WORKSHOP IN POLITICAL THEORY
AND POLICY ANALYSIS
513 NORTH PARK
INDIANA UNIVERSITY
BLOOMINGTON, IN 47408-3895 U.S.A.

FISHERMEN, LANDSCAPES AND RESOURCES
ON THE NEW JERSEY COAST:

An Inquiry into the Meanings and Values of Common Property Resources and Landscapes * John Sinton¹ and Silvan Tomkins²

INTRODUCTION

In this paper we will describe an approach to determine meanings and values for common property resources and landscapes. Our work focuses on the interaction among three processes — individual personalities, cultural values and resource use. We have a pilot study underway in coastal New Jersey in which we are developing a method, using thematic apperception tests (TATs) to derive the meanings and values of landscapes and resources from sport and commercial fishermen and policy makers in coastal New Jersey. Our approach is cross cultural, and, if we are successful in our pilot study, we plan to continue work in other coastal areas of the United States and different regions of the world.

The impetus for this study came from many frustrating experiences in more than 20 years of land-use and resource planning, a field in which misunderstandings and

^{*} Paper presented to the First Annual Meeting of the International Assoc. for the Study of Common Property, Duke Univ. Sept. 30, 1990

¹ Professor of Environmental Studies, Stockton State College, Pomona, NJ 08240.

² Professor Emeritus, Livingston College, Rutgers University, New Brunswick, NJ

miscommunication exacerbate the conflicts inherent in resource use. At the heart of these conflicts are deeply and emotionally held values about places and resources; these landscapes are full of different meanings depending on the personality of the individual, the conditions under which one sees or uses the landscape and the cultural values with which the person works. If we could better understand the meanings of these places and their resources, we could better relate individuals at the micro level to the middle and macro levels of organization (Bennett, 1985). We could, furthermore, make headway in understanding ancient questions about the meaning of people and place. And, on a more applied level, we could better define the fundamental elements of conflict about a place and its resources. (Please consult the appendix for a bibliographical note approaches to person/place relationships.)

ASSUMPTIONS AND QUESTIONS

How does one get at meanings?

We try to make our assumptions as explicit as possible. First, we assume that the common property resources we are working with — coastal waters, fish and beaches — are embedded in the dimensions of space and time. Rather than seeking information about the resources themselves, we would like to understand the meanings of the resources within • their geographic (landscape) contexts.

Second, our working definition of "meaning" is the affective and cognitive elements an individual ascribes to a landscape — the particular sense a person makes of the place and its resources. Value for us is the positive and/or negative affect attached to the landscape.

Furthermore, we assumed that we were working with three sets of interrelated processes:

- 1. The conditions and types of use such as time of day, season of the year and particularly the types of use, which in our study area were sport and commercial fishing for fin and shellfish, swimming, sailing, power boating and passive recreation (sunbathing, sunset watching, etc.).
- 2. The <u>cultural values</u> of the respondents in our case that set of values held by fishermen, residents, and decision makers in New Jersey. We assumed that there were methodologies to elicit these values, such as the thematic apperception test that we ultimately chose .³
- 3. The <u>personality</u> of the respondents. Here we relied on Tomkins' affect and script theory as he has written about it over the past 30 years (Tomkins 1962 to 1990) We assumed that each person would respond to a

³ There have been a number of interesting attempts to link indviduals to culture and environment, none of them successful in our view because they consider individual humans too narrowly as products of drive or cognitive processes. In general, however, it is unfortunate that little work is being done on culture and personality because of past failures in developing universal theories or statistically valid measurements (Collier 1967; Gates 1976).

"In Tomkins's theory, the affect system lies at the heart of human motivation. Among the several subsystems produced in the evolution of the human being (affect, drive, memory,

landscape differently regardless of the similarities among uses and cultural values. After all, those of us involved in planning and policy have assumed a common ground of cultural values on which to decide policy toward common property resources. But we have also assumed that, regardless of those values held in common, individuals' reactions can differ radically. In dealing with individual differences we believed that:

- a. The meanings of a landscape (and its inherent resources) can be specific and abstract (often simultaneously). Thus, how one feels or thinks about a landscape can simultaneously express nostalgia for childhood and a specific thought about the present state of the fishery and who should receive primary rights.
- b. Meanings are derived from a complex of affective (emotional), cognitive and cultural processes.

 The different interactions of these processes, which result

motoric, perceptual, etc.) only affects (emotions) possess the abstractness, flexibility, and generality required to guarantee, the survival of the human being as an invention of nature. Unlike drives, the affects [excitement, enjoyment, anger, distress, fear, surprise, and contempt/disgust] are general across time, place and objects. Affects are prior to and necessary for cognitive development." (Carlson, 1986) Tomkins argues, in his development of "script theory" (not to be confused with the concept of script in transactional analysis), that innate affects are the primary determinant of a person's behavior at birth, but that very quickly the scenes of life play a larger and larger part in the development of a personality. This is not a deterministic theory, but an explanation of the enormously complex possibilities an individual has in creating his or her personality. In other words, cultural values and family interactions can play just as large a role as affect in the creation of a personality.

in the extraordinary richness of human personalities, will tie each individual to larger levels of organization (family, community, nation), in different ways.

After discussing our assumptions we spent considerable time framing the appropriate sets of questions. The most significant question for this study was:

Under what conditions do New Jersey coastal landscapes have what meanings for fishermen, residents and policy makers in coastal New Jersey?

This question can, of course, be asked in any geographic region, which is what we plan to do in the coming months and years, e.g. Under what conditions do Yucatan/Newfoundland/Senegal coastal landscapes, etc.

METHODS

Test Instrument

We needed a method that would allow people to respond as freely as possible to different types of landscapes and resources under different conditions with as little cultural bias as possible built into the test instrument. Because of the complexity of our assumptions and questions and because we were dealing with personality as well as use and culture, we needed a projective method that could elicit responses that could be abstract and specific, sometimes simultaneously (Collier & Collier 1986, 125). We decided to use the Thematic Apperception Test (TAT) for a number of reasons: 1. It is the most robust and reliable projective test available (Tomkins, 1947); 2. One can use it cross-

culturally (Banfield, 1958; Collier & Collier 1986; Gates, 1976; Guttmann, 1987; Henry, 1956); 3. It allows for the integration of landscape and resource use through photographs showing different activities by different kinds of people in different places.

The hazards of using a TAT lie in interpreting the results. We have not completed the study, and we will not develop a standardized coding or interpretation until more data from our study are available.

n.b. There is considerable debate on the validity and reliability of TATs, and a particularly useful debate on the subject can be found at the end of Marilyn Gates's (1976) article, "Measuring [Mayan] Peasant Attitudes to Modernization." We make no pretense to statistical or scientific reliability at this point, although we may find specific aspects of the study in which statistically valid scoring might be useful. We assume that this first, revelatory, phase will yield valuable descriptive, if not scientifically predictive, results.

In telling TAT stories we assumed that our respondents would give us the following kinds of information:

- 1. Value statements about the landscape and its inherent resources (positive or negative in terms of specific qualities of the landscape and resources).
- 2. Value statements about the conditions under which the landscape is being used (e.g. sports or commercial fishing).

- 3. Information on ideological positions (e.g. dislike of certain types of people or policies).
- 4. Affective relationship of the respondent to the landscape, resource and activity (e.g. anger toward commercial fishermen with simultaneous enjoyment of the seascape).

Selection of Photographs

We needed data on a variety of New Jersey coastal settings and activities including those at home and in shopping areas as well as coastal places with sunbathing, fishing and boating. We also wanted to mix human activities with photos of landscapes with no apparent human impact. Finally, we wanted comparisons of well-known places to those which might be recognized but poorly known and to exotic places.

We divided the 3x5 color photographs into three general categories: 1. (with 14 photos) The Home Place with photos of houses with children playing, a local general store, a mall, sunbathers on a beach, a recreational boat basin, and photos of sports and commercial fishing and shellfishing activities along with those of the open ocean and deserted sand dunes. 2.(with 7 photos) Recognized Places although not intimately known, such as the Grand Tetons and the Arizona desert. 3 (with 7 photos) Exotic places, such as coastal mudflats of Scotland with a cow lying down and Philippine and Norwegian fishing villages. (From

preliminary results we suspect that these divisions are a figment of our own landscape sensibilities — some, perhaps most, New Jersey fishermen do not consider photos of Mayan fishermen exotic.)

Administration of TAT

We had three upper-level undergraduate students administer the TAT.⁵ The students went to local fishing docks and fishing shops to find sports fishermen to run the pre-test in which the photos were arranged to make the subjects most comfortable (from most recognized to most exotic) and grouped according to landscape and activity. \ The following instructions. (Tomkins 1947) were given to the subjects:

Form A:

This is a test of imagination. I am going to show you some pictures, one at a time, and your task will be to make up as dramatic a story as you can for each. Tell what has led up to the event or what happened before the photograph of the scene you see; describe what is happening at the moment, what the characters are feeling and thinking; and then give the outcome or what will happen in the future. Do you understand? Here is the first picture.

Form B:

This is a storytelling interview. I have some pictures here that I'm going to show you, and for each picture I want you to make up a story. Tell what has happened before and what is happening now. Say what the people are feeling and thinking and how it will come out. You can make up any kind of story you please. Do you Understand? Well, then, here is the first picture.

⁵ Our thanks for the difficult, if enjoyable, task of adminstering the TAT go to Jennifer Astin, Amy Cook, and Sam Lavner.

In testing the first 15 subjects we discovered that using Form A was the most appropriate, but the task of storytelling was simply too difficult for most subjects, who spent most of their time trying to locate the exact spot of each photograph. Some subjects became frustrated and gave up or gave only short answers, while others wondered exactly what we wanted from them. One can expect great variability in responses to TATs; some people can and love to tell stories, others cannot; some are long-winded and others concise; some are extroverts and others introverts. However, we felt that we had to rearrange and replace some photos in order to reduce expectations (and frustration) and to elicit more storytelling. We are now working with the following photos in the following order:

(f=familiar; r=recognized; e=exotic)

- 1. Mayan fisherman throwing a long line (palandre)
- 2. Clammer unloading sack of cherrystone clams
- Young man holding axe looking quizzically at tree Suburban house & lawn with young girls on lawn
- Two fishermen on jetty with tour boat passing by Oblique view of Norwegian port of Alesund Beach with 5 sunbathers and swimmers
- f.
- 8. Young boy with ambivalent face holding out a fish 9. Commercial surf clammer dredging
- 10.Mall entrance with cars, a mother & child
- 11. Open ocean with bait fish roiling the surface
- 12. Clam boat with 2 shinnecock rakers
- 13. General store with cars & skiff on trailer f.
- 14. Early morning with Mexican fishing skiffs at dock
- 15. Young man looking pensive sitting in forest 16. Mass of sail- and powerboats in dock slips r.
- f.
- 17. Aerial of rural town, marsh, ocean & subdivision 18. Commercial boats at dock, one named "Fishermans" Dream"
- 19. Coastal sandflats with cow lying down (Scotland)
- f. 20.Surfisherman casting off rock
- r. 21.Mixed ethnic market street with seafood store
- e. 22.Line of fishing (lobstering) skiffs on Mex. beach

- e. 23. Navajo hogan with horse in New Mexico
- f. 24.Two sport fishermen relaxing in stern or small boat on open water
- f. 25. Rural house with garden, martin houses & woodpile
- e. 26. Village of houses on stilts in coastal Philippines
- f. 27. Fishermen talking in stern of commercial fishing boat in port
- f. 28.Six clam boats in a group on Barnegat Bay

We are satisfied with the choice and administration of the photos. The interviewers have completed 15 interviews with sports fishermen and will begin working with commercial fishermen and policy makers during the fall and winter.

RESULTS

At this point we can only suggest the kind of information we are beginning to get from the field.

1. In general we can expect American respondents to provide descriptive rather than narrative material. Our respondents had trouble telling a "typical," that is chronological, story about what happened before, during, and after the photo. We attribute this two three factors: a. As Collier & Collier (1986, 126) suggested, the use of photographs rather than pictures tends to shift emphasis from storytelling to analysis of elements of the photographs; b. People from a literate and television culture would not be as accustomed to storytelling as those from more traditional oral societies; c. ours is the first TAT to our knowledge that has focused so clearly on landscape as well as human interactions. The original TATs had little background and no landscape, and even TATs using

photographs have concentrated on human interchange. The use of photographs with prominent landscapes will shift the respondents' center of attention to the landscape, resource or activity, and, in our preliminary field work, we have found that respondents focus immediately on description rather than story line. Even with prompting from the interviewer, respondents shift back to the immediacy of the landscape. Nonetheless, they reveal much about ideological and affective relationships.

- 2. Not surprisingly, a primary relationship of most respondents to the photos is through their own use of the place and its resources: If the respondent is a commercial fisherman, the responses focus on that activity, whereas sport fisherman discuss the scene in terms of their own use.
- 3. As we had assumed, respondents had simultaneous specific and abstract responses to many photos. They responded not only to the specific activity but projected, an abstract affective relationship to the scene, such as their
- 4. personal ideologies, which can be strong, if not consistent, among sports and commercial fishermen. Both groups feel that the resource belongs first to them, then to others. Furthermore, there is a striking state of anxiety about the condition of the landscape and resources that centers on resource depletion and/or pollution an anxiety that comes in the form of their inability to pass on their lives and landscapes to their children.

- 5. Personality differences are clear from the consistent negative, positive or ambiguous loadings of the respondents stories that is, each respondent tends to show consistent affective responses to the photos. The consistency of the responses suggests that more than a temporary state of mind is at work.
- 6. Ideological comparisons and contrasts at the cultural level are evident. Most respondents, for example, express the idea that one must work hard in order to play; in other words, there is a contrast between the aesthetic and economic. No matter the landscape, if the activity is commercial, it tends to be "tough work," whereas if it is sport it tends to be "a good time."
- 7. Beware of preconceptions about what is or is not familiar and exotic! We assumed that a photo of a Mayan fisherman tossing a primitive long line by hand was exotic; the respondents considered it familiar because they understood the activity.

Following are representative responses from three people about three of the photos. Steve, in his mid-forties is a commercial clammer from the Atlantic City region; Bob and Jim are in their mid-thirties and are avid sport fishermen who have lived their lives in the Philadelphia/South Jersey region.

Mayan fisherman throwing a long line (palandre)

- Jim: OK. Hector here is making his living by, it looks like, he's fishing...very close to the, ah, Unite States borders. And after this, if he's in the United States waterways, if he's actually living in America, some American fishermen are going to come and harass him because they don't... immigrant workers in their waters. But he could be off South America, so he's jut trying to make a buck off the sea.
- . Bob: What I see here looks like a commercial fisherman which is, ah... I have a hard time dealing with these guys. He appears to be, ah, netting fish or trying to catch fish with nets and, ah, he's killing the fishing industry as far as small fish are concerned.
- Steve: This is a guy who makes his living from the sea.

 Looks like a long-liner. Now what he's going to do is set his lines out with these little baits on it. He'll set 'em out about three miles and he'll come back around the end of. the day and pull it all in and take his fish to the market and sell them. Tough way. to make a living.

Open ocean with bait fish roiling the surface

- Jim: An ominous storm is brewing over the ocean. Baymen, seamen be warned! Bay'll swallow 'em whole, sea'll swallow 'em whole. That just looks nice with no boats in it.
- Bob: Ok. This is definitely what you enjoy seeing when you go out fishing. Looks like some sort of school of fish, probably bluefish. This is exactly what you're looking for when you take a boat out fishing you look for slicks and birds working the water. And this makes for a good fishing day.
- Steve: Looks like the view that I had the day I was lost out at the 28-mile wreck when I was stuck out in the thunderstorms because my asshole captain didn't know how to work is RAN system and this is what you've got to look at. You sit out there at 20 miles offshore and this is what you've got to look at, just the ocean and horizon.

Young boy with ambivalent face holding out a fish

Jim: This kid just bought, or just caught, I mean, a fish from the bounteous sea, or maybe it's a bass and from a lake. But he's in harmony with nature because plenty of fish to catch and he caught one. It's all in the scheme of things, but...there might not be kids enjoying themselves catching fish 20 years from now if all this pollution keeps up.

Bob: I look at this little boy and I think that... I wouldn't... couldn't give a time frame, but it doesn't look like the way the fishing's going right now when this kid gets older he's going to be able to take his kids out fishing. And he looks very proud of himself to catch a fish like this. And that, when he gets old enough, when he's able to take his kids out, my kids out fishing, that he's going to get the opportunity to do that.

Steve: Looks like a young lad caught his first fish — a little leery of it. Looks like he's, ah, looks like he... I don't know what he's doing. Doesn't know what to make of it.

Literature Cited

- Banfield, Edward C. 1958. The Moral Basis of a Backward Society. Glencoe, IL: Free Press.
- Bennett, J. 1985. "The Micro-Macro Nexus: Typology, Process, and System," in B.DeWalt & P.Pelto, eds. *Micro and Macro Levels of Analysis in Anthropology: Issues in Theory and Research*. Boulder, CO: Westview.
- Carlson, R. 1986. "Affects, Ideology, and Scripts in Social Policy and Developmental Psychology," in L. Friedrich-Cofer, ed. Human Nature and Public Policy: Scientific Views of Women, Children, and Families. N.Y.: Praeger.
- Collier, J. & M.Collier. 1986. Visual anthropology:

 Photography as a Research Method. Albuquerque: Univ. of
 New Mexico.
- Gates, M. 1976. "Measuring Peasant Attitudes to Modernization: A Projective Method." *Current Anthropology*. 17(4): 641-65.
- Gutmann, David. 1987. Reclaimed Powers: Toward a New Psychology of Men and Women in Later Life. N.Y.:Basic Books.
- Henry, William E. 1956. **The Analysis of Fantasy.** N.Y.: Wiley.
- Tomkins, Silvan S. 1947. The Thematic Apperception Test: The Theory and Technique of Interpretation. N.Y.: Grune & Stratton.
- —— 1962-1991. Affect, Imagery, Consciousness. Vol.1, 1962; vol.11, 1963; vols.III & IV spring 1991. New York: Springer.
- . 1979. "Script Theory: Differential Magnification of Affects," in H.E. Howe & R.A. Dienstbier, eds., Nebraska Symposium on Motivation, (vol.26) Lincoln: Univ. of Nebraska.
- . 1981a. "The Quest for Primary Motives: Biography and Autobiography of an Idea." *Jnl. of Personality and Social Psychology*. 41:306-2.9.
- ----. 1981b. "The Rise, Fall, and Resurrection of the Study of Personality." *Jnl. of Mind and Behavior*. 2:443-52.
- ——. 1987. "Script theory," in A. Aronoff, ed. Structuring personality: the *Murray lectures*. N.Y.: Springer.

APPENDIX

Bibliographical Note

• There is a fascinating literature on people and place that crosses many fields from philosophy and the humanities, through the social sciences and into geography and evolutionary theory in the natural sciences. The question has remained constant: What is man's relationship to place?

has remained constant: What is man's relationship to place?

One of the first clues in this present quest was found in an article by the late Edith Cobb (1959), a brilliant psychotherapist who influenced many and wrote little. In that article she suggested there is an enduring relationship between a person and the place in which he or she grows up; that relationship between person and place plays a vital role in our cultural values and in the way we shape our world and in which the world shapes us; Of what is that relationship composed? why are its bonds so strong, and in what ways does it motivate us? why do most people become deeply emotional about places in which they live? Are there any satisfactory responses in the literature, whether philosophy, history, anthropology, psychology or geography?

The literature goes back as far as Herodotus's geographical descriptions of the ancient world, and winds its way through medieval travel accounts, such as those of Marco Polo, via 15th and 16th century explorers to Africa and the New World, through descriptions in 18th-century encyclopedias; the geographical concepts developed into the theoretical constructs of the geographer, von Thuenen, in the mid-nineteenth century and of the historical geographer,

Marc Bloch in the early twentieth.

Since the Second World War research has fanned out from geography to the areas of philosophy, psychology, anthropology and history. Bachelard's Poetics of Space is the foundation for philosophical inquiry into aesthetics and phenomenology. Following on the heels of the French school of Braudel and his student, Leroy-Ladurie, American historians Alfred Crosby, Donald Worster, Richard White, William Cronon and Carolyn Merchant recently opened up the field of environmental history, documenting shifts in relationships between people, land and resources, especially as these last two became commodities and whole value systems shifted away from the inherent value of place to its use as an item for sale or purchase.

Anthropologists have contributed research in symbolic structures (Levi-Strauss) and particularly in human ecology beginning in the 60s with Ray Rappaport's analysis of energy flows and continuing through Bennett, Vayda, Moran and other's work to the present with that of McCay and Acheson's on communal property and, of course, a lengthy and continuing line of ethnographies, the descriptive heart of

anthropology.

Two of the most fruitful fields of inquiry for our purposes have been geography and psychology, the former dealing principally with aesthetics and perception and the latter with cognition. Psychology, particularly environmental psychology, began with promise in the 50s and 60s with some seminal work by Edith Cobb on children, environment, and creativity; environmental psychology reached a peak in the 70s when land-use and urban planners began using methods developed by social and cognitive psychologists such as Altman, Craik, Ittelson, Proshansky, Milgram, Kelly, Downs and the Kaplans, among others. In his review of the field in the late 70s, a land-use planner, Donald Appleyard, pointed out that the housing and urban design professions (led by Amos Rapoport of the Univ. of Wisconsin) had gained the most from the field, fragmented as There was, as Appleyard pointed out, a further complication, namely that the theories were not supported well by information. "It is amazing," he wrote, "how little empirical research is reported in the 1,800-odd pages represented in these [4] books (185)." Environmental psychology, so promising and active in the 60s and, particularly, the 70s, hit a dead end in the 80s, partly through lack of funding, one suspects, and partly through lack of clarity and a too heavy reliance on cognition. Or finds the same important pieces missing in the field that Appleyard noted more than 10 years ago, namely the central issues of motivations, needs, and values.

Geographic studies can be simplistically divided into objective approaches, using quantitative methods and subjective ones using qualitative methods (Kennedy et al. 1988; Zube et al. 1982). The best synthesis of objective approaches can be found in Smarden et al. 1986, while a variety of subjective studies are useful from those of J.B. Jackson, whom many consider the contemporary father of landscape studies, through Tuan, Meinig, and others.

Objective approaches have concentrated on measuring visual and aesthetic preferences and have been most useful in the development and design projects such as highways, forest service cutting programs, wetlands and housing and neighborhood projects. Much of this work derives from cognitive psychology (Gould & White) and the work of planners, such as Kevin Lynch, whose mental maps had a major impact on urban and regional planning.

Subjective and objective approaches are not mutually exclusive and, as Kennedy et al. suggest, both "are essential and need to be considered and further developed. More importantly, a theoretical framework which includes the two and clarifies their relationship and their applicability to understanding, planning, or in preserving quality environments needs to be emphasized (47)." We look forward to pursuing this goal.

SOURCES CITED

- Altman, Irwin & Martin Chemers. 1980. Culture and Environment. Belmont, CA: Wadsworth.
- ---- and A. Rapoport, eds. 1980. Environment and Culture. N.Y.: Plenum.
- Appleyard, D. 1977. "A Planner's Guide to Environmental Psychology: Review Essay." Jnl. of the Amer. Institute of Planners, (April):184-89.
- Bachelard, Gaston. 1964 (orig. French 1958) The Poetics of Space. Boston: Beacon.
- Bennett, John. 1976. The Ecological Transition: Cultural Anthropology and Human Adaptation. N.Y.: Pergamon.
- Braudel, F. 1972. The Mediterranean. 2 vols. N.Y.: Harper & Row.
- ____ 1986. L'identite de la France. 2 vols. Paris: Athaud.
- Cobb, Edith. 1959. "The Ecology of Imagination in Childhood," Daedalus 88 (3):537-48.
- Craik, K. & E. Zube, eds. 1976. Perceiving Environmental Quality: Research and Applications. N.Y.: Plenum.
- Cronon, W. 1983. Changes in the Land: Indians, Colonists, and the Ecology of New England.. New Haven: Yale.
- Crosby, A. 1986. Ecological Imperialism: The Biological Expansion of Europe, 900-1900. New York.
- Downs, R. 1976. "Personal Constructions of Personal Construct Theory," in Moore & Golledge, 72-87.
- Gould, Peter & R. White. 1986. Mental Maps. 2nd ed. Winchester, MA.: Alien & Unwin.
- Gutmann, David. 1987. Reclaimed Powers: Toward a New Psychology of Men and Women in Later Life. N.Y.:Basic Books.
- Ittelson, W., H. Proshansky & L.Rivlin. 1974. An Introduction to Environmental Psychology. N.Y.: Holt, Rinehart & Winston.
- Jackson, J.B. 1970. Landscapes: Selected Writings of J.B. Jackson. (E.Zube, ed.) Amherst, MA: Univ. of Mass.

- Kaplan, Stephen & Rachel, eds. 1978. Humanscape: Environments for People. Belmont, CA: Wadsworth.
- Kelly, G. 1955. The Psychology Personal Constructs. N.Y.: Norton.
- Kennedy, C., J. Sell, E. Zube. 1988. "Landscape Aesthetics and Geography," *Environmental Review*, 12 (Fall):30-55.
- Lowenthal, David, ed. 1967. Environmental Perception and Behavior. Chicago: Univ. of Chicago, Dept. of Geography, Research Paper #109.
- Lynch, Kevin. 1960. The Image of the City. Cambridge, MA:
- McCay, B. & J. Acheson. 1987. The Question of the Commons: The Culture and Ecology of Communal Resources. Tucson: Univ. of Arizona
- Meinig, D., ed. 1979. The Interpretation of Ordinary Landscapes. N.Y.: Oxford Univ.
- Merchant, Carolyn. 1989. Ecological Revolutions: Nature, Gender, and Science in New England. Chapel Hill, NC: Univ. of N. Carolina.
- Moore, Gary T. & R. G. Golledge, eds. 1976. Environmental Knowing: Theories, Research, and Methods. Stroudsburg, PA: Dowden, Hutchinson & Ross.
- Moran, E. 1979. Human Adaptability: An Introduction to Ecological Anthropology. N. Scituate, MA: Duxbury.
- Proshansky, H., W. Ittelson & L. Rivlin, eds. *Environmental Psychology: People and Their Settings*. N.Y.: Holt, Rinehart & Winston.
 - Rapoport, A. 1982. The Meaning of the Built Environmenta: A Nonverbal Communication Approach. Beverly Hills: Sage.
 - . 1986. "The Nature and Scope of Human Ecology," in R. Borden, ed. *Human Ecology: A Gathering of Perspectives*. College Park, MD: Soc. for Human Ecology.
 - Rappaport, R.A. 1967. Pigs for the Ancestors. New Haven: Yale.
 - Saarinen, Thomas F., D. Seamon & J. Sell, eds. 1984. Environmental *Perception and Behavior: An Inventory and Prospect*. Chicago: Univ. of Chicago, Dept. of Geography, Research Paper #209.

- Smarden, R.C., J.Palmer & J.Felleman. 1986. Foundations for Visual Project Analysis. N.Y.: Wiley.
- Tuan, Yi-Fu. 1974. Topophilia: A Study of Environmental Perception, Attitudes, and Values. Englewood Cliffs, NJ: Prentice-Hall.
- Vayda, A.P. 1969. Environment and Cultural Behavior: Ecological Studies in Cultural Anthropology. Garden City, NY: Natural History Press.
- White, Richard. 1980. Land Use, Environment and Social Change: The Shaping of Island County, Washington. Seattle: Univ. of Wash.
- Worster, D. 1977. Nature's Economy: The Roots of Ecology. Garden City, NY: Doubleday.
- Zube, E, J. Sell & J. Taylor. 1982. "Landscape Perception: Research, Application, and Theory," Landscape Planning, 9:1-33.