciences that could transform ecology into human ecology and enrich planning.”  

Wakefield’s inducement was to offer the availability of a substantial grant.

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271 Ibid., 268. The McHarg-Wakefield connection actually pre-dated the telephone call. Wakefield had received the Master of City Planning degree at Harvard in 1950, studying in the program, headed by G. Holmes Perkins, the same time as McHarg. Wakefield had an impressive history of public service, and when he was appointed to the position of Plans and Process Analyst in the Center for Studies of Metropolitan Problems, the Director of Mental Health Service Programs said that “Mr. Wakefield’s qualifications well suit him for such a position...from his early days in this field he has held a basic interest in and concern for the social implications of urban planning.” I am indebted to Gerald F. Vaughn, who made available an unpublished manuscript, “The Man Behind McHarg’s Human Ecological Planning: Richard P. Wakefield,” (December 2002).
The National Institute of Mental Health was the principal agency in the federal government concentrating on behavioral science and cultural and social problems related to mental health. Consistent with the Institute’s interest, it had funded the establishment of the Center for Urban Ethnography at Penn in 1969, and would now venture into new territory with essential funding to underwrite McHarg’s ecological planning curriculum to develop a capability to explore “the ways that a society thinks and behaves [that] influence human needs and quality of life, especially social processes for the betterment of human health and well-being in the urban setting.” 272

The proposal that was finally submitted to the Institute was predicated on an approach that would extend the physical and biological process model of ecology to embrace a synthesis that would include human cultural traditions and adaptations. In order to find a common denominator that would be the springboard for this latest of interdisciplinary cooperation, according to McHarg, “We determined to use adaptation as the unifying theme.” 273 The grant to the Department of Landscape Architecture and Regional Planning amounted to $500,000 and would be spread over a multi-year period starting in 1974. The grant primarily facilitated expanding the faculty in the Department in order to develop the curriculum in human ecological planning.

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272 Vaughn Manuscript, 4.
273 McHarg, A Quest for Life, 269.
Key Faculty Additions 1973 - 1974

Beginning in 1973 the addition of certain key faculty—with backgrounds in anthropology and regional planning—would begin to build the intellectual strength needed to move into human ecological planning. The first was in 1973 when a recent graduate of the Regional Planning program—Jon Berger (M.R.P. 1972)—was made Lecturer in the Department of Landscape Architecture and Regional Planning. Berger, had a bachelor's degree in history, had served in the Peace Corps in Africa, and would earn the Ph.D in city and regional planning from Penn in 1984. He brought to the Department extensive multicultural field work experience. One of the research fellows at the Penn Center for Urban Ethnography from 1969 to 1973 was Dan Rose, who would receive a Ph.D from the University of Wisconsin in anthropology in 1973. In 1974 Rose accepted an appointment as Assistant Professor in the Department of Landscape Architecture and Regional Planning. Another appointment, made in 1974 was Setha Low. She had an academic background in medical anthropology and would receive a Ph.D from the University of California at Berkeley in 1976. In 1974 Low was appointed Lecturer in McHarg’s department.

Now, with new faculty additions to bolster the social-cultural dimension in the ecological planning program, the progression toward human ecological planning could begin. McHarg’s portrayal of the situation in the Department for the decade beginning in the 1970’s was clear and to the point. “Penn had not only a unique group of physical,
Pedagogical and Practical Underpinnings of the Regional Planning Curriculum

As the curriculum in human ecological planning would begin its development in earnest starting around 1974, it seems valuable to lay out the basic precepts of first the theory and second, the methods of human ecological planning that served as both the pedagogical and practical underpinnings of the new curriculum. In this manner we can begin to understand the evolving relationships between the intellectualizing and the actual—between the world of academe and the world outside—and the varied and multiple elements that would shape the changing curriculum.

I should point out, however, that even though I will discuss the basic elements of McHarg’s prescription—or “model”—for human ecological planning within the 1974 – 1979 time frame it was not so succinctly laid out during this period. McHarg’s first comprehensive published statement defining human ecological planning did not appear until his 1981 article in *Landscape Planning*—“Human Ecological Planning at Pennsylvania.” The second important source, as a complement to this first article, is in McHarg’s autobiography, *A Quest for Life*. However, the following discussion relies on McHarg’s representation of human ecological planning as contained in the 1981 article since it is, in my view, his best statement.

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Defining Human Ecological Planning

McHarg's concept of human ecological planning "is based on the premise that all social and natural systems aspire to success. Such a state can be described as 'syntropic-fitness-health.'" 275 The next step in his "model" is to understand "the process of interaction between the landscape and the people who inhabit it [that] provides a basis for assessing opportunities and constraints afforded by the environment and the needs and desires of the population which can be combined to present alternative futures." 276 The bridge between ecology and human ecology is crucial to place McHarg's definition of human ecological planning in perspective. As he argues, "Ecology has been used to integrate the sciences of the biophysical environment. If we extend ecology by adding ethology, we introduce the subject of behavior as an adaptive strategy." 277 This is further extended to include ethnography and anthropology that permit "the study of human behavior as adaptation. If, finally, we extend into medical anthropology and epidemiology we can close the cycle by examining the natural and human environment in terms of human health and well-being." 278

McHarg linked "planning" to "ecological" so that ecological planning became "an instrument for revealing regions as interacting and dynamic natural systems having intrinsic opportunities and constraints for all human uses." 279 Consequently, "Preferred

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275 "Human Ecological Planning at Pennsylvania" (1981), McHarg and Steiner, *To Heal the Earth*, 142.
276 Ibid.
277 Ibid., 143.
278 Ibid.
279 Ibid.

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hypothetical futures will be proffered by locations where all or most propitious factors exist with none or few detrimental ones for any and all prospective uses.\textsuperscript{280}

When McHarg compounded the term into "human ecological planning" it then expands the region "into a physical, biological, and cultural region [where] opportunities and constraints are represented in every realm."\textsuperscript{281} This is accomplished by identifying "Geophysical and ecological regions...as cultural regions in which characteristic people pursue means of production, develop characteristic settlement patterns, have characteristic perceptions, needs and desires and institutions for realizing their objectives."\textsuperscript{282} The essence of the planning component takes form as "hypothetical future alternatives" that have been derived from expressed needs and desires of people and "are matched against the physical, biological, and cultural resources."\textsuperscript{283} Finally, "Preferred hypothetical futures can be derived for each group with its associated value system."\textsuperscript{284} This, then, became the essential definition of human ecological planning that would be fostered in the pedagogy of the curriculum.\textsuperscript{285}

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\textsuperscript{280} Ibid., 143-144.
\textsuperscript{281} Ibid., 144.
\textsuperscript{282} Ibid.
\textsuperscript{283} Ibid.
\textsuperscript{284} Ibid.
\textsuperscript{285} McHarg did not particularly care for the term, "human ecological planning," reputedly having been proposed by Jon Berger and Dan Rose. The difficulty McHarg had was that he felt that it was a "cumbersome and graceless title." He expressed hope that the "human" descriptor could eventually be abandoned in favor of reverting to "ecological planning." Ibid.
Developing Methods of Human Ecological Planning

The leap forward to fully operationalize specific methods of human ecological planning relied on ascertaining user values, principally people's perceptions. This would be done by doing an ethnographic history of a place. Jon Berger made the following comment. "Ians insisted on using a historical approach. He used to say, 'chronology reveals causality.' To some extent he was right, to some extent he was wrong." 286

Dan Rose and Jon Berger presented their first joint statement setting out this approach in 1974. 287 It was Rose who became the prime intellectual mover to have what he called "environmental anthropology" become fully enmeshed into the theory of human ecological planning. This inclusion would become the chief variable to evaluate and shape the human element of ecological planning. The utilization of ethnography in planning analysis was explained this way. It becomes a technique to gather information about a region by asking questions of ordinary citizens, professionals, businessmen, and so forth. The information received is treated as equally true, no matter who the informant is, and becomes part of a "'folk model,' a summary of the particular respondent's view of the world." Thus, the "planner's expertise consists of assembling and synthesizing more perspectives on reality than anyone else." 288

286 Jon Berger, interview with the author 27 November 2002.
287 Human Ecology In The Regional Plan (Philadelphia: Department of Landscape Architecture and Regional Planning, University of Pennsylvania, 1974).
288 Ibid., 1-18 - 1-19.
In his doctoral dissertation, completed later, Jon Berger would distinguish the primary field techniques to define what he referred to as an environmental ethnography for landscape planning. An "environmental ethnography is a cluster of field techniques to inventory, analyze, and interpret the many cognized models [of the users] of the landscape. It results in an applied field report that synthesizes the scientist's model of the landscape—the operational model—with the user's view of place—the cognized model." 289

There were two projects beginning in 1973 in McHarg's Department that effectuated the theory of human ecological planning and cemented ethnography as the critical field method. In essence, their focus would facilitate the development of field methods and techniques that would have a direct correlation with how the human ecological planning academic curriculum would be shaped. Rose and Berger were the principal investigators in both projects.

1. Hazelton, Pennsylvania

Under the National Institute of Mental Health grant, Dan Rose, in partnership with Jon Berger, began field work in Hazelton, Pennsylvania. Rose was especially interested in explaining what he called "puzzling social phenomena generated by ethnographic

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methods" in a study of a depressed coal mining region in northeastern Pennsylvania that was experiencing full employment during the energy crisis. Although not a planning study per se, several lessons, learned in their field work, can be applied to the utilization of human ecological planning regarding how people interface with natural systems.  

Rose and Berger utilized what they called a “regional human ecological reconnaissance,” that would note the recurrence of various settlement and land use patterns, and perform household interviews to determine how people use their environmental resources on a day to day basis. The goals of the reconnaissance were to map the region as an “interactive-natural social space” and to identify the cultural core, the interface between nature and culture. The important thrust of their work was to “suggest that planning be thought of as a device to alert citizens to the possibilities of creating the kind of environment they want” rather than be confined to a growth model that relies on projecting present economic trends. The underlying premise of this perspective is that “It is at the level of preferences and decisions, not values, that the action of individuals may be empirically predicted.”

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291 Rose and Berger, Human Ecology In The Regional Plan, 1-5 - 1-9.
292 Rose, Energy Transition and the Local Community, 10.
293 Rose and Berger, Human Ecology In The Regional Plan, 1-22.

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2. Kennett Square, Pennsylvania

This was a case study performed in a rapidly growing area of Chester County in Southeastern Pennsylvania. The study team wanted to know "who would be the future users of the land, what would be their needs and desires, and how potential plans could be implemented."\(^{295}\) The approach utilized in Kennett was different from the one used in McHarg's 1974 Medford project. This time, as Berger explained, no reliance was placed on public meetings. More personal and informal discussions took "place in such settings as club rooms of volunteer fire companies, farmer's kitchens, Quaker meeting houses, and so on, leaving formal public meetings as places [solely] for conducting business."\(^{296}\)

The theory of applied human ecology, as subsumed in human ecological planning, was solidified in the Kennett Square project. One important dimension that emerged was that "The applied human ecology approach complements and goes beyond the citizen participation programs employed largely as a result of large Federal programs, including environmental regulations."\(^{297}\) The method that emerged and that would be worked into the teaching in the curriculum had a special strength "in eliciting the interior viewpoint of citizens and identifying the local community as part of a social system adapting to a natural environment."\(^{298}\)

\(^{296}\) Ibid., 184-185.
\(^{298}\) Ibid.
Part of the ethnographic analysis, as the integral component in making human ecological planning work, is predicated on what Rose called the tenuous position of the planner: it is "exacerbated because he has neither a single institutional home base nor an established constituency." Moreover, the planner’s role can be made more effective through an “integrated form of thinking” that understands the working complexity and relationship between natural and human ecosystems. A few years later, Setha Low would summarize the role of ethnography as "a method, and approach and a strategy for dealing with the local community in relation to cultural landscapes." Thus, "it will increase our understanding of that landscape and suggest ways in which that landscape can be interpreted, preserved and maintained.

1974 – 1979 Changing the Curriculum to Human Ecological Planning

An assessment of how McHarg was viewed in his work at Penn during this period was presented this way. “McHarg is a combination of iconoclast, guru, and synthesizer. In the last role, he is probably one of the few genuinely interdisciplinary thinkers around. He has brought an extraordinary range of disciplines into his department....” It was McHarg’s overriding concept of the ecological method more than any other factor, that made the program so important. As an interdisciplinary approach to graduate education.

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291 Ibid., 178-179.
302 Ibid.
this was true, according to Robert Hanna, despite the "incredible internal squabbling among various members of the faculty, suspicions, jealousies, and so forth." 304 He was, according to Nicholas Muhlenberg, "an innovative genius." 305

**Being Interdisciplinary in a Multidisciplinary World**

Jon Berger spoke of the connection between the concepts of interdisciplinary and multidisciplinary as promoted by McHarg. "The curriculum was multidisciplinary, but McHarg was asking the student to be interdisciplinary, that is replicable—it can be done over and over again. Interdisciplinary means that you extract relevant information from multidisciplines, to create something out of the multidisciplines—a picture of a place. This is the crux of the regional planning program. McHarg wanted to be interdisciplinary in a multidisciplinary world." 306 A more specific portrayal of McHarg’s utilization of information and knowledge in this multidisciplinary world, came from Arthur Johnson. "One of the things that I think is a credit to McHarg’s way of looking at it [the various disciplines] is that he pigeonholed everything. To him there was a geologist, a surficial geologist, a soil scientist, a hydrologist, an ecologist, and each of these were pigeonholes, and I don’t think he knew a great deal about what went on inside of these disciplines.

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305 Nicholas Muhlenberg, interview with the author 18 October 2002.

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But, he knew that if a person wanted to understand how natural systems worked, that the way to do that was to tap each of those different disciplines. 307

A more personal reference to the interdisciplinary nature of the program was provided by one of the students—Arthur Palmer, who entered the curriculum when he was sixty-two, had a law degree from Yale, and had been a Special Assistant to the Secretary of War in the Roosevelt administration. Palmer wrote that “One of the many valuable traits of Mr. McHarg and his Department was the creation, through sheer conviction and determination, of an inter-disciplinary competence among his faculty and its associates.… To lift the blinders and have each scientist appreciate the contributions of the other is an exercise in force and diplomacy as well as wisdom.” 308

The most important thrust in making the interdisciplinary approach work in the curriculum dates from the introduction of the Regional Planning program during the 1965 – 1966 academic year. R.P. 501 Regional Planning would become the Department’s foundation course that would later serve, as McHarg called it, the “interdisciplinary studio,” and would be offered for the next two decades. 309 The first modification appeared by the 1971 – 1972 academic year when a new course sequence of 501 and 502 would be established for both the Landscape Architecture and the Regional Planning

308 Arthur E. Palmer. Toward Eden. 196. In his dedication to McHarg, Palmer said that “The experience was one of the most important of my life because of the content of the course, the new way of looking at the world around us, and the experience of participating in McHarg’s thinking and acting.” ii.
programs. The 501 Studio became generally known as the core course that would first provide a base level of knowledge and then proceed to an examination of specific situations or case studies that would apply that knowledge. As the curriculum evolved during the next decade, the core course and its following course were initially titled, for landscape architects: L.A. 501 Workshop followed by L.A. 502 Studio. For regional planners the courses were initially called: R.P. 501 Seminar followed by R.P. 502 Studio. The final evolution in this interdisciplinary emphasis in the curriculum would come in the 1981 - 1982 school year when the 501 Studio would become the “Common Core” for both landscape architects and regional planners. This final iteration will be discussed in Chapter 8.

Some New Pedagogical Engagements

The regional planning degree was becoming “more popular than the M.L.A. as McHarg’s ecology-grounded faculty gained strength; and enrollment of women and foreign students steadily increased.” ³¹⁰ In fact, by the 1975 – 1976 academic year programs in regional planning were offered—in addition to the Department of Landscape Architecture and Regional Planning—in the Department of City and Regional Planning.

³¹⁰ Strong and Thomas, The Book of the School, 254.
During the period that the curriculum changed to human ecological planning two important inclusions in the curriculum materialized that accentuated the transition to human ecological planning: 1) the initiation of a methodology to account for social values as a deliberate part of the design process; and 2) the establishment of a health program in human ecological planning.

1. Social Values in Human Ecological Planning and Design

Setha Low’s course, “Aspects of Community Life” examined “specific subjects such as health, education, cultural ecology and social values....” Its main purpose—as was Low’s role in the Department—was to get social science into landscape architecture in order to understand place. In a sense, this would be a parallel development of inculcating social value perspectives into the design process as the ethnographic methods would be to regional planning.

Several years after Low and Robert Hanna conducted a studio in 1977—a design project that was aimed at renovating the green space and landscape plan at the University—Low would crystallize an approach of using social methods applicable to design projects. Her premise was that “The human ecological approach to planning

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312 President Meyerson had provided funding at the urging of Dean Shepheard and McHarg who created a design team that produced the Landscape Development Plan “that transformed College Green into Blanche Levy Park and created the pedestrian spine of Locust Walk.” Strong and Thomas, The Book of the School, 257.
and design is concerned with the creation of an explicit and replicable method by which to evaluate the sociocultural values of residents of a region.\textsuperscript{313} The result of practicing different methodological approaches brought Low to the conclusion that "design is neither a linear nor an additive sequence but rather a recursive process.\ldots The studio method therefore evolved into a series of recursive stages in which a number of methods and techniques could be employed based on the nature of the site or design problem." \textsuperscript{314}

2. The Health Program in Human Ecological Planning

The notion that health is an important variable in discerning environmental fitness for humans was not a new one for McHarg. In \textit{Design with Nature} he addressed the issue by asking, "Where is the environment of health—physical, mental and social? There is the environment of the creative and the fit. Where is the environment of pathology? There is the environment of the destructive and the misfit, or perhaps better, there is the destructive misfit of social and physical environments." \textsuperscript{315}

Since the grant from the National Institute of Mental Health was "to create a curriculum in human ecological planning directed to human health and well-being," the obvious need would be to include a teaching and research capability in the areas of

\begin{itemize}
  \item[\textsuperscript{314}] Ibid., 138.
  \item[\textsuperscript{315}] McHarg, \textit{Design with Nature}. 188.
\end{itemize}
medical anthropology and epidemiology. With the 1976 – 1977 school year the first course in “Health Planning” was presented in the Regional Planning program, and by the following school year a new concentration defined, “Health Program in Human Ecological Planning.” According to the program’s description a “new health professional, a human ecological health planner” would be trained to understand “health, the environment, and/or the health consequences of environmental and social change.” 316

The thrust of this new program would be aligned with the multidisciplinary emphasis of the Department, and would be “based upon human ecology and medical anthropology, holistic in its integration of natural and social factors and interdisciplinary in its examination of human health strategies as they are mediated by culture.” 317 As such, the program would integrate “an ecological and sociocultural understanding of health with training in the ecological planning method.” 318

Curriculum Additions

Both programs—Landscape Architecture and Regional Planning—saw the addition of new courses by the 1977 – 1978 academic year that began to expand the Department’s offerings under the rubric of human ecological planning and health planning. First, there

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317 Ibid., 34.
318 Ibid., 35.
was the course taught by Setha Low, "Social Organization of Communities," as "The second offering within the anthropological sequence [the first being Yehudi Cohen's, "Man in Adaptation"] for landscape architecture and regional planning students." 319 In addition the health planning concentration was strengthened by two new courses taught by Low. "Anthropology and Community Health" and "Ecology of Health." The former course was designed as a seminar that would emphasize the "sociocultural aspects of the study of health and disease, [the] social organization of health care, social structure and disease, symptom as symbol, and [the] cross-cultural comparison of medical systems." 320 Second, Dan Rose offered three new courses: "Human Ecology," "Theory of Applied Human Ecology," that would focus on "a unified model of man-land relationships." 321 Rose's third course, "Ideas of Social Space." Was aimed at understanding "the way places are used and symbolized." 322 Each of these new courses would contribute to the curriculum in a way that would achieve McHarg's goal of making the transition to human ecological planning complete.

Ominous Portents: Cracks in the Mirror

From Outside The Department

In 1979 Ian McHarg was forced to resign from Wallace, McHarg, Roberts and

319 Ibid., 79.
320 Ibid., 81.
321 Ibid.
322 Ibid.

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From both a personal and professional perspective he wrote, retrospectively in 1996 that it "robbed me of a fascinating practice that I have been unable to resurrect." It was, as he described it, a "major loss," particularly the "wonderful staff who had worked with me for decades. These people were among my closest friends, allies, and colleagues. Together we had developed and applied ecological planning." 

It was widely recognized that "WMRT and the Landscape Architecture Department were largely indivisible. McHarg, [William] Roberts, Narendra Juneja and others moved between the classroom and office, using the University as a platform to formulate and test ideas then applied in the firm’s professional projects and ultimately offered as studios." Anne Spirn assessed McHarg’s role with the firm this way. "For eighteen years, the creative tension between theory as developed at Penn and practice as pursued at McHarg’s firm led to innovations in method. When McHarg’s practice [with WMRT] ended, his ideas and methods, as he articulated them, ossified. But the issues they raise

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323 The events leading up to McHarg’s resignation from WMRT surround a major project that the firm had begun in 1973 in Iran, a plan for an environmental park known as Pardisam. The firm established an office in Tehran, and Narendra Juneja supervised the preparation of the master plan. With the fall of the Shah in 1979, WMRT was not able to collect a substantial fee for consulting services and McHarg was held personally liable by his partners. The events are described in A Quest for Life, 290-296. My focus in the dissertation is not to present the business issues between McHarg and the firm, but rather to concentrate on how McHarg’s leaving the firm impacted the Penn curriculum.

324 McHarg, A Quest for Life, 333.

325 Ibid., 296.

and the challenges they pose are part of his legacy, and they continue to be worked out by others." 327

This event would have significant personal reverberations. As Nicholas Muhlenberg remembered, "McHarg was deeply disappointed by his friend, David Wallace, who he thought would intervene in his favor—he didn’t. Ian became depressed, and that showed in everything—his work, his teaching, his lecturing, the whole thing. That experience pulled the rug from under Ian." 328 From David Wallace, partner and friend, the following perspective was given. "McHarg used the firm and the firm’s projects to advance student work. When he resigned, it [the firm] stopped being a source of power and influence over the students." 329

As the decade came to a close a new Dean would be appointed to replace Peter Shepheard at the Graduate School of Fine Arts. Lee G. Copeland had received both the Master of Architecture and the Master of City Planning from Penn and would serve until the early 1990’s. A public policy shift was, at the same time, beginning to emerge from the federal government. The strong environmental leadership of the 1960’s and 1970’s would be curtailed as new governmental initiatives "encouraged entrepreneurship without

328 Nicholas Muhlenberg, interview with the author 18 October 2002.
329 David A. Wallace, interview with the author 20 December 2002.
either social or ecological responsibility." that inevitably would have an impact on attracting students interested in pursuing ecological planning. 330

From Inside The Department

After Bruce MacDougall left the Department in 1974—the only member of the faculty skilled in doing computerized spatial analysis—several years passed before the curriculum would offer any course in computer mapping or GIS. McHarg was a fervent supporter of improving the computer capability in the curriculum, especially as the hand drawn overlay mapping for suitability analysis was not as efficient or accurate as computer mapping. For at least four, and possibly as much as six, academic years, the Department provided no instruction in computer based spatial mapping. 331

McHarg was constantly on the move, especially during the 1970's, traveling throughout the world giving speeches and on consulting assignments. Yet, his attention to student recruitment and student success in the program was a high priority. "His first loyalty was to the students." according to Lenore Sagan. "The students could do no wrong." 332 However, in the classroom, "McHarg was a terrible teacher. He basically created chaos." remarked Dan Rose. "He taught more by provocation, not by mentoring.

330 Strong and Thomas. The Book of the School, 279.
331 An examination of the GSFA Bulletins for the 1975-1976 and 1976-1977 academic years does list the course that MacDougall taught ("Computer Programming for Spatial Problems"), but no instructor is indicated and I have not been able to ascertain that anyone actually taught the course. For the next four academic years from 1977-1978 through 1981-1982 the Department's course listings do not show any offerings in computer based spatial mapping or GIS.
He would come in [to the studio] with a new idea each week.”  333 Rose continued.

“McHarg worked on two levels: the intellectual and the methodological. It was that middle level—the studio—McHarg didn’t know how to do that.”  334 On the other hand, as Arthur Johnson recalled, “When he lectured he was extremely entertaining and his style never changed. It was a great marketing style [to attract students].”  335

McHarg’s gift as a passionate and persuasive advocate for ecological planning was formidable, and it was this commitment that shaped his mission at the University—to create the multidisciplinary curriculum in human ecological planning. This, of course, he did. In the final analysis, McHarg was a unique blend of theoretician and practitioner, and his contribution, as a teacher, should not, in the usual manner, be judged solely on the basis of classroom performance. Rather, his strength and accomplishment would take shape as the formulator and promoter of an educational curriculum—a curriculum that others would carry.

Dan Rose gave the following account of how McHarg felt about the curriculum. “I asked Ian, ‘you have made a lot of contributions, but what do you see as your most enduring contribution?’ He said, ‘the curriculum in the Department of Landscape Architecture and Regional Planning.’ He saw that as the monument to himself. ‘But,’ I said, ‘curricula are like building your house on sand, because the next generation can

333 Dan Rose, interview with the author 16 January 2003.
334 Ibid.
335 Arthur Johnson, interview with the author 3 December 2002.
come in and modify it.' But, he was adamant about that; he was very proud of his accomplishment." 336

I believe that it is tenable to conclude that as the 1980's began, McHarg had achieved his goal of establishing the human ecological planning curriculum.

As the decade of the 1970's ended Ian McHarg was still pressing forward—consolidating the gains made in the ecological planning curriculum. In 1979, McHarg, along with Arthur Johnson and Jon Berger, published a case study of the Woodlands, Texas new town project—undertaken almost a decade earlier through WMRT—that outlined the entire ecological planning process. Their undaunted conclusion was that "Ecological Planning as it is described here is sound in practice as well as in concept." 337 Nonetheless, signs were surfacing that the human ecological planning program at Penn would soon begin to lose momentum. The single most profound reason would be declining enrollments.

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336 Dan Rose, interview with the author 16 January 2003.
337 "A Case Study in Ecological Planning: The Woodlands, Texas (1979), McHarg and Steiner, To Heal the Earth. 263.
By the early 1980's, the gains that characterized the curriculum's success would be consolidated. But, there were signs that the curriculum was beginning to lose momentum. Change was in the making. In a direct way, changes outside the University would have a decided impact on the human ecological planning curriculum. And, 1985 would mark McHarg's last year as Chairman of the Department of Landscape Architecture and Regional Planning.

Outside Changes Affecting the Curriculum

National Priorities, Market Realities, Student Enrollment and Attitudes

The decade of the 1980's witnessed the shifting of certain national environmental priorities that would have a direct impact on educational programs generally, and specifically, McHarg's very focused ecological planning approach, especially in regional planning. Consequently, four trends emerged and would become the critical external factors that would affect the curriculum: 1) national environmental priorities; 2) the realities of the job market; 3) declining enrollment; and 4) changing student attitudes.

As the environmental thrust of the 1970's had focused on addressing the most obvious manifestations of pollution in the air, water, and on the land, the 1980's would herald in a
different concern. What was now different was that all branches and levels of government
would evaluate "the acceptability of costs associated with environmental protection." 338

Even though environmental issues and concerns would not disappear the new philosophy
promoted by the Reagan presidency firmly established a cost-benefit thinking that would
not only impact regulatory formation and implementation, but also the national
consciousness toward the environment for the next eight years. One very tangible result
of this change was in the job market, primarily for city and regional planners.

In 1981 the renowned 701 local planning program, originally initiated as part of the
Housing Act of 1954 ceased functioning from a lack of Presidential support and
Congressional funding. The same was true for the Section 208 program as part of
nationally mandated area wide water and waste water treatment planning policy. What
had been a lucrative job market for planners throughout the country in local, county, and
state agencies dried up. Additionally, many trained planners, including those coming out
of McHarg's Department, with a strong background in ecological planning, emphasizing
a strong natural sciences base, found shrinking job opportunities.

The new national environmental focus, combined with new economic realities hit
hard, as Dan Rose explained:

With the decline of 208 planning...there was a fundamental shift away
from clean air, clean water to chemistry and law as the dominant professions
that would be running the American environment, from the standpoint of the

perspective of the U.S. government. What it meant then is that there was a complete collapse of jobs in the job market... with a collapse in the demand for regional planners, there was a collapse in enrollment. So, with the shift back to landscape design [in the 1980's] it was brought about by national environmental policies and economics. 339

The "collapse in enrollments." noted by Rose, was typical of what was happening at planning programs throughout the country. As Strong and Thomas observed, "The department [of Landscape Architecture and Regional Planning], as was true of many planning programs, saw a decline in the 1980's in the number of applicants who wished to become planners." 340 Enrollment data have been summarized for each semester (and for most years) between 1967 through 1995 and may be found in the Appendix. The peak years in the Regional Planning program were between 1973 and 1977. By the 1980 - 1981 academic year enrollments were beginning to show a fairly steep decline. 341

With the declining enrollment trend was the changing attitude of the students. Arthur Johnson provided an analysis of this situation. "The students of the 80's and 90's had a different attitude [from that of the students from the] earlier decade. The former group were more motivated to learn. The latter group wanted to acquire the skills that would be marketable to have careers of lifestyle comfort, rather than to change the

339 Dan Rose, interview with the author 14 January 2003. Setha Low's view was similar, but from a different perspective. She felt that "The economic times influence the kinds of projects and the amount of science [that would be] used in design. When the economy really bombed [in the 1980's]... there was a contraction in the public sector and [in] any kind of social methodology and practice. We moved back to Beaux Arts design and art became important." Setha Low, interview with the author 31 January 2002.
340 Book of the School, 282.
341 Enrollment data have been plotted for the years 1967 through 1997 and are shown on Figure 2 in Chapter 10.
system." 342 Jon Berger acknowledged that during the 1980’s, "The students changed. They were less interested [in commitment to the environment] and more interested in making money." 343

Each of these changes, taken collectively, would have a direct relationship to declining student enrollments, particularly in the Regional Planning program, the primary academic purveyor of human ecological planning.

1981 – 1985 Modifying the Pedagogical Statement and Joint Degree Programs

The Pedagogical Statement

As the 1981 – 1982 academic year began, the Department of Landscape Architecture and Regional Planning had radically modified its pedagogical statement—the statement of each department’s philosophy that appears in the graduate school’s Bulletins that explains what the curriculum and related academic engagements are all about. This is the first time since the 1969 – 1970 school year that the Department’s pedagogical statement had been altered, and the alteration was substantial, perhaps, in part, to promote a program that was experiencing declining enrollments.

The statement opened with a tour de force: “The Department of Landscape Architecture and Regional Planning is widely regarded as the pioneer of ecological

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342 Arthur Johnson, interview with the author 3 December 2002.
343 Jon Berger, interview with the author 27 November 2002.
planning and the major center for its continued development."  

The statement continued to make a number of salient points relevant to both landscape architecture and regional planning. The important emphasis was to have each of these elements of the curriculum united and to mutually reinforce the incorporation of human ecology—the most important pedagogical objective.

Furthermore, the statement professed that "The undisputed distinction in ecological planning has overshadowed the department's distinction in design....However, the aspiration is to train informed designers who understand places and people, and look to both for program, plan, design, and form. Human ecological planning is now well developed and assured, [but] ecological design is at an early stage of development. Its evolution is a challenge which faculty and students have accepted as the main thrust in the evolution of landscape architecture." 345 The reinforcement theme, for both disciplines, was that "The underlying assumptions which characterize the department, its teaching, and research are that both landscape architects and regional planners are applied human ecologists seeking to assist individuals and institutions in adaptation; the selection and modification of their environments to enhance their success, health, and well-being." 346

345 Ibid.
346 Ibid.
The pedagogical statement also included a description of the disciplinary affiliation of the faculty that "provides the major explanation for [the Department's] distinction. It is unique in that it comprises physical, biological, and social scientists, architects, landscape architects, and city and regional planners."  

The representation of the faculty, as listed in Table 2, on the following page demonstrates the breadth of the intellectual resources that were involved with the human ecological planning and design programs in the early 1980's. It is important to point out that in 1981 the Department lost Narendra Juneja, one of its principal faculty, and a close associate to McHarg.

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\[47\] Ibid., 23.
Table 2

Faculty in the Department of Landscape Architecture and Regional Planning

1981 – 1982

Ian L. McHarg, M.L.A., M.C.P., Professor; Chairman
Jonathan Berger, M.R.P., Assistant Professor of Regional Planning
David M. DuTot, M.L.A., Lecturer in Landscape Architecture
Carol Franklin, M.L.A., Adjunct Assistant Professor of Landscape Architecture
Robert Giegengack, Ph.D., Associate Professor of Geology
Robert Hanna, B.Arch., M.L.A, F.A.A.R., Associate Professor of Landscape Architecture and Environmental Design
Arthur Johnson, Ph.D., Associate Professor
John C. Keene, B.A., J.D., M.C.P., Associate Professor of City Planning
Narendra N. Juneja, B.Arch., M.L.A., Associate Professor
Setha Low, Ph.D., Assistant Professor
Nicholas Muhlenberg, Ph.D., Associate Professor of Regional Planning
Laurie D. Olin, B.Arch., F.A.A.R., Assistant Professor of Landscape Architecture and Environmental Design
Ruth Patrick, Ph.D., Adjunct Professor of Biology
Stephen H. Putman, Ph.D., Associate Professor of Regional Planning
Daniel Rose, Ph.D., Assistant Professor
Leslie Sauer, B.S., Lecturer in Landscape Architecture
Sir Peter Shepheard, CBE, B.Arch., Professor of Architecture and Environmental Design
Thomas Siccama, Ph.D., Visiting Lecturer in Landscape Architecture
Peter Skaller, Assistant Professor of Landscape Architecture
Nathan Sullivan, M.L.A., Lecturer in Landscape Architecture
Anthony J. Walmsley, B.Arch., M.C.D., M.L.A., Associate Professor of Landscape Architecture

When Juneja died suddenly in 1981 not only did the curriculum lose one of its most respected and strong advocates, but McHarg was greatly moved. He thought of Juneja as "my good right hand. We developed a deep affection and marvelously complementary

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roles. Narendra knew what I could do, what I could not, and what he could do or cause to be done. It was a most gratifying relationship...never to be replaced." 349

Joint Degree Programs

One area that the Department consciously expanded into in the 1980’s was the creation of a joint degree program, with other disciplines. The goal was to provide a greater flexibility for students majoring in either landscape architecture or regional planning to broaden their matriculation in allied specializations. It could be speculated that an additional reason for expanding the curriculum in this way was to face the reality of declining enrollments. Under this assumption practical necessities of keeping the Regional Planning program functional was to open up joint degree opportunities.

Aside from the “Health Program in Human Ecological Planning,” offered within the Department of Landscape Architecture and Regional Planning, joint degree programs were offered in three additional areas. One of those, a joint program between McHarg’s department and the Department of Architecture had been established for some time. Additionally, although not a joint degree program, the Department of City and Regional Planning admitted students from McHarg’s Regional Planning program to pursue the doctorate.

349 McHarg, A Quest for Life, 218.
During the 1982–1984 school years two new joint degree programs were formally announced. One joined regional planning with civil engineering. The emphasis of the program was on environmental planning and environmental engineering, with John D. Keenan as program advisor. The second was called “Regional Planning and Law,” and cooperated with the Law School. The program advisor was John C. Keene, from the Department of City and Regional Planning. The program statement indicated that “Environmental law is now a significant specialization and exponents who combine the scientific expertise contained in the Regional Planning program with competence in law confront a challenging and fruitful career.” Unfortunately, the “Regional Planning and Law” program only attracted a few students.

During the school years 1984–1986 the curriculum in the Department was consistent with the previous period (1982–1984), and the gains that had been consolidated remained virtually intact.

The Emergence of the 501 Studio: The “Backbone” of the Curriculum

The primary educational vehicle for human ecological planning in the Department would become the studio. Its importance as the primary educational thrust of human ecological planning would be imbued with many strengths—and weaknesses. It has been

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351 Ibid.
written that "The studio was largely abandoned in American planning education during the 1960's, but was retained at Pennsylvania in regional planning, as well as in city planning and urban design...the workshop format involves 'learning by doing' and should not only be retained but emphasized in an applied field like planning." 352

The 1981–1982 school Bulletin presented the complete infusion of ecological planning in both the Landscape Architecture and Regional Planning programs this way. "All students who join the department are required to take L.A/R.P. 501, a studio in human ecological planning. This consumes half of the student's time in the first term and will introduce the theoretical basis employed by the department and demonstrate its application to a planning process." 353 The Workbook used in the 501 Studio in 1981 explained that the purpose of the studio was "to define core values on the landscape. The focus will be on natural processes and social processes. No law, economics, or design will be taught" 354 [Emphasis in original]. So, the 501 Studio was envisioned to acquaint all students with the basis of the ecological inventory.

352 Steiner, Young, and Zube, "Ecological Planning: Retrospect and Prospect." 37.
354 Workbook: Core Course LARP 501 (Department of Landscape Architecture and Regional Planning, University of Pennsylvania, Fall 1981), 1.

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Structure and Reorganization

With Juneja's death, Jon Berger was approached by McHarg and told to re-organize the studio, as a “Common Core” that would be required for both landscape architects and regional planners. Berger had a reputation for being assertive, brash, a strong supporter of McHarg and ecological planning, and he was bright. He brought a “crew boss attitude to running the studio; he knew how to get a project from the start to the end,” according to Dan Rose, the close colleague with Berger who played a major role in teaching the studio.355 The full faculty who taught the “Common Core,” the 501 Studio, included Berger, Robert Geigengack, Johnson, McHarg, Muhlenberg, Rose, and Jorge Sanchez-Flores.

In Rose’s view, it was at this time that the interdisciplinary approach in the curriculum was finally cemented by the full “integration of field work with academic work.”356 But, the studio would continue even though the “first time around” was difficult. Berger admitted, but improved in the second year. As he later recalled, “501 was the backbone of the curriculum, but there was never any focus; the rhetoric far surpassed the reality.”357

Arthur Johnson provided extensive remarks about the 501 Studio, which he said was designed “to teach concepts.”358 Johnson believed that the studio experience worked

355 Dan Rose, interview with the author 16 January 2003. After Berger resigned from Penn in the 1982-1983 school year, Frederick Steiner became the Studio coordinator for a year, and then McHarg assumed leadership again. McHarg, A Quest for Life, 226.
356 Ibid.
357 Jon Berger, interview with the author 27 November 2002.
358 Arthur Johnson, interview with the author 3 December 2002.
very well for students who were eager to learn, especially those who did not have a strong background in the natural sciences. But, the key to the evolution of the studio, and the experience it would provide was McHarg's notions of teaching and learning. Johnson gave the following explanation, which he believed is an important dimension in how the core curriculum took shape. "McHarg did not differentiate very much between teaching and learning. They are very different things; that students learn by doing, by listening; they learn by making maps, by seeing things. Teaching is where a person goes through a bunch of things, and the student is supposed to learn what the teacher teaches. To a certain extent the 501 [Studio] was a reflection of teaching." 359 Johnson's assessment could be interpreted as a criticism—that the emphasis on teaching in the Studio impeded learning.

What the 501 Studio did was create a kind of intellectual tension. As Johnson pointed out, "501 taught them [the students] what information to use for planning purposes; courses allowed them to learn about a subject matter and to learn how the pieces fit together." 360 The logic of such an approach could be questioned, since one could argue that course work, as the purveyor of knowledge, ought to proceed the application of that knowledge. One could ask, how can you apply a supposed body of knowledge that, practically and intellectually, one does not have? Johnson gave the following reasoning to that question.

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359 Ibid.
360 Ibid.
From a purely logical point of view you might say that it is better to know something before you start to use the information. But, human brains do not work in a linear fashion. You can always go backwards and forward; and you can go back many years and retrieve important concepts and apply them today. And, as long as you are in touch with the information you can keep your brain running. You can learn, over the course of a semester, the principles that you applied before you really knew what you were doing. You can do that, and it comes out o.k. 361

Following the "Common Core" 501 Studio, the landscape architects proceeded in the next semester to L.A. 502, taught by McHarg. John Coe. Hanna. Low. Muhlenberg, and Anthony Walmsley. The course was described, in part, this way. "The second semester of the initial year sees the landscape architects and the regional planners sharing common lecture courses but having independent studios. The differences are principally a matter of scale and emphasis." 362 The distinction was made that regional planners "work on larger scales and utilize a higher discrimination of scientific data than do the landscape architects." 363

Concomitant with the initiation of the 501 Studio, as the "Common Core," was the restructuring of the curriculum in both landscape architecture and regional planning to reshape the courses of each of the programs as "modules." following from the "Common Core." According to Nicholas Muhlenberg, "it was a period of experimentation: people were trying different things, and many times, nobody knew what they were doing." 364

361 Ibid.
363 Ibid.
The modules would continue into the near future as the structural integration of the curriculum.

**More Inventory Than Planning?**

At the very heart of ecological and human ecological planning is the ecological inventory. This matter was reviewed in Chapter 3 in presenting various critiques that have addressed McHarg’s explications on this distinction. In that discussion the evidence is convincing that McHarg made a clear distinction between *inventory* and *planning*, and that inventory must precede planning. Therefore, the parameters that he established were to do the ecological inventory first and then do ecological planning. However, in such a schema—especially when it becomes a usable method in actual projects—one could argue that the planning element does not really become a creative exercise in the allocation of land use patterns. Rather, planning would become a perfunctory activity that requires no particular skill, since the inventory will in effect determine the plan. Or, in another sense, the inventory, by its very determination of the most propitious areas for development, becomes a substitute for the plan. It cannot be dismissed that this, in fact, could be the case.

The main issue to explore within the focus of the dissertation is the relative degree of importance accorded inventory and planning, and what level of strength each was given in the curriculum. The question to address than is ‘was the ecological and later human ecological planning more inventory than planning?’ The answer can be found by
reviewing how the 501 Studio, called by Jon Berger, "the backbone of the curriculum." was presented. ³⁶⁵

To begin, I have reviewed the Department's pedagogical statement at the time when the ecological planning curriculum was firmly established in the regional Planning program by the 1969–1970 academic year. At this time, the direction that the inventory-planning interface would take was established—the natural sciences and the planning process would be integrated through the principles of ecology. ³⁶⁶ In the Department's sequence of course offerings, Regional Planning (R.P.) 503 would involve "Elementary exercises..., emphasizing the use of natural science techniques in the planning synthesis: data are generated for use in planning decisions." ³⁶⁷ [Italics added] This was followed by R.P. 512. Case Studies in Regional Planning, that would be a "Review and analysis of regional planning activities, giving special attention to methods of implementation." ³⁶⁸ [Italics added]

At the next level in the course sequence, R.P. 601 Regional Planning, would cover the following. "Regional plans are made for more complex areas in studies utilizing the joint

³⁶⁵ Jon Berger, interview with the author 27 November 2002.
³⁶⁶ The pedagogical statement is found to contain two points that are at the base of the direction of the curriculum. First, it was said that "There is an urgent need at the moment for the contribution of natural science planning as an enlargement and compliment of the planning process." Second, it was stated that "We need more and better knowledge of the operation of the physical and biological process in order that we may predict and formulate choice." [Italics added] "Graduate School of Fine Arts. 1969-1970," University of Pennsylvania Bulletin LXIX: 5 (November 1968): 39. ³⁶⁷ Ibid., 68. ³⁶⁸ Ibid.
skills of natural sciences, within the perspective of the social sciences...." \[^{369}\] [Italics added] A second course, R.P. 602 Regional Planning would engage the following activity. "A \textit{Joint regional plan is made} for an extensive area...each student's work is reviewed as an individual \textit{terminal project within the perspective of the general plan}." \[^{370}\] [Italics added]

It is clear that in the original design of the ecological planning curriculum that inventory and planning would be two distinct steps, the latter building on the former. But how did those distinctions fare over time? By the 1973 – 1974 school year a "Plan of Study" was set out in the Department's description of the "Ecological Program in Regional Planning." The study plan outlined the requirements for the degree that would include an understanding of the "principles of geology, ecology, and the planning method, and demonstrate this understanding with case studies." \[^{371}\] [Italics added] This was the academic year identified in Chapter 7 as the transition period when the ecological planning curriculum was moving towards human ecological planning. Course offerings were now modified. R.P. 501 became a "Seminar," and R.P. 502 became a "Studio," being described as "\textit{Exercises in planning} are conducted, emphasizing the various natural science techniques in the planning synthesis." \[^{372}\] [Italics added]

\[^{369}\] Ibid.
\[^{370}\] Ibid.
\[^{372}\] Ibid., 61.
By the 1977–1978 academic year the course sequences for both Regional Planning and Landscape Architecture were on a parallel track. The Regional Planning Seminar and Studio sequence would coincide with the Landscape Architecture course sequence of L.A. 501 Workshop that would “Analyze sites … [using] the human ecological planning method.” The final adaptation came as discussed earlier in this chapter in the 1981–1982 school year when L.A./R.P. 501 became the “Common Core” studio for all students entering to study either program, Landscape Architecture or Regional Planning.

With the fusion now complete, the “Common Core” of the curriculum was set to engage both inventory and planning, but in varying ways. According to Arthur Johnson, “The preparation of the inventory became the heart of the studio: six weeks for natural features, six weeks for the cultural analysis, and three weeks to manipulate the information to do the suitability analysis.” While it is accurate to say that the “Common Core” was confined to ecological inventory and analysis, there was no planning introduced until the next course in the Regional Planning sequence, R.P 502 Regional Planning Studio, where “students undertake a complex planning problem which draws upon the data and method employed in L.A./R.P. 501, but augments this with

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374 Arthur Johnson, interview with the author 3 December 2002.
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considerations of law and implementation." For the first (and only) time the Regional Planning faculty consisting of Berger, Johnson, and Rose was augmented by John C. Keene from the Department of City and Regional Planning. Keene, who had a law degree from Harvard and the M.C.P. from Penn, brought an important capability to the teaching team in land use and environmental law.

The description of the “Common Core” that appeared in the 1982 – 1984 Bulletin gave a revised and expanded description, this time incorporating as one of the engagements a planning element. Now the “Common Core” was explained as including three distinct tasks: first, there would be “a comprehensive examination which focuses on the interactions within natural systems, their evolutionary history, and their dynamic tendencies.” This would take the form of a “method” that would be applied to actual sites. Second, the “human ecology” element is introduced so that a “systematic relationship” can be understood between “place-work-folk.” This would be achieved through an “ethnographic history.” Finally, “The common experience concludes with a planning problem...[that] consists of locating the objective, whether housing, a park, sewage treatment plant, or other facility, so as to utilize all or most of the propitious factors on the site and none or few detrimental ones.”

So, was there more inventory than planning in the 501 Studio. The answer is yes, but

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376 “Graduate School of Fine Arts, 1982-1984,” 16.
the evidence demonstrates that the inventory did precede planning, and planning was not entirely eschewed either in the “Common Core” or in the curriculum. True, for the first school year that it was presented (1981 – 1982), the Studio was described as essentially involving an inventory. But, by the following academic year (beginning in 1982) the planning element took on a more pronounced role in the Studio, and became the third in a series of three tasks.

A Significant Inadequacy: Lack of GIS Support

The 501 Studio, during the school years 1982 –1984 school years, saw computer based spatial analysis re-emerge in the curriculum ending its hiatus since Bruce MacDougall had left in 1974. This time, the subject was taught in the 501 Studio by Jorge Sanchez-Flores, a recent Penn graduate (M.L.A 1980 and M.R.P. 1981). By the 1986 – 1988 academic years John Radke would present a separate course, “Computer Graphics,” in the Regional Planning program, and later would teach the first course with GIS in its title. McHarg was highly laudatory of Radke’s capability and contribution. He felt Radke “engaged with great success in developing computerized ecological planning. Unfortunately, this paragon was little appreciated by Penn, and he was seduced to Berkeley and given appropriate salary, status, and lab.”  

McHarg’s comment about Radke highlights a major obstacle he faced— receiving sufficient financial support from the University to build a state of the art computer

177 McHarg, A Quest for Life, 367.
capability to produce spatial graphics and GIS. The technology in the early 1980's was making enormous advances that had the potential to improve the reliability, speed, and accuracy of manipulating inventory data, the basis of ecological planning. Nicholas Muhlenberg bemoaned the fact that "There was a lack of support from the Administration to provide funding and space for computer hardware. The Administration just didn’t want to get involved with an expensive undertaking." 378

Producing the "Renaissance Man"

When the Graduate School of Fine Arts released its Bulletin covering the academic years 1982 – 1984 the Common Core. L.A.R.P. 501 was described as "the foundation for all subsequent instruction. It receives a large allocation of faculty and makes serious demands upon the students who participate. The objectives are original and challenging and the experience is unique." 379

To a large degree, the 501 Studio would become emblematic of the totality of the educational experience that McHarg proffered the students. After all, this was not an ordinary curriculum; and the master was not an ordinary man. As such the students should be characteristic of the traditional disciple. According to Ann L. Strong, "McHarg

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379 "Graduate School of Fine Arts, 1982-1984," 16.
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only wanted his followers in the program." 380 Yet, it was more complex than that.
Nicholas Muhlenberg focused on a deeper motivation. "There was an intent on Ian's part
to produce the 'Renaissance man,' and it was successful to a degree, but it didn't work
entirely." 381

**Losing the Momentum: Dilemma and Change**

The growth of McHarg's multidisciplinary human ecological planning program in the
Department of Landscape Architecture and Regional Planning seems to have reached its
peak somewhere between 1980 and 1981. Both during and after this time a number of
factors and indicators would portend a loss in momentum for the curriculum

**A Dilemma Surfaces in the Landscape Architecture Program**

With the 1980 – 1981 academic year the program in Landscape Architecture was
expanded to include "four major subject areas," that was intended to relate the design
emphasis to a human ecological planning component. The program was constructed to
include the physical sciences, biological sciences, social sciences (notably ethnography
and anthropology), and finally, history and theory. Effectively, "All of the sciences of the
environment become the basis for planning and landscape architecture design." 382 Robert
Hanna, a key member of the landscape architecture faculty, pointed out that one of
McHarg's concerns was that "Urban design had failed because it never considered the

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381 Nicholas Muhlenberg, interview with the author 18 October 2002.
natural environment of cities. Ian was so absolutely right, it’s just architecture. It has nothing to do with the organic nature of cities and people, and how they interact."  

In a way, the overriding reality was that McHarg had finally succeeded in fashioning the landscape architecture curriculum to integrate a natural sciences and social sciences perspective with a design approach. However, there would arise one major difficulty that would preclude the curriculum’s full effectiveness in educating future landscape architect practitioners.

Robert Hanna reminisced that he was hired “to bring a balance between planning and design.” and that “one of Ian’s ambitions was to create something in the Department that had to do with ‘adaptive architecture’—that was truly responsive to content and other natural factors. We never quite brought that off.”  

However, Hanna continued. “McHarg really had the best department of landscape architecture in the world. It was largely because of the marriage of the scientifically oriented curriculum and some pretty good planning and design instruction.”  

G. Holmes Perkins was unequivocal in his

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384 Ibid.  
385 Ibid.
view that “McHarg rescued landscape architecture as a profession.”

McHarg was very clear that the curriculum in landscape architecture should follow an “evolutionary process.” That process, as he described it, would contain four steps and would “begin with the recognition of the extraordinary accomplishments of the eighteenth-century landscape tradition, the transformation of an entire countryside, and its development in the nineteenth-century United States with the powerful contributions of Olmsted and Eliot.”

The next step “saw ecology embraced as the scientific and philosophical basis for the profession. This involved no repudiation of the historic examples: the eighteenth century had employed a rudimentary but effective ecology.”

The third step he called the “next great leap...which led to the expansion of ecology to include people, human ecology.” Finally, continuing the “circular quest is to develop ecological design. Parallel to these advances has been the effort to develop computerized ecological planning and, ultimately, design.”

By his own admission, ecological (or more properly, human ecological) design never achieved the success that human ecological planning did in the Regional Planning

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386 G. Holmes Perkins. Interview with the author 15 October 2002.
388 Ibid., 198.
389 Ibid.
390 Ibid.
program, even though the Department “had a design faculty beyond compare.” Such a situation posed a dilemma for the Landscape Architecture program. Setha Low, who brought the human-cultural emphasis to the Landscape Architecture program, offered the following reason.

I had to take human ecological planning to the design level, which was different than the planning level. The reason that it did not work as successfully in landscape architecture as it did in regional planning was scale. I think we were doing it, but it’s harder at the level of design to see the kinds of impact and trends that Jon [Berger] and Ian were able to see in the geomorphology—in the larger landscape.

Low reiterated that the great difficulty that the landscape architects had, in accepting human ecology precepts in contrast to the regional planners, especially in their field work the applied aspect of the curriculum), really arose out of the perspective that each had, which was different. She continued. “When the application is at the level of a house garden, it is much more difficult to see the larger ecological trend. We were, conceptually, doing ecological design, but it was much harder to demonstrate it with clarity.” In essence, what Low’s comments illustrate is that the theory was sound, but in practice there was an inevitable breakdown—a human ecology element, as envisioned by McHarg in the curriculum, just did not work at the scale of a small site.

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391 Ibid., 229. McHarg acknowledged Sir Peter Shepheard, Robert Hanna, Laurie Olin, Carol Franklin, Jon Coe, Anthony Walsley, A.E. Bye (an annual visitor), and, of course, himself.
392 Setha Low, interview with the author 31 January 2003.
393 Ibid.
Phasing Out of the Center for Ecological Research in Planning and Design

The Bulletin for the Graduate School of Fine Arts in 1980 – 1981 showed that the faculty of the Center represented the variety of multidisciplines that were the hallmark of the curriculum. McHarg assumed the directorship with Joachim Tourbier (a graduate of the Landscape Architecture program) as Director of Research.394 Continuing as the research arm of the Department of Landscape Architecture and Regional Planning, the Center’s four “most recent projects” included: 1) an ecological inventory for Buckingham Township, Pennsylvania; 2) the Medford study (discussed in chapter 6); 3) the International Conference on Biological Water Quality Improvement Alternatives of 1975; and 4) the development of a methodology for coastal zone management for the State of Delaware.395

By the following school year the Center listed “several long-term research projects in planning and the natural sciences.” These included studies ranging from acid rain on forested ecosystems in the Northeast to the phytosociology of gypsy moth infestation on sprayed and unsprayed forests, on the natural science side. The social scientists were evaluating future land use and resource utilization in the New Jersey Pine Barrens to the cultural effects on land use patterns in the Brandywine Basin of Pennsylvania and

394 “Graduate School of Fine Arts, 1980-1981,”25. Other faculty with their specializations included: Ruth Patrick (limnology), Robert Giegengack (geology), Nicholas Muhlenberg (resource economics), Narendra Juneja (landscape architecture), Arthur Johnson (soils), Peter Skaller (plant ecology), Dan Rose (ethnography), Setha Low (medical anthropology), and Jon Berger (regional planning).

395 Ibid.
Delaware. In 1981 Dean Copeland created the Center for Environmental Design and Planning, which "was created to expand research and opportunities for the faculty and students of the Graduate School of Fine Arts." With the establishment of this new center, to serve the research pursuits for all departments in the graduate school, McHarg's Center for Ecological Research in Planning and Design was phased out.

During the first half of the decade of the 1980's a number of factors affected the curriculum, as it continually adjusted. As 1986 began, yet another significant change would take place, this time within the Department of Landscape Architecture and Regional Planning. Chapter 9 will describe this change and the final period in the evolution of McHarg's human ecological planning curriculum.

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CHAPTER 9

PHASING DOWN OF THE HUMAN ECOLOGICAL PLANNING CURRICULUM

AND

THE RETURN TO TRADITIONAL ROOTS

1986 – 2000

This chapter is divided into two parts: the first covers the period between 1986 and 1993 and includes the tenure of Anne Whiston Spiri, who succeeded McHarg as Chairman of the Department of Landscape Architecture and Regional Planning. During this period the ecological planning emphasis in the Regional Planning program went through a considerable phasing down. The phasing down was somewhat inevitable as resource scarcity and declining student enrollments had an increasing impact on the continuation of the human ecological planning curriculum. The second part of the chapter will cover the period from 1994 to 2001 during which time the Department significantly revised the curriculum and returned to the traditional roots of landscape architecture. The resultant effect was that after 1994 the Human Ecological Planning curriculum in the Graduate School of Fine Arts was eliminated. One unavoidable issue that would factor into the Department's revised—or as it was called, the "new curriculum"—was that landscape architecture, as a professional discipline had to maintain its accreditation at Penn. In order to do so, the Department gave priority to its master of Landscape Architecture program with respect to course offerings, allocation of resources, and appointment of faculty.
This chapter will complete the chronology of the lighting and the carrying of the torch of Ian McHarg's ecological planning curriculum at the University of Pennsylvania that began in Chapter 5. An analysis of the factors and reasons for the curriculum's decline and ultimate discontinuance will be presented in Chapter 10.

**McHarg Resigns as Chairman**

On November 20, 1985, Ian McHarg received a letter from Dean Copeland, "observing that at sixty-five I must resign my role as chairman. I had founded the department in 1955 and had been its chairman for thirty-two years [sic]...I saw the role as the instrument for leading growth and development: it was not a chore, rather, my life's work. But it must end." 398

McHarg spent the next year on a sabbatical leave at the University of California at Berkeley, only the second time he had taken a sabbatical—the first being when he wrote *Design with Nature*. When he returned to Penn, now as Professor in the Department of Landscape Architecture and Regional Planning, the curriculum was already beginning to show modification. When asked how the resignation was felt, Nicholas Muhlenberg replied. "What was lost was the spark that Ian provided and the bold concept that he envisioned." 399

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399 Nicholas Muhlenberg, interview with the author 18 October 2002.
1986 – 1993 A New Chair, A New Emphasis

Anne Whiston Spiri was hired away from Harvard's landscape architecture program to become the new Chair of the Department. She had been a student in McHarg's Landscape Architecture program receiving the M.L.A. in 1974. She then worked on a number of projects in the consulting firm, Wallace, McHarg, Roberts and Todd. Strong and Thomas described her professional and intellectual background as follows. "While Design with Nature introduced her to the full scope of the profession of landscape architecture, her own conception of nature and art had been developing through her study of literature, philosophy and art history." 400

As Anne Spiri took over as Chair a modified direction for the curriculum would begin to emerge. Two observations in this regard provide an insight to what would happen. Lenore Sagan described Spiri as "A very strong person, very bright; but, she wanted to do her own thing." 401 Robert Hanna explained one particular focus that Spiri brought to the Department, is in marked contrast to McHarg. "Anne made a genuine effort to sustain the ideals and philosophy that Ian had established. But, Anne's side of it was to do for the urban what Ian had done for the regional." 402

400 Strong and Thomas, The Book of the School, 264.
Spirm's interest was best illustrated through her important contribution to the planning and design literature that had been published just a little more than a year before she became Chair of the Department. In *The Granite Garden*, she said, "As a landscape architect and environmental planner, I was trained to design new communities that accommodate both human purpose and natural processes. However, it seemed contradictory to be so concerned with the integration of nature and human activities at the edge of the city and so little concerned with the reclamation of damaged land at its center." 403

The new emphasis in the Department was best demonstrated by a new course offered in the Landscape Architecture program during the 1986–1988 school years. Taught by Spirm, "City and Nature: Natural Processes. Human Purpose and Urban Form." would explore "the interplay between city and nature. It examines historic tradition, current practices, and potential future directions for urban nature and human design." A new avenue was now open—not to abandon ecological planning—but to realign it within an urban context.

The "Two-Headed Hydra"

On the surface, one change that appeared in the *Bulletin* for the school years 1988–

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1990 could be interpreted as rather innocuous. However, a deeper reading would suggest that it would become a subtle symbolic indicator of certain ramifications of a growing creative tension between the new Chair and McHarg.

For many years the *Bulletins* of the Graduate School of Fine Arts did not contain any photographs of people or places on campus—until the 1975 – 1976 school year. The *Bulletin* covering that period contained, for the first time, photographs of people and places. There was, for example, a full page image of Dean Peter Shepheard that followed the title page. There was also a half page “action shot” of McHarg working with a student over a drafting board appearing in the section that presented the Landscape Architecture program.

In the next *Bulletin* (1976 – 1977) a full page photograph appeared showing Robert Hanna, McHarg, and Nicholas Muhlenberg in a contemplative pose as reproduced in Figure 1. In subsequent *Bulletins* this photograph would be accompanied by the following caption: “Ian McHarg, Chairman, Department of Landscape Architecture and Regional Planning, helps graduate students wrestling with planning problems.”
This image served a more significant role than just being a picture with McHarg in the foreground, overshadowing his colleagues. It was a conscious and dramatic reminder as to who was in charge. This photograph would appear in every Bulletin for the next decade, until it was dropped from the 1986 – 1988 Bulletin.  

Not being in charge was difficult for McHarg to accept. Dean Perkins remarked that the program [in ecological planning] declined "when he was not in control any more. The people who took over did not have the vision. The dynamic feel of McHarg and his

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405 The picture would reappear again in the 1993 – 1995 catalogue of the Graduate School of Fine Arts, this time in a gallery format that highlighted the history of the School and included, among others, Lewis Mumford, Louis Kahn, Edmund Bacon, and Martin Meyerson.
passion were not carried on.” 406 The synergism that had evolved in the Department had perhaps been taken for granted by some and not understood by others. It was a synergism that had become manifested through an interweaving of forces—an exemplary multidisciplinary faculty, bright and inquiring students, and an intellectually stimulating environment that pushed everyone to new heights of exploration and creative achievement. At the top, of course, was Ian McHarg, ruling over a domain of his own making. It was his passion and commitment. But, after 1985, it would be no more.

Both McHarg and Spírín, each in their own way and style, were engaged in accomplishing something meaningful. Inevitably, there was a creative tension that emerged, as Nicholas Muhlenberg explained. “Spírín had a strategy to change the program, even though Ian came in [to classes] to give pep talks. She never had the spark that Ian had. She was fighting Ian and trying to get the reins; and Ian was grabbing them back. The Department was like a two-headed hydra!” 407

The Curriculum

Neither the Landscape Architecture nor the Regional Planning program changed significantly during the 1986 – 1988 period. In fact, the pedagogical statement remained virtually intact (with only some minor editorial changes), and the “Common Core,” the 501 Studio, stayed the same as before.

407 Nicholas Muhlenberg, interview with the author 18 October 2002 and follow-up 7 February 2003.
For the first time, two "certificate programs" were added to the Landscape Architecture curriculum: One would be a Master of Landscape Architecture with a Certificate in Historic Preservation and the other would be a Master of Landscape Architecture with a Certificate in Urban Design. 408 In addition, a certificate program was being developed in Regional Planning, and would open up expanded opportunities in Energy Management, Appropriate Technology, Urban Design, and Historic Preservation. 409 A new joint degree program was presented during the 1986–1988 academic years this time combining Landscape Architecture and Regional Planning. This would be in addition to the already existing "joint degree programs" between Regional Planning and Civil Engineering and Regional Planning and Law. Moreover, the "Health Program in Human Ecological Planning" was continued under Setha Low.

In the Regional Planning program, the "program advisors" were listed and included Robert Giegengack, Arthur Johnson, Setha Low, Ian McHarg, Nicholas Muhlenberg, Dan Rose, James Thorne, and Anne Spirn. 410 In Regional Planning, the courses underscoring "Human Ecology," as well as "Applied Human Ecology," and "Ideas of Social Space," were continued by Dan Rose. The human ecological planning emphasis remained intact. Table 3 lists the faculty in the Department of Landscape Architecture and Regional Planning during the 1988–1990 academic years.

409 Ibid., 31.
410 Ibid., 30.
Anne Spirn was adamant that “Ecological planning would not decline on my watch.”  

And, within three years after assuming the Chair she proclaimed that the Department’s leadership “in the nation and the world...can be attributed to a particular curriculum and research program that was interdisciplinary and action-oriented, based on the philosophy of environmental stewardship, and to a series of teacher-practitioners who gave reality to those ideas through professional projects that became landmarks for the profession.” However, there were signs during 1988 – 1990 academic years that certain modifications in the curriculum were taking place that would suggest a phasing down of the human ecological planning program, or at the very least, a dilution of its once prominent position in the Department.

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411 Anne Whiston Spirn, interview with the author 13 December 2002.
412 Strong and Thomas. The Book of the School, 282.

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Table 3

Faculty in the Department of Landscape Architecture and Regional Planning

1988 – 1990

Anne Whiston Spira. A.B., M.L.A., Professor of Landscape Architecture and Regional Planning:
Chair, Department of Landscape Architecture and Regional Planning.
Sally Anderson, A.B. Geology. Lecturer.
Ignacio Bunster, B.Arch., M.L.A., Lecturer.
David DuTot, M.L.A., Lecturer.
Carol Franklin, M.L.A., Adjunct Associate Professor of Landscape Architecture.
Susan Rademacher Frey, B.A., Lecturer.
Robert Giegengack, Ph.D., Professor of Geology.
Kathryn Gleason, B.L.A., M.L.A., Assistant Professor of Landscape Architecture.
Robert M. Hanna, B.Arch., M.L.A., F.A.A.R., Associate Professor of Landscape Architecture.
Arthur Johnson, Ph.D., Professor of Regional Planning and Geology.
John Keenan, Ph.D., Associate Professor of Civil and Environmental Engineering.
John C. Keene. B.A., J.D., M.C.P., Professor of City Planning.
William Klein, Ph.D., Adjunct Professor of Landscape Architecture.
Setha Low, Ph.D., Associate Professor of Landscape Architecture and Regional Planning and Anthropology.
Ian L. McHarg, M.L.A., M.C.P., Professor of Landscape Architecture and Regional Planning.
Nicholas Muhlenberg, Ph.D., Associate Professor of Regional Planning.
Ruth Patrick, Ph.D., Adjunct Professor of Botany.
Stephen H. Putman, Ph.D., Associate Professor of Regional Planning.
John Radke, Ph.D., Research Assistant Professor of Regional Planning.
Daniel Rose, Ph.D., Associate Professor of Landscape Architecture and Regional Planning.
Leslie Sauer, B.S., Adjunct Associate Professor of Landscape Architecture.
Sir Peter Shepheard, CBEB.Arch., Professor Emeritus of Landscape Architecture and Environmental Design.
W. Gary Smith, B.S., M.L.A., Adjunct Assistant Professor of Landscape Architecture.
David Stonehill, Ph.D., Adjunct Professor of Landscape Architecture.
James Thorne, Ph.D., Assistant Professor of Regional Planning; Assistant Chair. Department of Landscape Architecture and Regional Planning;
Joachim Tourbier, M.L.A., Lecturer.
Anthony Walmsley, B.Arch., M.C.D., M.L.A. Assistant Professor of Landscape Architecture.

A major change was that the Health Program in Human Ecological Planning ended after Setha Low left the University in 1988. Also during this period there was no longer a separate listing of courses for landscape architects and regional planners—all courses in the Department were combined under one heading, “Landscape Architecture and Regional Planning.” The 501 Studio (or “The Core,” as it was now called) remained, as well as the array of natural, physical, and social science courses. The first course specifically titled “Geographical Information Systems” was taught by John Radke, that would be “the topic of spatial analysis where both theory and application are explored.” 414

McHarg was scheduled to teach several courses including LR 501 “The Core” (taught in the fall semester): two modules of 501, one being “Introduction to Ecological Planning and Design” (fall semester) and the other, “Case Studies in Ecological Planning and Design (fall semester): a new course was added for the spring semester. “Theory,” with the objective “to produce a tentative theoretical basis for environmental planning and design. The method is to select from relevant existing theory of physical, biological and social science and combine these perceptions into a single statement.” 415

415 Ibid. It is interesting to note that in the course description, “environmental” is the modifying term, not “ecological” as one would have expected.
Now as Professor (and after July 1991, Professor Emeritus) and no longer Chairman, McHarg’s intellectual involvement also experienced a metamorphosis. Arthur Johnson made the following analysis. “Over time, after he retired as Chairman, he became less conceptual, because there was less need for it. His message had been successfully delivered, and it got diffused throughout our society during the 1980’s and it was no longer an attractive new way of thinking or an attractive new way of integrating information. It had been done.”

Design Moves Forward in the Curriculum

As 1990 marked the Centennial of the Graduate School of Fine Arts, Dean Copeland proclaimed that the School’s mission for the future would “be concerned fundamentally with the quality of life, especially as it is affected by the beauty and usefulness of the built environment, and the continuing health and vitality of the natural environment.”

The catalogue (previously referred to as the Bulletin) of the Graduate School of Fine Arts for the academic years 1991–1993 offered a revised pedagogical statement for the Department of Landscape Architecture and Regional Planning. It was reflective of the Dean’s message, and it clearly gave a higher relevance to design in the curriculum.

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417 Graduate School of Fine Arts. 1991-1993. University of Pennsylvania (n.d.), 1. Beginning with this publication the citation format will change as the volume references previously noted for the Bulletins have been dropped by the University and the publications have variously been referred to as “catalogues” or “publications.” I have opted to simply cite these documents as Graduate School of Fine Arts with the appropriate date(s).
Again, the ecological planning foundation was not abandoned, but design was moving forward as a more engaging pursuit. (Bold face is in the original.)

Ecological values form the foundation of our curriculum and inform the knowledge of science and art our students master. Design expresses these values and applies this knowledge; it is a mode of thinking that integrates reflection and invention. Design, as a deliberate act, as both process and product, is at the heart of our curriculum. But values, knowledge, and design are nothing without craft—the means by which visions of the future landscape are communicated and realized. Our commitment to sustainability also demands the skills of cultivation required to maintain landscape change over time. 418

During the 1991 – 1993 school years Regional Planning was still a visible part of the Department’s curriculum and the 501 “Ecological Planning Studio and Modules” were still intact. Also, by the 1993 – 1995 academic years, the Ph.D program in the Department of City and Regional Planning listed as one of nine concentrations, “Ecological Planning and Environmental Design.” 419

1994 – 2000 The Return to Traditional Roots

After Anne Spirn resigned as Chair, C. Dana Tomlin, a member of the faculty and an expert in Geographical Information Systems, was appointed Interim Chair in 1993. Tomlin was responsible for completely revising the curriculum, the first such significant change in twenty years. There were concerns that the Landscape Architecture program’s

418 Ibid., 25.
accreditation status could be in jeopardy. In December 1994, an accreditation visit was made by the American Society of Landscape Architects and reviewed the Department’s efforts to reshape its curriculum. The report, issued by the accreditation visitors had praise for “its challenge and conventions of design and practice, for its incorporation of new and evolving theories of design and for its emphasis on first-hand observation and interpretation of both natural and cultural phenomena.” 420

The revisions included the elimination of what Anne Spim called the “powerful integrative core.” of “tying the teaching of landscape architecture theory, method, and practice to three key concepts of geography, and environmental science and management.” 421 The “new” curriculum would now place a greater emphasis on graphic design, archeology, history, and theory. 422 John Dixon Hunt, the noted landscape architectural theorist, and not a professional landscape architect, succeeded Tomlin as Chair of the Department in 1994 and immediately developed “plans to lead the Department, with its revised curriculum and its longstanding responsiveness to change, towards a fresh perception of the scope and role of landscape architecture.” 423

423 Ibid.
The Department's pedagogical statement for the academic years 1995 – 1997 recognized McHarg's "pioneering contributions to ecological planning and design," but found it necessary to respond "to changes in the larger cultural and intellectual spheres, especially ideas of nature, creativity, landscape and environment." 424 This was met by offering four types of courses: theory, workshop, studio, and elective. The "new" curriculum, as it was specifically called, "was designed to draw upon the traditional strengths of landscape architecture at Penn and yet to connect with fresh ideas arising out of changing cultural and social needs on the one hand and a changing faculty on the other." 425

The New Regional Planning Program

In the "new" curriculum the Regional Planning program also went through a substantial modification—and realignment. No longer stressing the theme of human ecological planning, the program became diffused and combined with other University offerings. In the pedagogical statement, references to ecological or human ecological planning were dropped. The "new" Regional Planning program was explained this way. "The shared responsibility for this program is a direct reflection of its intent: to bring together in an academic setting all three of the major professional roles that students can expect to either assume or encounter in the practice of regional planning. Respectively.

the three major roles are those associated with environment, development, and management. The program was built on three bases: knowledge of natural systems, drawing on courses from the Department of Landscape Architecture and Regional Planning; knowledge of social sciences, economics, and legal matters, drawing on courses from the Department of City and Regional Planning; and knowledge of the business of real estate finance and development, drawing on courses in the Wharton School Real Estate Department.

By the 1998 – 2000 academic years the Regional Planning program was jointly "administered" by the Department of City and Regional Planning and the Department of Landscape Architecture and Regional Planning, with John C. Keene from Planning and Dana Tomlin from Landscape Architecture as co-chairs.

Under the "new" curriculum, the 501 Studio, specifically the "common core" that had been the foundation of the Landscape Architecture and Regional Planning programs, was refocused—this time only for students in the Landscape Architecture program. During the 1995 – 1997 school years, it was presented as follows: "This introductory studio exposes students to the basic principles and practices employed in landscape architectural

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design, with particular emphasis on the relationship between process and form and the development of visual and manual acuities.” 427

It was clear and undisputable that the Department had finally returned to its traditional roots, espousing the theory and design components of landscape architecture. The curriculum in human ecological planning had now been terminated.

1996 – 2000 McHarg’s Final Courses

As Professor Emeritus, McHarg taught an occasional course after 1994. There was a resurrection of “Man and Environment,” the course, that in so many ways, started it all, first taught over three decades earlier. But, this time it was different. Beginning in the 1996 – 1997 academic year (and continuing in 1997 – 1998) the Department offered LARP 765 “Man and Environment,” that would engage the traditional McHarg issues: “the evolution of matter, life, and man, and the attitudes of the major religions toward the environment and the ecological view…” 428 Yet, this time, the students would not hear the live words from the invited guests—that superlative stream of intellectuals that McHarg brought to the Penn Campus—people such as Lewis Mumford, Eric Fromm, and Margaret Mead. They would not watch the inflections of the speakers, the twists and turns that even luminaries go through when they make presentations. And, they would not be able to ask questions, because this time the course content would be transmitted by

427 Graduate School of Fine Arts. 1995-1997. 33.

For the 1995 – 1997 school years a new course, taught by McHarg, appeared in the catalogue of the Graduate School of Fine Arts—LARP 744 “Human Ecological Planning.” and during that period would be offered both through the Department of Landscape Architecture and Regional Planning and in the Department of City and Regional Planning as CPLN 530. The course was variably described as a “theory course.” and as the “Human Ecological Planning Method which Professor McHarg invented, developed, and applied.” Beginning in the fall 1999, “Human Ecological Planning” was no longer cross-listed as LARP 744, and was exclusively offered by the Department of City and Regional Planning.

In the spring 2000, CPLN 530. “Human Ecological Planning” would be given once again, and this time be his last course. Once again, for the last time, Ian McHarg would stand before a packed room of students lecturing, reminiscing, telling stories, cajoling, and sometimes offending. But, he had not lost that “spark.” and his mind, his recall, and his wit were as crisp as always. Time and age were beginning to show, and he became ill that year and was not able to attend every class.

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429 *Graduate School of Fine Arts. 1995-1997*, 33.

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On April 20, 2000 he was honored—in celebration of the 30th anniversary of Earth Day, a national event that he had helped organize— with a plaque in Dean's Alley in Meyerson Hall, the home of the Graduate School of Fine Arts. It was a ceremony to cite his accomplishments and his extraordinary legacy as a leader in integrating environmental principles into modern planning practice. He traveled to Tokyo within the week to receive the Japan Prize, the highest international honor recognizing contributions to the environment. A year later I would write: "Although Ian McHarg died on March 5, 2001, his ideas and brilliant contributions to city and regional planning and landscape architecture will live on." 431

CHAPTER 10

ASSESSMENT OF THE CRITICAL FACTORS RESPONSIBLE FOR THE DECLINE OF THE HUMAN ECOLOGICAL PLANNING CURRICULUM

In the preceding Chapters 5 through 9, I tracked the development of the curriculum that first evolved in the Penn Department of Landscape Architecture, later becoming the Department of Landscape Architecture and Regional Planning from 1955 to 1995. Under the guidance of Dean Holmes Perkins in the Graduate School of Fine Arts, the ties among architecture, city planning, and landscape architecture would be cemented, and the graduate programs would be encouraged to move in new directions—to be inventive.

When Ian McHarg arrived at Penn in 1954, landscape architecture was part of the Department of Land and City Planning and he was charged, by Dean Perkins, to reestablish a separate Department of Landscape Architecture and develop a new curriculum.

By the mid 1960's, with the beginning of a Regional Planning program, and the key addition of Nicholas Muhlenberg to the faculty, the foundation of the ecological planning curriculum was set. The entire pedagogical underpinning in the training of regional planners and landscape architects would be based on the notions of what McHarg believed to be “ecological determinism.” What was happening, and what McHarg would
put into place would be a curriculum that would challenge the two professions of regional planning and landscape architecture to accept a new practice paradigm. One impediment that emerged was that the regional planners found the human ecological planning prescription was more usable than did the landscape architects.

The growth and popularity of the Regional Planning program—with its principal curricular focus on ecological planning—would be directly influenced and shaped by three notable variables.

- The strong leadership and charisma of McHarg’s persona as a spokesman for the environment. He became nationally and to some degree internationally known after the publication of Design with Nature in 1969. This was his seminal work and would become the philosophical and pedagogical heart of ecological planning, not just for practitioner-disciples, but in the Penn curriculum as well.

- The unique interdisciplinary curriculum designed by Muhlenberg and implemented by McHarg attracted not only an outstanding faculty, but outstanding students as well, who were exposed to the natural, physical, and social sciences, as the foundation for planning and design.

- A growing national environmental movement during the 1970’s was reflected in both citizen concern with the need to understand the limits of natural systems and
the public policy response at all levels of government to enact new laws for environmental protection.

By 1974, the ecological planning curriculum was transitioning into the human ecological planning curriculum, as social and cultural investigations began to assume a larger place in it, particularly through the incorporation of anthropology, ethnography, and medical anthropology into the pedagogy of the Department's course offerings. A substantial grant from the National Institute of Mental Health underwrote the hiring of new faculty who could branch into human ecology, and adapt it to regional planning. It was during the academic years 1973 – 1974 and 1976 - 1977 that enrollments in the Regional Planning program peaked.

During the decade of the 1980's things changed—at both inside the Department and outside of Penn—and McHarg's human ecological planning curriculum would experience a loss in momentum. After he retired as Chairman of the Department in 1985, the human ecological planning curriculum remained essentially intact, but was modified to embrace a greater involvement with urban concerns, and, in the 1990's, with a new focus in landscape design.

The pendulum began to swing back toward the traditional roots of landscape architecture that would concentrate more on design. Concomitant with this trend, the Regional Planning curriculum was realigned in the Graduate School of Fine Arts and no
longer would be based on human ecological planning. The move away from human ecological planning proceeded slowly at first, as design began to regain an importance in the curriculum in the early 1990's, precipitated by the concern to maintain the accreditation of the Landscape Architecture program by the American Society of Landscape Architects. Finally, by 1994 a “new curriculum” was fashioned that for all intent and purposes saw the end of human ecological planning as a curriculum in the Graduate School of Fine Arts. An occasional course taught by McHarg—supported by Anthony Tomazinis, Chairman of the Department of City and Regional Planning—until the spring 2000, provided the last vestige of human ecological planning at the University of Pennsylvania.

Why then the decline? How could a curriculum that had attained such stature with an outstanding multidisciplinary faculty and with a reputation that was coveted by practitioners and academics alike that had attracted students from all over the world, fall into disfavor? And how could the “inventive genius”—the master of it all—Ian McHarg fall from grace? These questions therefore frame the parameters for the final task of this dissertation—to provide an assessment of the critical factors responsible for the decline in the human ecological planning curriculum as taught in McHarg’s Regional Planning program.
Structuring a Typology To Assess the Critical Factors

Clearly, the decline of the human ecological planning curriculum was not precipitated by any single cause or event. There were a number of factors at play. They were not mutually exclusive, and became manifest in a variety of forms and dimensions. The research of the evolution of the curriculum, as uncovered through pedagogical statements and course offerings, and with individual points of view and analysis gleaned from the key informants, suggests that they fall into three major categories.

- **Personal factors** – those that emanate from the persona of Ian McHarg himself. He was dynamic, difficult, demanding, and brilliant. Through the power of his personality, his presence, and his demeanor, he could inspire many and generate animosity in others. He was such a complex personality that he attracted either unfettered loyalty and admiration or antagonism and downright dislike from friends, colleagues, students, and practically anyone he encountered. Such a persona would be at the crux of the building of the curriculum, and eventually become a factor in its decline.

- **Pedagogical and Methodological factors** – those that embodied the creation, maintenance, and the pedagogical sustainability of the curriculum itself. The ecological, and later the human ecological, planning curricula were based on the incorporation of multidisciplinary natural and physical science knowledge that would extend into the social sciences. Throughout its evolution, the curriculum...
went through a number of modifications, reflecting the changing emphasis as
described by McHarg as he moved from ecological to human ecological
planning.

There were also problems that the curriculum experienced in providing all
that it thought to provide, especially in the area of advancing GIS technology.
Even though experimentation with course offerings was highly prized, certain
methodological difficulties arose in the actual practice of human ecological
planning. The landscape architects were not successful in adapting a human
ecological planning method to their site-specific designs. Finally, a question was
raised that suggested the possibility that human ecological planning in the
curriculum had reached its apex, and was no longer inviting or challenging as
“intellectual discovery.”

- **External Factors** – Ecological planning, as an approach and method specifically
  based on an environmental context for planning, came to be accepted by many
  practitioners. Many planners identified with the philosophy, approach, and
  practical utility of adapting ecological planning to address real world problems.
  principally as this involved an understanding of the limits and constraints
  inherent in natural resources. For environmental—or ecological—planners, this
  would become the indispensable first step in a land use planning process. As
  human ecological planning emerged a method was sought to incorporate an

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analysis and understanding of individual and group values as they represent a
unique set of community predilections in the utilization of land and
environmental resources in the planning process.

Many planners who spread the word and practiced the method had been
McHarg's students, and in a manner of speaking, thought of themselves as
disciples. But the reality in spreading the word of the master was less predicated
on emotional allegiance; it was directly correlated to job opportunities—and
there were many.

The strong engagement of the Federal government, with new national
legislation to protect air, water, and land resources, trickled down to the state and
local levels. The proliferation of pioneering environmental and growth
management laws, at all levels of government, contained new regulatory
procedures and requirements that created a new demand for planners.
Consequently, it would also be a boost to the curriculum in Regional Planning.
Student enrollments increased in the early 1970's, peaked by the middle of the
decade, and leveled off until 1980. In some years, during the peak period in the
1970's those matriculating in Regional Planning surpassed those in Landscape
Architecture. After the 1979 – 1980 school year, enrollments in the Regional
Planning program dropped precipitously. Figure 2. Average Enrollments by
Yet, change on the outside—especially as Federal regulatory perspectives changed and the realities of a dwindling job market for regional planners set in, during the 1980’s—would soon affect the viability of the Regional Planning program. As a result, many factors, outside of the Department of Landscape Architecture and Regional
Planning, indeed, outside of the University, would invariably have their impact on the decline of the curriculum.

Assessment of the Critical Factors

Personal Factors – the Persona of McHarg

There are three important factors that revolve around the persona of the man himself. They can, in varying degrees, be said to have had an impact, or at the very least, an influence, on the decline of the human ecological planning curriculum.

1. Conflicts in the Presentation of Self

McHarg’s persona cannot be avoided. He was a curious combination of positive and negative attributes, and the outward expression of those attributes would rise and fall depending on the situation he was in and to whom he was relating.

Lenore Sagan remarked that “People were very attracted to him—his accent, his charisma—an aura that he perpetuated.” Yet, the other side of “the man” was given by Dan Rose who remembered the time when McHarg was giving a talk in Chester County, Pennsylvania “He could be extremely insulting and he just delighted in going in and trashing people in the crowd, some of whom could be

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his allies.” Nicholas Muhlenberg provided yet another insight. “McHarg was extraordinarily bright, sensitive, and absolutely trustworthy as a friend—his word was his bond.” For sure, McHarg’s complex persona would be perceived in different ways of acceptance or rejection by the people that he dealt with. Such complexity is both revealing and indicative of what sociologist Erving Goffman noted—“that when an individual appears before others he will have many motives for trying to control the impression they receive of the situation.”

2. Insistence on Ecological Planning as Dogma

It was commonly known that McHarg was doctrinaire and uncompromising in his view of nature and his adherence to ecological determinism. You had to accept his philosophy; he would not tolerate anything less. Anne Spim has said that even though McHarg’s “charismatic personality and polemical language captured the attention of the profession [of landscape architecture] and [the] public...The claim that science is the only defensible authority for landscape design...[proves] particularly damaging to discourse and practice.” A reasonable conclusion from

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433 Dan Rose, interview with the author 14 January 2003.
434 Nicholas Muhlenberg, interview with the author 18 October 2002.
435 The Presentation of Self in Everyday Life. 15.
this comment is that McHarg would not open up any avenue for a reevaluation or reassessment of the philosophical foundation of ecological planning. In fact, it was the pivotal philosophical tenet that would be the focus of his entire career.

McHarg’s ecological determinism, first promulgated in the paper he presented at the 1966 Conservation Foundation conference, Future Environments of North America, and later elaborated in Design with Nature (1969) became his raison d’être of land use planning and design. One could argue that such a sole reliance has an intrinsic flaw, since no attention was given to existing and planned infrastructure, as well as social, economic, political, and legal considerations. McHarg had little interest in the economic and governmental processes that impact and control land use planning. In fact, he actually rejected them. Perhaps this was his Achilles heel.

Furthermore, McHarg assumed that the rationality of ecological science should prevail in the irrational world of public land use decision-making, where ingrained habits, cultural values, and preconceptions have much influence on final policy outcomes. In an associated way, McHarg claimed too much precision for the natural sciences and invented “scientific” answers when none existed. As Nicholas Muhlenberg said, “Ian used to make things up if he didn’t know what the hell was going on.” 437

437 Nicholas Muhlenberg, interview with the author 18 October 2002.
There is another view that addresses McHarg’s dogmatism, and that was provided by Frederick Steiner. Originally a student in McHarg’s program receiving the Master of Regional Planning in 1977 and the Ph.D in City and Regional Planning in 1986. Steiner would coordinate the 501 Studio after Jon Berger left the Department in 1983. Steiner’s relationship with McHarg was an important one, and he would become the key person who has interpreted and advanced the McHargian construct of human ecological planning. He would also be McHarg’s alter ego in the writing of *A Quest for Life* and co-editor of McHarg’s writings, *To Heal the Earth.* Steiner stated his interpretation of McHarg’s intellectual posture this way: “Ian had gotten a fair amount of criticism for being an ecological determinist, or a physical determinist, and his reaction to that always was that he had had a lot of social science at Harvard, and was not opposed to social science. He was simply trying to advocate for nature to have a more equal standing. He was frustrated until he found anthropology.”

However one comes out on this matter, McHarg’s outward “advocacy" convinced many people that he was unbending and, if such a perception of the persona of the man is held by a significant group, it must be acknowledged as having some merit as a factor in the decline of the curriculum.

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439 Frederick Steiner, interview with the author 19 February 2003.
3. Confused Teaching and Demanding Administrative Style

Perhaps no teacher or administrator fits into a mould of the ideal. People bring strengths and weaknesses to each of these roles. McHarg was no different. While he was accused of being "a terrible teacher." by Dan Rose. McHarg's genius, according to Jon Berger, "was to get people [the students] together and get them to work on a particular problem." Nonetheless, the power of the curriculum could at times create problems, as Arthur Johnson recalled. "There were always frustrations, mid-semester meetings, and 'miniature revolts' from the students, who felt that there was too much to learn, too much intensity." Despite his dynamism, McHarg was a confusing teacher. It could be surmised that because of his wide range of interests and thinking he sent students off in many directions. It was not entirely intentional, but it was not unavoidable.

The administration of the Department of Landscape Architecture and Regional Planning under McHarg at times seemed to be on a see-saw. There were constant budget issues related to the enrollment, the number of scholarships available, as Dean Perkins remembered. "McHarg always asked for more than we had available: I was always cutting his budget." McHarg also had to deal with a

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441 Arthur Johnson, interview with the author 3 December 2002.
442 G. Holmes Perkins, interview with the author 15 October 2002.
developing tension between the landscape architects and regional planners. As Nicholas Muhlenberg stated, “In the beginning [of the Regional Planning program] the landscape architects were jealous of the regional planners who were getting all of the [scholarship] money.” \(^{443}\) One of the great administrative dilemmas that McHarg faced had to do with how the staff worked together. Robert Hanna observed that “The scientific faculty and professional faculty didn’t interact a great deal. In the professional faculty there was a difference of opinion and attitude towards it [the curriculum].” \(^{444}\)

During the key informant interviews, a number of viewpoints surfaced that directly bear on McHarg’s style as a leader and administrator in the Department as well as how he related to the faculty and staff. Expressions that McHarg only wanted to be surrounded by “yes men,” and that he would not tolerate disagreement was fairly common knowledge. These expressions, if not outright said, were at least suggested. Again, the complexity of the McHarg persona—oftentimes displaying contradiction—plays out. Although he had little desire to allow for any criticism or opposition, he would give unsolicited praise and acknowledgement for contributions to the curriculum or on a project.

\(^{443}\) Nicholas Muhlenberg, interview with the author 18 October 2002.
\(^{444}\) Robert Hanna, interview with the author 9 January 2003.
Anne Spirn indicated that “Ian was a dictator at school, yet a great boss [at WMRT] who gave credit to all those who worked on a project.”  

Another dimension of McHarg’s administrative and decision-making style was mentioned by Arthur Johnson. “He made most of the decisions. There was always an opportunity for input. The opportunity for serious input seemed to come one-on-one in that he listened to me more if I was talking to him directly. He was able to get the outcomes he wanted by talking with each of the people, more or less separately, and deflecting things in a way that seemed to fit with what he wanted to do.”

Pedagogical and Methodological Factors – The Curriculum

What follows is a compilation of factors that are directly related to various pedagogical and methodological elements of the curriculum itself. These encompass a host of situations, engagements, developments, and modifications that have been identified and fully discussed in Chapters 5 through 9.

1. Fluctuations in Course Offerings

One trend that became particularly noticeable in examining the Bulletins and later the catalogues of the Graduate School of Fine Arts was that the curriculum.

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445 Anne Whiston Spirn. interview with the author 13 December 2002.
446 Arthur Johnson. interview with the author 3 December 2002.
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especially in the Regional Planning program, was in a constant state of flux.
Course offerings changed almost yearly as new courses were presented and others were dropped. As Frederick Steiner noted, the curriculum "was adapting all the time: McHarg would come up with an idea that should be pursued." 447

An important fluctuation involved the presentation of courses devoted to computer mapping, graphics, and finally, GIS. The first course offering computer spatial analysis, which was given in 1969, proceeded on an irregular basis and at times, on a minimal level during much of the life of the curriculum. McHarg attempted to improve the situation but was hindered by a lack of funding support, equipment, and space.

The hiatus that existed in course work to expose students to computer mapping and GIS existed from the time Bruce MacDougall left the Department in 1974 until the 1981–1982 academic year. Even though several Ph.D students were proficient in GIS (most notably Meir Gross and Lewis Hopkins) and could assist in providing a technical capability to the Department, matriculating students did not receive any formal training until the 501 Studio was reorganized as the "Common Core" during the 1982–1984 school years. In light of the important role that GIS would ultimately perform in improving the efficiency and accuracy of assembling and analyzing natural resource base data and information, its fluctuation in and out of

447 Frederick Steiner, interview with the author 19 February 2003.

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the curriculum during important years in the development of the technology had to have a negative impact on the program.

If one could identify the single course that represented the intellectual and pedagogical concepts that it would be fashioned into the ecological planning curriculum in Regional Planning would have to be “Man and Environment.” First presented by McHarg in the fall of 1960, before the curriculum had been structured around ecological planning, it was centered on the presentation of guest lectures from world-known scholars and thinkers in many disciplines and callings. McHarg called it “Perhaps the most exciting course in the school, if not the university.” 448 Dan Rose assessed the instrumental role that “Man and Environment” had on the curriculum. He provides another insight on factors that would impact the curriculum.

Ian was very proud of the fact that he could get Nobel laureates to come and talk to the students at Penn. And he was also very proud of the fact that he had hundreds of people in the audience, not all of them drawn from City and Regional Planning and Landscape Architecture. That was a real showpiece for him. He never second-guessed the power of that at all. It was a powerful part of the curriculum after Earth Day, but by 1974 it was beginning to decline in popularity.” 449

2. Significant Changes and Losses in the Faculty

Throughout its history, the curriculum, especially during the period between

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448 McHarg, A Quest for Life, 175.
449 Dan Rose, interview with the author 14 January 2003.
1974 and 1987 witnessed significant faculty departures. Even though faculty turnover is not unexpected the departures of five faculty members without replacement can be ascribed as critical factors contributing to the decline of the curriculum.

- The departure of Bruce MacDougall in 1974, and not replaced, left a void in the curriculum. There was no one fully capable to provide a consistent level of instruction in computer based spatial analysis and GIS, during a time of accelerating enrollments, and an advancing technology that would eventually revolutionize the hand drawn overlay mapping of the ecological inventory, thus improving its efficiency and accuracy.

- In 1977, Yehudi Cohen, the principal cultural anthropologist who had been the intellectual precursor of human ecological planning— and as Frederick Steiner said, "a great teacher: he was very special."—left the Department, and was not replaced, even though anthropologists, Dan Rose and Setha Low were at the time members of the faculty. 450

- Narendra Juneja died suddenly in 1981. He was McHarg’s “right hand man,” and as Robert Hanna recalled, “Narendra was McHarg’s ‘magic marker.’”

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450 Frederick Steiner, interview with the author 19 February 2003.
followed orders and did what McHarg wanted.” 451 But, Juneja’s role should not be minimized. According to Carol Franklin, a friend and colleague in the Department (and a former student of McHarg), “He organized color using matrices that were clearly expressive of complex sets of ideas and subtle interrelationships. His maps were beautiful, like works of art.” 452 As Anne Spiri said, “Narendra was the key, the glue that kept it [the family] together.” 453

- The trinity that brought the human ecology perspective to the curriculum and became the principal faculty in human ecological planning included Jon Berger, Setha Low, and Dan Rose. The trinity began to break down when Berger left the Department in 1983, and was not replaced. With this resignation, the curriculum lost its leading exponent of human ecological planning, and the only person who actually was able to make human ecological planning operational as a method of land use planning. 454 Setha Low, who headed the Health Program in Human Ecological Planning left the University by 1988, and was not replaced. This effectively ended this popular concentration in the curriculum. Rose continued teaching in the Department until he retired in the late 1990’s.

452 Strong and Thomas. The Book of the School, 230.
453 Anne Whiston Spiri, interview with the author 13 December 2002.
The resignations of Berger and Low had a profound impact on the continuance of the human ecological planning curriculum, particularly since they occurred during the time when the program was beginning to experience declining enrollments. Their departures simply added another critical factor to the demise of human ecological planning component in the Regional Planning program.

3. Severance of the "Field Laboratory"

One of the hallmarks of the Regional Planning program, as it advanced the utilization of ecological planning, was the relationship between the teaching of ideas and concepts in the Department and the application of those ideas and concepts to practical situations in the "field laboratory"—McHarg's consulting firm, Wallace, McHarg, Roberts, and Todd.

The firm provided both a testing ground for theory and an employment base for graduate students, as well as faculty. It also "kept him current," according to Anne Spirn, and "When he left, it was like a divorce." \(^{455}\) McHarg, in his autobiography, lamented over the severity of the loss that he felt when he resigned from the firm in 1979. However, it was just as severe a loss to the vitality of the curriculum, and must rank as an important critical factor in the decline of the program. No longer would the Department have such a dynamic and fulfilling outlet where McHarg, faculty, and students could work on actual planning and design projects.

\(^{455}\) Anne Whiston Spirn, interview with the author 13 December 2002.
4. Landscape Architecture and Regional Planning Out of Synchronization

There were methodological difficulties in applying human ecological planning concepts to landscape architecture, and as a result there never developed the kind of rapprochement that McHarg had hoped for between planning and design. The regional planners were focusing their analysis on a large scale and the landscape architects were engaged in site-specific design problems and challenges. The two approaches just could not synchronize under the rubric of human ecological planning as envisioned by McHarg and taught by Robert Hanna, Laurie Olin, and Setha Low.

However, Frederick Steiner provided an interesting twist on the frustrations Setha Low faced in the design studios. Steiner’s recollection was that the students on the landscape architecture side “did get it,” and McHarg’s influence to blend human ecological planning into design did get carried on—it was simply done in a “different representational style, using, for example, computers and photo montage to portray landscapes.”

5. Deficiencies in the 501 Studio

When the 501 Studio became the “Common Core” of both the Landscape Architecture and Regional Planning programs in the early 1980’s, it was designed to be the pedagogical basis to educate the “Renaissance Man.” However, three crucial

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456 Frederick Steiner, interview with the author 19 February 2003.
disciplines were absent from the *Workbook* that served as the teaching guide for each student. There would be no law, economics, or design taught (although design would be addressed in the 502 sequence and in other courses). This omission alone is indicative of a significant deficiency in the preparation and training of future planners. Additionally, there were several critiques of the Studio provided by Jon Berger: first, "501 was the backbone [of the curriculum], but there was never any focus;" second, "Nobody worked full time on the 501 Studio, it was a part time endeavor;" and finally, "The rhetoric far surpassed the reality." 457

Another aspect of the 501 Studio that encompassed a significant variable in the composition of the interdisciplinary approach in the entire curriculum, had to do with presenting the social science component. As the natural and physical sciences were well represented and integrated into the curriculum, for both landscape architects and regional planners, the primary emphasis of the social science component was on ethnographic history. While it is highly place-specific, the ethnographic element cannot be mapped in the manner of the layer-cake model. This in itself would raise a question as how viable it is to portray ethnographic data, as qualitative information, in an inventory process that quantifies an identification of constraints and limitations of natural and physical resources? Dan Rose admitted that there were problems of adequate mapping and representing social values and ethnographic data using the overlay method, "How do you map ethnicity to the land?"

It became a real challenge." 458 In the final analysis, as a "Common Core," the 501 Studio did not fully measure up to what it could have or should have been.

6. Were the Limits of "Intellectual Discovery" Reached?

During one of the key informant interviews, a question arose concerning the possibility that human ecological planning reached its limit—could no longer be characterized by "intellectual discovery." It opened up a line of inquiry that could not be dismissed. The issue was initially raised by Arthur Johnson who argued that one reason for the decline of the curriculum was that the intellectual development of human ecological planning stagnated. "How much further could Dan Rose take human ecological planning; and how much further could we take the analysis of the natural features of the landscape; how much further could we take them from where they were in 1985?" 459 According to Johnson, there was not much "intellectual discovery" to be done, and "Academic people live for the intellectual discovery; that's what drives the interest." 460

Something of a debate ensued when this question was addressed in another key informant interview. This time Setha Low responded. "There was not that kind of

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458 Dan Rose, interview with the author 16 January 2003.
460 Ibid.
limit. Art is more skeptical.”

Her additional comments are worthy of consideration.

There was further to go. Art was only looking at the science of it. What Ian hadn’t yet gotten to, and he could have, was all of the involvement of conservancies, taxes, and all of the things that John Keene and Ann Strong had talked about, all could have been integrated. All of the regulations and institutions interacted within human ecological systems that Ian didn’t include. All could have been integrated, there was a lot farther it could have gone. And the players were standing right there.  

Setha Low’s comment provides another dimension of an important pedagogical aspect of the curriculum that was omitted in the 501 Studio—namely, that law and economics were not taught in the “Common Core.” Low stressed that the law, including regulations, and associated institutional structures, are all part of the “human,” and that, if combined with the ethnography that was incorporated into the curriculum, could have offered the potential to move human ecological planning to “another step.”

One such “next step” was taken by Frederick Steiner in his 1991 book, The Living Landscape. Steiner took McHarg’s ecological planning model and branched out into “a linear yet iterative process,” that included identifying issues; setting goals; undertaking an “inventory and analysis of the biophysical and sociocultural environments;” doing suitability analysis; determining future options; developing “a

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461 Setha Low. interview with the author 31 January 2003.
462 Ibid.
463 Ibid.
plan for the landscape; continuing "public participation and community education;" performing design; and finally, implementation and administrative considerations.

Steiner's contribution sustains Low's position, that there was much room available for "intellectual discovery." Continuing on such a path just might lay a foundation for a revival of human ecological planning—as the basis of a reconstructed curriculum.

7. McHarg's Resignation as Chairman: From Leadership to Tension

When he stepped down as Chairman of the Department of Landscape Architecture and Regional Planning, the change was immediate and noticeable. The creative tension that developed between McHarg and the new Chairman, Anne Spiri, was mostly due to McHarg's emotional response to his new role. "When he stepped down," remembered Nicholas Muhlenberg, "we had two Chairmen—Anne Spiri who was trying to get famous in her own right, and Ian who refused to stop coming [to the Department]. So, there were 'two Departments.' Anne's and Ian's. Anne had the budget, so she got the students. It was an emotional split." 465

Obviously, with McHarg no longer in the leadership position that he had occupied for over thirty years, and still on the faculty, the competition for loyalties would spawn a "two-headed hydra," an untenable situation that would have its impact on reducing the viability of the McHarg-structured curriculum.

465 Nicholas Muhlenberg, interview with the author 18 October 2002.
8. Regional Planning: A Misnomer for the Curriculum

One of the reasons for the decline of the program stated by Frederick Steiner, was that “it was misnamed ‘Regional Planning.’ I think that Ian—partially because of Mumford’s influence and partially because it was the right term at the time—choose ‘Regional Planning.’ But, if the program had been named ‘Environmental Planning,’ or ‘Ecological Planning,’ I think it would have had stronger legs [to be sustained].” ⁴⁶⁶ Steiner believed that “if it had been named what it was it would have continued to attract [students].” ⁴⁶⁷ In large measure, as discussed in Chapter 6. McHarg thought of ecological planning as regional planning.

9. Peripheral Elements that Affected the Curriculum

There were several situations that can be identified that took place within the Graduate School of Fine Arts as part of the overall graduate educational experience. First, there was the phasing out of the Department’s Center for Ecological Research in Planning and Design during the 1980 – 1981 academic year, and melded into a new research focus that would serve all of GSFA. Second, by the 1982 – 1984 school years two new joint degree programs were offered, one with civil engineering and the other with the Law School. While these joint educational ventures would

⁴⁶⁶ Frederick Steiner, interview with the author 19 February 2003.
⁴⁶⁷ Ibid.
open up new graduate study prospects, they can be indicative of a diffused curriculum that is searching for new levels of relevancy.

10. The "New" Curriculum: The Return to Traditional Roots

The most profound pedagogical change that occurred by the mid 1990's was the overhauling of the Landscape Architecture and Regional Planning programs in the Department. After Anne Spirn stepped down as Chair in 1993, a new pedagogical philosophy would aim toward revitalizing the design aspects of landscape architecture. Even though regional planning was still offered in the Department, the real interest and concern was to move the Department's emphasis away from the dominant natural science orientation to design.

By 1994 the "new" curriculum was firmly in place, and human ecological planning was no longer. In the 1993 -1995 school year the pedagogical statement of the Department still proclaimed the "Ecological values form the foundation of our curriculum and inform the knowledge of art and science our students master." 468 The next catalogue, covering the 1995 - 1997 school years had dropped any reference to human ecological planning and the "new" Regional Planning program created in 1993 was jointly administered with the Department of City and Regional Planning.

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The focus of the "new" curriculum, under Chairman, John Dixon Hunt, was now concerned with "connections between design, nature, culture and history." The Department of Landscape Architecture and Regional Planning had at last returned to its traditional roots.

External Factors – Beyond the Department

A number of critical factors have been identified that had a significant impact on the decline of the human ecological planning curriculum. These happened outside of the Department, and even beyond the University. The most dramatic direct impact was that because of certain exigencies enrollments declined, and therefore the program declined.

1. National Priority Shifts and Declining Regional Planning Enrollments

In the 1980's, national priorities towards the environment were redirected from the strong advocacy that was contained in much Federal legislation of the previous decade. Less government surveillance and oversight was replaced with a greater emphasis on private sector initiatives.

What took place as a consequence was that the job market for regional planners shrank. This became especially noticeable in two major Federal grant programs that had opened up numerous job opportunities for planners at the state and local levels, the 701 comprehensive community planning program and the 208 area wide water

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and waste water planning program. In essence, this combination of situations—changing Federal environmental planning priorities and fewer potential jobs—would make regional planning less attractive as a course of study to pursue for a career then it had been.

Enrollments in the Regional Planning program peaked in the period 1973 – 1977, after which there was a steady decline through 1995, according to records in the Office of the Registrar in the Graduate School of Fine Arts. (See Figure 2 which illustrates the enrollment trends above and the Appendix for the actual enrollments for each semester beginning Spring 1967 through Fall 1995.) Although there were some semesters after 1977 that saw a fluctuation in the overall pattern of decline a Bell curve representation provides a distribution pattern that correlates with what was happening on the "outside"—external to the university. Dan Rose remarked that the supply and demand of students was more significant than anything that happened to the Department." 470

Directly related to declining enrollments would be the financial impact on the crucial revenue source for both the Department and the Graduate School of Fine Arts. Budget cuts had to be made and faculty had to be reduced, each of which would affect the viability of continuing as in the past. Moreover, scholarships to support graduate study in Regional Planning were curtailed as well.

470 Dan Rose, interview with the author 16 January 2003.
2. Changing Student Attitudes.

Another trend was setting in. As a corollary to declining enrollments there was a change in student attitudes. This became generally evident as student motivations moved away from environmental advocacy and more toward career security. It was perhaps largely due to the growing role of the private sector becoming more directed toward self-monitoring with less government regulation. What were once thought of as “environmental villains” would be recast as environmental partners. Students deciding on a career path will pick up on these societal permutations, and they did. A job in regional planning that had a strong foundation in human ecological planning just did not have the aura for a demanding and financially satisfying career.

By Way of Conclusion

In short there were multiple factors that can be said to have been responsible for the decline of the human ecological planning curriculum. Moreover, it becomes difficult to conclude that any one factor, or a selected few factors, were determinative in affecting the decline. Rather, taken in their entirety, the identified personal factors, pedagogical and methodological factors, and the external factors, were woven together in a situational and circumstantial tapestry that accounted for the decline of the curriculum.

There is one additional dimension that ought to be mentioned. As an anthropologist, Dan Rose looks to “the structural kinds of features.” In doing so he provided the following remark. “So. I see that McHarg’s rise and decline was that he was the right
person at the right place, at the right time, in relation to larger social movements in the
U.S. 471 And, Nicholas Muhlenberg touched on this theme as he described his
fascination in what he described as the "McHarg cosmology," that pervaded everything
that he wrote, no matter when or every project that he was in. 472

As I have traced the evolution from beginning to end of the ecological and human
ecological planning curriculum at Penn, that despite everything else, there was an
intuitive association between the success of the curriculum—McHarg’s vision and
genius, the extraordinary multidisciplinary faculty, and bright and inquisitive students—
and changing societal conditions that always were there and always external and beyond
the curriculum.

I would conjecture that there might be a cosmological dimension that surrounds being
at the right place at the right time. While such an assertion may be more appropriate in a
dissertation devoted to metaphysical entanglements, it is nonetheless a real, if indefinable
facet of human existence. It may not be able to be proven, but then, it cannot be fully
denied.

471 Ibid.
472 Nicholas Muhlenberg, interview with the author 18 October 2002.
So, when all of the analysis and intellectualizing is finished there may be only one way remaining to account for the rise and fall of McHarg's curriculum at Penn. I might simply conclude that Ian McHarg and the human ecological planning curriculum in the Department of Landscape Architecture and Regional Planning at the University of Pennsylvania was at the right time and at the right place.
Enrollment data for the Department of Landscape Architecture and Regional Planning have been obtained from the Office of the Registrar in the Graduate School of Fine Arts to document students matriculating in each of the programs. The data covers the period 1967 through 1995. This period represents the beginning of the ecological planning program as it became the basis of the curriculum in Regional Planning, the transition to human ecological planning, and finally the decline and elimination of human ecological planning as the foundation of the Regional Planning in the curriculum by 1995.

Interpreting the Data

The data arrayed below have been gathered from the only found source in the University that has a breakdown of students matriculating in the Department of Landscape Architecture and Regional Planning (LARP). The two degrees represent the two programs of the Department: Landscape Architecture, a three year program that awarded the M.L.A. degree, and Regional Planning, a two year program that awarded the M.R.P. degree.

The data from 1967 – 1990 have been retrieved from paper binders and files in the archives of the Graduate School of Fine Arts. No indication was made in the record...
reviewed, that the data for the Regional Planning program include others who were
matriculating in other programs at the university that were also described as “Regional
Planning.” As a result, unless discovered to the contrary, these data represent only those
students matriculating in LARP. The situation was different for the data from 1991 –
1995. In this period the Office of the Registrar in the Graduate School of Fine Arts had
the breakdown that showed the number of students matriculating in LARP as well as in
the Department of City and Regional Planning. The Regional Planning enrollments
shown here are for LARP only.

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