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# The Specialist-Synthesis Approach to the Revival of Geography: The Case of Cultural Ecology

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**Abstract.** Geography prospers within the major graduate and research institutions of the United States where and when it makes research contributions on par with the rest of the academy; other prescriptions for its revival will have little impact in this realm. Geography has been unable to maintain these contributions when it embarks upon disciplinary trajectories that emphasize synthesis without expertise or specialization within a theoretical domain unto itself. Geography has flourished within the academy by addressing major conceptual and applied themes shared within an interdisciplinary format but by way of a specialist-synthesis fusion. This approach requires both a topical expertise commensurate with the affiliated fields of study and geographic synthesis of multi-variable interactions either in place or among places. This approach has been honed in the cultural ecology subfield of geography, a subfield perhaps more noted at the interdisciplinary level than within its home discipline. The development of the specialist-synthesis approach in cultural ecology is briefly examined, and two examples of its use are provided to address conceptual themes of multidisciplinary significance. It is argued that this approach marks much of the very best research contributions in our discipline, regardless of subfield, and that only increased contributions of this kind will sustain geography within the research academy and, perhaps, resurrect the discipline in those elite institutions that do not now have it.

**Key Words:** geography, research, specialization, synthesis, cultural ecology, nature-society.

**T**HE discipline of geography is under siege, as indicated by the recent closing or diminished status of geography doctoral programs in several of the major research universities of this country. Our diverse field has not reached—indeed, may be unable to reach—a consensus as to the causes of this situation and the courses of action needed to establish geography in a position of security and stature within the academic community. We seem to have difficulty in closing ranks against this threat. Even if such unity were achieved now, it might be too little and/or too late for some programs.

Various measures have been prescribed to alleviate the predicament in which we find ourselves. These have included a much welcomed Senate Oversight Committee on the Status of Geography Education and a "National Geography Awareness Week," complete with national and local press coverage. By and large, most of these prescriptions take a bottom-up approach; they focus primarily on reviving geography in primary and secondary education to improve geographic literacy among high school graduates and, in so doing, to create a demand for geography in higher education and research. This prescription implies that the root causes of our current crisis lie in the size of our base (the number of professional geographers) and in geographic ignorance in general. Presumably this ignorance is fostered in the halls of higher education because many educators attended institutions without geography programs, and even more never took a geography course.

Regardless of our individual roles within geography, we must champion the bottom-up approach and avoid the schisms that have ap-

parently plagued geographic education and research elsewhere (e.g., Bartels 1982, 30–31). This approach, however, will not reverse geography's decline in the major research universities of America, and I doubt that it alone can sustain the discipline even in those institutions dedicated primarily to undergraduate education. *We must remember* that much, if not most, of the press coverage about the status of geography has confirmed the popular perception that our primary role is in place knowledge in its most simplistic and elementary form; this, despite our efforts to direct attention elsewhere.<sup>1</sup> If this is also our image within the academy, geography will not be revived there, beyond a service course or two.

*We must remember* how fleeting the memories of the educational bureaucracy can be. On 29 October 1987, Secretary of Education William J. Bennett waved the flag for geography in his testimony before a Senate subcommittee at the National Geographic Society. That education must return to the basics was his message. For the social sciences, this meant an emphasis on history and geography. Shortly thereafter, his much-publicized report, *James Madison High School: A Curriculum for American Students*, appeared (1987). This curriculum, certainly read by the powers that be in American education, did not list one course with the title "geography," although the phrase "knowledge of geography should be emphasized" appeared, almost as an after thought, in the descriptions of courses in Western Civilization and American History.<sup>2</sup>

Finally, we must question the efficacy of this approach when we *remember* that several highly respected disciplines that flourish in higher education are given no more attention, perhaps even less, than is ours in the American school systems. Bennett's ideal curriculum, for example, prescribes no courses in psychology and sociology, two of the largest majors in American liberal arts institutions and two graduate/research disciplines that dwarf geography in number of programs and practitioners.

The revival of geography in higher education and research will require a top-down or peer-based approach, to which the bottom-up effort is complementary but secondary. The fundamental problems of geography lie within the higher echelons of the academic community. Geographic illiteracy aside, much, if not most, research claimed by or conceded to geography

is apparently not valued by the academic elite who have repeatedly questioned its quality and significance (see Smith 1987; Commentary 1988; Tenner 1988). I believe that this is the root cause of the absence of doctoral programs of geography from many of our nation's major research universities, especially the private institutions that do not have to cater to the general requirements for degrees in education and can cut programs without answering to a state bureaucracy.<sup>3</sup>

Nothing could further the cause of the discipline at all levels of education more than the return of vigorous programs of geography to those elite research institutions now lacking them, making the discipline larger, more visible, and stronger in that stratum of the academy that sets the standards for graduate education and research in general. Nothing will bring about this event but a change in the basic perceptions of geography's contribution to research and intellectual understanding, and these perceptions will not change unless the discipline at large begins to make substantial contributions on a par with the rest of the academy. Polemics, claims, and diatribes about our worth will fall on deaf ears for obvious reasons (see Abler 1987). The need for geography courses and teachers in primary and elementary education, no matter how genuine, does not make a case for legitimacy within the higher echelons of academia. Only major contributions to the critical conceptual and applied issues of our times may awaken our colleagues.

Of course, a number of geographers have made contributions of this kind and have been so recognized in a number of ways, including election to the prestigious research academies of the world, selection for endowed chairs, and so on. The problem is that their numbers are very small—appearing smaller to the uninitiated because of the diversity of their accomplishments—and their number, I believe, is not increasing at any sustained rate.<sup>4</sup> It is not even clear to me that the discipline seeks to emulate the approaches to research and scholarship that brought them such recognition.<sup>5</sup> I have often encountered the complaint that some of these preeminent researchers are not "really" geographers because much of their work is too specialized or is published in non-geography journals. What nonsense! This level of specialization and interdisciplinary appeal is precisely what

brought them stature within the academy at large.

I do not believe that the general perceptions of the academy about geography in general are the product of misunderstanding, misinformation, or the general socioeconomic conditions of the times; these are the excuses of self-pity. These perceptions are of our own making and emanate from various sources: for example, geography's often embittered internal disputes about disciplinary cores and research trajectories. A very small discipline characterized more by constant turmoil over its goals and foundation than by consistent contributions to research issues and themes of interdisciplinary interest certainly will have difficulty impressing its peers (e.g., Bidwell 1985).

### **The Specialization-Synthesis Issue**

One source of such turmoil has been the post-1950 debate within geography between the advocates of synthesis and specialization; that is, between geography seen as a broad, pluralistic discipline engaged in the reinterpretation or reformulation of primary data drawn from others, or geography viewed as a primary research field engaged in a more narrowly but commonly defined pursuit, typically directed toward the development of a core theoretical theme. These forces have opposed one another on virtually every front—subject matter, methodology, and so on. Such a debate can be fertile ground for intellectual and disciplinary development under certain conditions. For geography, however, this debate has not been dialectically productive but mutually disrespectful, involving even contemptuous dismissals and promoting the further isolation of the two approaches.

Not only is reconciliation needed, but in my opinion, the resurrection of a strong and healthy geography within the major research universities will require a renewed merger of certain attributes of both the specialization and synthesis positions. Interestingly, this merger has always characterized much of the very best research of our discipline, although it has been formulated in several ways (e.g., Gollidge 1982, 21; Stoddart 1987). For example, Kates (1967) made one such formulation, referring to the role as the "specialized generalist." The ap-

proach I favor implies more emphasis on specialization than did Kates; the "specialist-synthesis" approach conveys more closely what I have in mind. This approach does not define the discipline, nor do we have a monopoly on it. Rather, the types of questions and understanding that characterize our discipline are appropriately addressed by its use. But no matter how critical such approaches have been to the acceptance of our research in the larger academy, the centrifugal forces of geography seem repeatedly to drive us away from it.<sup>6</sup>

Geography is steeped in its role as a pluralistic and holistic discipline. Few doubt the academic and intellectual contributions of this role, even if not attributed to our discipline. How else can we explain the rise of interdisciplinary committees, programs, and research institutes throughout academe, many of which virtually duplicate subfields of geography and are typically housed in geography programs elsewhere? The academy seeks good synthesis, and while geography has no monopoly on this, as many of our colleagues from other fields have reminded us, it has unusual qualifications.<sup>7</sup>

Yet good synthesis is seldom the product of a training in synthesis *per se*, and rarely emerges from only a secondary acquaintance with the data, both characteristics that, unfortunately, have marked much of the research of our discipline. Good synthesis is the product of an appreciation for the complexity and interconnectivity of a problem, complementing a rigorous, in-depth, specialist's treatment of the primary data. Approached in this way, specialization is used to gain the intimate acquaintance with the topic that ensures cross-disciplinary legitimacy, while synthesis is used to broaden the problem perspective and to illuminate with additional and alternative insights. This means that the geographer has the dual task of understanding the subject in question—soils, urban structure, toxic waste, Latin American history—as well as does the expert in the affiliated "specialized" field of study. But unlike that expert, the geographer continues by cutting across the immediate bounds of the subject, showing its relation to the complex web of variables that interact in a given locale or among several locales. The geographer, then, focuses on vertical or horizontal syntheses, to use spatial metaphors, although neither form of synthesis is necessarily exclusive to geography. Vertical synthesis typically explores an

open system with multiple substances or processes at one location, potentially including those situated above and below the surface of the earth. In contrast, horizontal synthesis typically involves closure not on place but on the range of substances and processes in question, examining them in multiple locations or with no spatial bounds.

In this approach, geography is recognized as a pluralistic, interdisciplinary discipline—a view that the modern history of the field supports. Geography has failed to identify or create a core subject that the academy either concedes to our discipline or finds useful or primary: useful beyond some elementary level of education and understanding, and primary to theoretical discourse. The academy may concede the “where” question to geography. It has not, however, conceded the “why of where” question, and geography has not necessarily demonstrated that it should do so. Simply stated, much of what we have offered as purely “geographic” theory, emanating from a core or otherwise, is viewed by the academy as derivative of more fundamental processes perceived to be within the domain of other disciplines. As Golledge (1982, 21) noted: “Many of [geography’s] problems [of study] are trivial, and by the time they are solved, are of little interest.” Golledge, I believe, intended this observation for individual research problems identified within the sole or primary “domain” of geography. I am more prone to apply it to the conceptual problems of the fleeting domains themselves, but not necessarily to the contributions by geographers to major conceptual and applied issues at large. Geographers and geography programs have prospered by capturing the attention of the academy when and where they have crossed academic boundaries to bring their version of the specialist-synthesis approach to bear on those themes and issues shared with the academy at large, often by way of interdisciplinary research.

These shared subjects and theories have been tackled best in geography through empirical investigations and “natural experiments” (or real-world tests). Geography, at least the modern-day version, has rarely fared well when it has strayed from its roots in primary field work. We have been best at taking conceptual themes (or theoretical cores), rooting them in place or places, and observing the consequences. In so doing, we almost invariably modify the abstrac-

tion in question because, to repeat an old refrain, the real world is not the isotropic plain of the economist or the homogeneous physical environment of the rural sociologist (Szymanski and Agnew 1981). Focusing on field experiments does not mean that our discipline is atheoretical; rather, it arms us with the empirical evidence that allows the elaboration, and in some cases, the genesis of theory. Stated another way, natural experiments not only keep abstractions honest, they lead to the improvement of the abstractions, several examples of which are provided below. Our supporters throughout the academy recognize the importance of this role; I have frequently been asked why geographers have been so suicidally prone to abandon it.<sup>8</sup>

In my opinion, geography, its subfields, and its practitioners have flourished by embracing the specialist-synthesis approach and applying it to real-world cases and tests. This claim is illustrated in the recent history of the subfield of cultural ecology.

### **The Development of the Specialist-Synthesis Approach and Cultural Ecological Geography**

Cultural ecology is part of the nature-society branch of geography that has been identified primarily by its shared research interests with anthropology, archaeology, and, to a lesser extent, ecology, and by its methodology (see Butzer forthcoming). Like any other “subfield” or “research specialty” group in geography, it differs from related studies in other disciplines by its objective of contributing to “why of where” questions. It has been one of the most successful subfields in geography by any criterion but especially in terms of awards, grants, fellowships, and interdisciplinary recognition accorded to its individual practitioners.<sup>9</sup> But like the larger nature-society branch of geography to which it belongs—“the road not taken” (Kates 1987)—the cultural ecology path has been largely shunned by the discipline in the recent past.<sup>10,11</sup> For instance, this most productive subfield has no regular “review section” in *Progress in Human Geography*, and major works by cultural ecologists are only sparingly considered in the corresponding sections dealing with agricultural, historical, regional, and even “ar-

chaeological" geography.<sup>12,13</sup> Similarly, neither the subfield nor the work of its practitioners is prominent in introductory geography textbooks; and, with the exception of the "systems" emphasis of the late 1960s and early 1970s, cultural ecologists have only sparingly contributed to the general volumes on philosophy or thought in geography, although their perspectives appear in major multidisciplinary journals (e.g., Porter 1978).

I contend that a healthy geography requires a renewed and increased recognition of the significance of nature-society subfields like cultural ecology. This is so for several reasons. First, these subfields address a general subject—nature-society relationships—that has a tradition within geography and is not claimed within the core of any other discipline. Second, this subject, in all its manifestations, has become increasingly significant to a wide range of conceptual and applied issues, be they the origins of agriculture, Sahelian drought, or the sustainable development of the biosphere. The multi-national outcry resulting from the International Geosphere/Biosphere Program's exclusion of nature-society linkages from its scope exemplifies this recognition. And third, cultural ecologists have honed the specialist-synthesis approach through applications that have consistently demonstrated the utility of geography and geographers to the understanding and solving of nature-society problems. Examples include contributions to theories of contemporary agricultural change and early state development, and to the topical controversies of desertification, famine, carrying capacity, tropical deforestation, population dynamics, and land-use/resource management (e.g., Clarke 1971; Nietschmann 1973; Knight 1974; Carr 1977; Porter 1979; D. Harris 1980; Bayliss-Smith 1982; Blaikie and Brookfield 1987; Denevan and Padoch 1987; Wilken 1987).

My position must be clear before proceeding. I do not claim that geography is the study of nature-society relationships or that approaches to such relationships must be cultural-ecological. Such claims would contradict the broader, pluralistic view of the discipline made already. I do contend that nature-society perspectives are fundamental to virtually all the possible "cores" of our discipline, and that historically geography has weakened itself when it has de-emphasized this branch.<sup>14</sup>

For brevity, our sketch of the development

of cultural ecology and its dominant approach begins with the state of nature-society studies within geography in the early 1960s. Two main research trajectories existed. The first of these emanated primarily from Carl Sauer and was grounded in the historical assessment of non-western cultures at regional scales. "Anthropogeography" in its initial form, this tradition followed primarily an academic path, with problem selection based in large part on the perceived significance to intellectual, particularly historical, themes, idiosyncratically defined, some would say, by the scholar. The second emerged from the midwestern universities and particularly from Gilbert White at the University of Chicago. This trajectory had a strong applied, practical focus aimed at contemporary environmental and resource management issues, ultimately leading to global-level assessments. Here problem selection was strongly influenced by issues of social significance. With antecedents in both trajectories, modern cultural ecology has deeper roots in the former, while it appears to be increasingly drawn into the latter.

Cultural ecology, as it emerged within geography in the 1970s, is perhaps best understood as a research perspective on nature-society relationships that are addressed largely, although not necessarily, at micro- and meso-spatial scales in non-western settings. It has sought understanding primarily through systemic analyses and empirical examinations of problems and themes that link human activity and the physical environment. For the most part, the best of these studies have involved intensive, detailed field research, typically interdisciplinary and often team-based.

A cultural ecology of this kind did not develop among the early practitioners of anthropogeography, and by the late 1950s, geography had virtually lost its claim on the subfield, albeit in different forms, to anthropology, and subsequently to numerous interdisciplinary programs such as "farming systems," agroecology, human ecology, integrative rural studies, and landscape ecology. I attribute this loss, in part, to the strongly humanistic and particularistic research emphases taken by mainstream North American geographers interested in anthropological and cultural subjects, and to the mainstream strategy that focused on synthesis (and, in some instances, synthesis squared: i.e., synthesis of existing syntheses), typically by a

lone researcher. The major works that developed from it notwithstanding, this approach was pursued almost to the exclusion of any alternative. In retrospect, it appears that an entire generation of anthropogeographers chose to pursue neither what has become the "social science" emphasis nor team- or project-based research. These choices stood and remain in sharp contrast to the major trends in those parts of the academy to which geography is usually attached and with which it must remain associated for a healthy future.<sup>15</sup>

Pioneered by Julian Steward and others in anthropology, alternative approaches followed the social sciences by way of field experiments, many of which involved research teams of specialists who collected and analyzed primary field data, commonly at micro-spatial scales. One of the few voices raised in favor of such approaches in geography was Harold Brookfield's, but the voice was not especially audible, perhaps because the winds do not flow from the Southern to the Northern Hemisphere, and the message was delayed, perhaps blocked by an intellectual El Niño positioned between Australia and North America. The message did find its way to a handful of U.S. geographers—drift voyages are not uncommon in academia—but by and large, most of those seeking an alternative turned to anthropology and ecology (see Butzer forthcoming).

By the 1970s a small but productive group of cultural ecologist geographers had emerged and, in an ad hoc manner, were laying the foundations for their specialist-synthesis research approach. This development can be broadly characterized by the following statements.

(1) Foremost are strong links with anthropology, ecology, and resource specialties, not only in terms of common interests, but in the general templates of problem solving. Interestingly, even today, these geographers tend to develop as specialists enjoying considerable respect within the affiliated disciplines before they are recognized by geography. Their research, therefore, not only has been interdisciplinary, but generally has passed the test of acceptance by larger programs within the academy.

(2) A major reason for this acceptance has been the attention given to research design, detailed field documentation and data collection, and, to a lesser extent, analytical rigor, all central to the respect of the academy. This re-

search typically has involved extended field work to retrieve the depth and quality of primary data required, not work based solely on brief summer forays or superficial surveys. In so doing, these geographers have gained a level of intimacy with their subjects of study that is commensurate with that of the experts in other fields; they have proved themselves as specialists, fully capable of judging the merit of the primary evidence, in part because they collected much of it. This is an old but now much neglected tradition in geography. I suspect that a large number of so-called foreign field specialists in our discipline cease to engage in detailed field work after an initial field season or two; this commitment stands in stark contrast to the research paths taken by preeminent researchers in complementary fields of study.

(3) Field work has been directed toward solving problems that crosscut major themes and disciplines. Here geographers have distinguished themselves from others by addressing the problem in its broader context, or synthetically, as it is illuminated in the real world experience. This research thus largely escapes the parochialism that can emerge from a purely specialist approach. Cultural ecologists have tended to emphasize vertical synthesis by way of case studies, but have not avoided horizontal synthesis involving various spatial scales of examination.

A number of excellent examples could be used to illustrate these three components of the specialist-synthesis approach as used by cultural ecologists in geography. I have selected two on the basis of my knowledge of them, and hence my confidence that the approach in question was in fact employed.

Among the most significant theories to emerge within the social sciences during the past 25 years are demand themes of agricultural change, as formalized initially by Ester Boserup, but subsequently modified by the re-emergence of the pioneering work of A. V. Chayanov and by the studies of cultural ecologists from numerous disciplines. These themes emphasize agricultural growth or decline as responses to changes in the demands placed on the production system, as opposed to themes that emphasize the primacy of technology, diffusion, or environment, or at a different scale of analysis, political economy (Brush and Turner 1987, 29–40). The focus, therefore, is on the dynamics of farming behavior in place. But place

contains a myriad of mediating influences on the demand-agriculture relationship, and important among these is the physical environment and the manner in which it can be altered. In concert, demand themes provide the rudiments (and I emphasize rudiments) for explaining why intensities of agriculture occur where they do and analyzing how they change in time and place.

Geographers have been instrumental in examining and elaborating these themes utilizing the specialist-synthesis approach (reference compilation in Brush and Turner 1987). Extensive and detailed field work and tests have been conducted in conjunction with interdisciplinary research teams in such far-flung locales as highland New Guinea, Bangladesh, Tanzania, and Costa Rica. These studies have extracted primary data from various spatial scales and socio-environmental contexts, and used them as "natural experiments" with which to examine the basic claims of demand themes. In this regard, the geographer as either a topical or regional specialist has commanded authority from intimacy with the data alone. But the contribution does not end there; the primary data have been subjected to both forms of synthesis. "Horizontal" analysis has demonstrated the variable strengths of the demand-intensity relationships among locales, and "vertical" analysis has been used to explore the details of that variability.

This approach has led to considerable elaboration that increases explanatory strength and specifies the conditions under which growth, stability, or stagnation in agriculture will occur. Some of these elaborations include the mediating role of environment, the demand-labor-environment interface that leads to "thresholds" of change, the effect of different cultigens, the significance of alternative employment opportunities, and the roles of social structure and gender. Indeed, the very nature of "demand" has been elaborated to include the Third World farmer whose production is neither totally consumption- nor totally commodity-based and, therefore, whose behavior is not described in the models of ideal market or subsistence decision making. These elaborations have contributed to the incipient but seminal formalization of demand models of agricultural change that emphasize the context of place. We may be on the brink of merging the theories of Boserup, Geertz, and Malthus,

theories once considered incompatible. An initial conceptualization of this merger has been undertaken by the demographer and economist R. D. Lee (1986). It is noteworthy that many of the data and underlying concepts in Lee's formulation have been documented and partially developed by geographers (details in Brush and Turner 1987).<sup>16</sup>

In another example, the field data and analyses produced by cultural ecologists have been instrumental in altering prevailing theories about societal evolution, particularly those ascribing to environment, agriculture, or hydraulic works a determining role in the rise and demise of early states. The attention given to Wittfogel's hydraulic thesis is a case in point. Cultural ecologists have brought data from extensive field experiments to bear on this theme. One of the more exhaustive sets of studies led to the documentation of the emergence of irrigation in the Nile Valley and its relationships with the valley's hydrology and controlling sociopolitical units (Butzer 1976). The results demonstrate that the early development of irrigation in the Nile was associated with local sociopolitical units and facilitated by the valley's morphology and its annual floods. Detailed comparisons with other irrigation systems have helped to demonstrate that only a few types of hydraulic works in certain environments required state-level intervention of the type claimed in the hydraulic thesis, and that this type of intervention was not the basis of all or even a majority of the centers of early state formation.

Hydraulic theses have always been difficult to apply in the Western Hemisphere. Indeed the existence of elaborate states, coupled with the absence of evidence of large scale and technologically advanced systems of agriculture in the New World, once posed a paradox that inspired innumerable explanations of these so-called "unique" civilizations. Again, cultural ecologists have been responsible for major developments in the primary evidence and in its interpretation (e.g., Parsons and Bowen 1966; Denevan 1970; Kirkby 1973; Knapp 1982; Siemens forthcoming; Turner and Harrison 1983; Turner 1983; Doolittle 1988). This has involved exhaustive, large-scale, interdisciplinary field studies throughout the Americas, documenting forms of aboriginal agriculture hitherto unknown and demonstrating their functions, development, and demise. These studies have

contributed handsomely to the destruction of the "myth" that early Andean and Mesoamerican states were based on only rudimentary agricultural systems, and also have demonstrated that the projected large size of Amerind populations was indeed possible, a critical element in the debate among prehistorians, historians, and demographers about the magnitude of the population collapse in the New World brought on by European conquest.

These contributions were in no small way facilitated by the use of the specialist-synthesis approach. The type of evidence required could only be retrieved by primary research, in most cases, by specialists working over the long term with archaeologists and paleoecologists. Such effort not only produced the primary field data, it produced them in concert with the larger evidence of the relationships in question. This, then, allowed synthesis of the nature-society relationships as they developed in place and similarly or differently among places. The results have put to rest simplistic and linear arguments about the role of agriculture and environment in the rise of early states. In contrast to the work on agricultural change, a dominant alternative thesis of state development has not yet emerged.

### **Continued Development of the Specialist-Synthesis Approach and Cultural Ecological Geography**

The specialist-synthesis approach has distinguished much of cultural-ecological geography within the larger academy, allowing its practitioners to transcend the confines of a small discipline. The intellectual health of both the approach and the subfield has been a product of the diversity of intellectual exchange, the absence of a domineering "school of thought," and the continual experimentation and adjustments that result from these conditions. At least two directions are particularly important for the maintenance of this health to continue.

First, the subfield has been largely materialistic and mechanistic in outlook. Indeed, it is difficult to imagine a social science-oriented cultural ecology that does not emphasize the material world. This focus, however, influences, if not biases, not only the questions asked but the nature of the synthesis. There is both

room and need for alternatives; there is certainly a need to go beyond demonstrations of relationships between the material phenomena of nature and society, although geography's strongest contributions tend to be made in that domain. Valuable insights have been made at the systems level by way of organic or ecosystem analogies (see Butzer 1980). Much less attention has been given outside this framework to the socio-behavioral forces that influence the nature-society relationships, be they human agency or social structure. The inadequate and often superficial attention given to behavior and structure by cultural ecologists in general is, in large measure, responsible for keeping some of their work on the periphery of the major theoretical and conceptual issues to which they seek to contribute.

Recent studies from structuralist, marxian, and realist perspectives have attempted to broaden the field with some success (see Watts 1983b; Grossman 1984). When applied to real world nature-society relationships, however, several characteristics have marked a few, and I must emphasize "few," of these efforts that, I believe, could steer the synthesis into cul-de-sacs, creating the very problems that these perspectives seek to avoid. For example, the social side of the equation can itself become so dominant as to reduce the physical environment to nothing more than a passive stage on which socioeconomic forces battle through a series of conflicts. So much attention can also be given to socioeconomic structure that the resulting explanation appears to be a new form of economic determinism in which the roles of culture, tradition, or human agency are of little consequence. Finally, some studies can become so enamored of their logical constructs or "deep structures" that the evidence almost becomes irrelevant. These tendencies, all of which have marked other "isms," promote explanations and understanding that are too simplistic and that do not account for the variation found in field studies (Denevan 1983).

Second, specialization within the subfield has been dominated by archaeological and anthropological interests, almost to the exclusion of its applicability to the contemporary, developed world. Even research done under the umbrella of "farming systems" has concentrated primarily on Third World agriculture. This has left studies in the western or developed world primarily to other fields that tend to be woe-

fully lacking in an appreciation of the subtleties and complexities of nature-society relationships and of the contributions that can be gained from vertical and horizontal synthesis.

Finally, I cannot close without a remark about the subfield and "meta-theory." No such general theory of nature-society relationships has been accepted by the academy at large, nor have any likely candidates appeared on the horizon (Sack forthcoming). Some of those who have taken on the arduous task of the search claim that no such theory is possible within epistemologies that separate nature and society (see Sayer 1979; Watts 1983a). Rather they argue that such theory can only emerge from epistemologies that embrace nature and society as a single, "inneractive" whole. There is a heuristic value to this claim that cannot be ignored; applications are another matter, however. Inevitably, these distinguish human or social forces from the physical media with which those forces "inneract," even in cases where that environment itself is largely shaped by human action. In this vein, the inneractive view has problems similar to those that confronted systems approaches of the 1960s-70s: where to draw the boundary for useful analysis. Most open systems are simply too difficult to analyze in a rigorous way, and the application of an "inneractive" perspective necessarily involves an open system. The nature of closure ultimately depends on the question that is asked.

The search for a truly integrative nature-society theory in which epistemology is logically and consistently linked to the explanatory structure is ancient (Glacken 1967), and apparent resolutions have only been momentary. This is so because nature and society are at once unified and separate, no matter where lines may be drawn, between or around the two, because each has attributes not shared by the other, despite the socially transformed character of nature or the effects of that nature on society.<sup>17</sup>

## Summary

The significance of geographic research continues to be seriously questioned by the academy. Yet despite this predicament, the research of certain geographers and geographic subfields, including cultural ecology, has been thriving. This success stems in large part from a pragmatic view of the position of the disci-

pline within the academy and of the role of geographic research. A small discipline cannot withdraw behind some defensive perimeter, talking, writing, and otherwise "inneracting" only with itself. Rather it must embark upon a vigorous interdisciplinary discourse, addressing shared themes and research problems from its own distinctive identity.

To do this virtually requires "certificates" of specialization, not from geography but from the larger academy, in subject knowledge that is ultimately cast within the synthesis of our discipline, by either vertical or horizontal analysis. Cultural ecological geographers have been successful in applying this specialist-synthesis approach through natural experiments dealing with meso- and micro-level theory and intensive, primary research in real-world settings. Despite this success, the specialist-synthesis approach, as it has been primarily applied within cultural ecology, has much room and need for exploration and elaboration.

The specialist-synthesis merger is obviously not the sole domain of cultural ecologists, but characterizes much of the very best research contributions by geography and the work of many preeminent research geographers. Returning to my opening theme, I maintain that this research contribution will determine the status and role of our discipline in the world academies.

## Acknowledgments

This essay is a revision of that given at the President's Plenary Session of 8 April 1988, at the annual meetings of the AAG in Phoenix. Since it is a statement of opinion, I have deliberately avoided detailed documentation, which would be lengthy indeed given the range of subjects touched upon. I thank Terry Jordan for the opportunity that he offered to me, demonstrating that Texans can share interests in more than football, oil wells, or political lobbies. I thank all those who have commented on this paper at various stages of its preparation: Anthony Bebbington, William Denevan, Susan Hanson, Robert Kates, Phil Porter, Thomas Whitmore, the anonymous reviewers, and the editor. I am particularly indebted for the assistance and advice of Karl Butzer and William Meyer. The statement, of course, is my responsibility.

## Notes

1. The media coverage of geographic illiteracy over the past year or two has focused primarily on the

- ability to identify places, with headlines proclaiming that American students cannot locate Brazil, Miami, and so on. Even *Monitor Radio* (19 November 1987) resorted to geographic trivia with its guest geographer. And yes, I showed my ignorance.
2. The genuineness of Bennett's concern for geography was revealed further on John McLaughlin's "One on One" (Public Broadcasting System) interview of 3 January 1988. McLaughlin: "I'm appalled that you haven't mentioned geography." Bennett: "Oh, well geography should be covered in the history of American society and the history of the west, and . . ."
  3. College geography has also been attacked for its apparent teaching breadth, which is perceived by some to be beyond the competence of any serious discipline. In this view, "academic geographers too often misrepresent themselves as qualified to teach a number of subjects on which their 'broad field' touches only peripherally" (Nuhfer 1988, B2). While the accuracy of this statement and its implied educational philosophy are debatable, portions of this "charge" could be dismissed without discussion if the course instructor contributed regularly to the major research outlets of the subject in question.
  4. I have ceased to be surprised by the number of geographers who do not know our membership in the prestigious National Academy of Sciences (NAS) and American Academy of Arts and Sciences (AAAS). Only seven geographers, B. Berry, J. Borchert, R. Kates, W. Tobler, G. White, J. Wolpert, and M. G. Wolman, and one regional scientist, W. Isard, have been elected into the NAS. Eight geographers have been elected into the AAAS: Berry, Borchert, K. W. Butzer, C. D. Harris, Kates, P. Wheatley, White, and Wolman. Egalitarianism notwithstanding, geographers with these credentials are critical to the resurrection of geography, where abandoned, in the elite research institutions of this country.
  5. In another vein, the AAG does little to observe the election of geographers to the NAS and AAAS. Wolman is our discipline's latest entry into the NAS. To my knowledge, the AAG's recognition of this distinguished accomplishment, *which draws more attention from the academic elite to geography than does all the media hype about geographic illiteracy*, amounted to a small congratulatory note and repeat announcements on page 14 of the *AAG Newsletter* (23[6], 1988). Both notes together occupied much less space than did several announcements of local awards and grants.
  6. It is difficult to specify these forces. The broad range of interests and philosophical perspectives of our individual practitioners may be one. Geographers and even entire departments tend to cluster by these subjects and perspectives. Many individuals and, perhaps, clusters apparently have little interest in the "geographies" that are not their own. Also, both our discipline and most of our departments are sufficiently small that the behavior of only a few can do untold damage or bring about immeasurable good.
  7. Many of the other "basic" disciplines identify their domain through a set of phenomena independent of space-time coordinates (e.g., western literature or plants). A professional in these fields must master some subset of them (e.g., the 19th century American novel or *Lupinus subcarinosus*). Synthesis in these fields typically involves integrating the subset with others of the same "class" (e.g., American fiction or legumes). These levels of specialization and synthesis strike me as an order or two more narrow than their traditional and typical counterparts in geography. Of course, other scholars and disciplines also tend "to lose their authority" when attempting the vertical or horizontal synthesis so common in geography.
  8. Given the conceptual parallels accorded to time and space, it is most interesting that history, compared to geography, is such a large discipline in the United States and has so little trouble defending its role within academia. My guess is that history's position is attributable, in no small way, to the large number of contributions that its practitioners make to specific subjects of study, and not to polemics and philosophy about the elusive nature of time, a subject sensibly abandoned to the domain of philosophy or theoretical physics.
  9. To my knowledge, cultural ecological geographers have not encountered exceptional difficulties in obtaining research funding and publish in a wide array of journals. Projects supervised by these geographers have been funded by the National Science Foundation (NSF), the National Geographic Society (NGS), the Social Science Research Council, the National Endowment for the Humanities, and so on. I suspect that the patterns of proposal submissions and funding have not been consistent, however. For example, previous to R. Abler's tenure as Director of the Geography and Regional Science Program, NSF funding was more likely to be awarded entirely through other programs of the foundation. The NGS has historically funded cultural ecological research, but for reasons that are unclear to me, geographers in this field have not submitted many proposals to that organization. Cultural ecological geographers, for whatever reasons, have not used geography journals as their principal research outlet (but then, few specialty groups may do so [Turner 1988]). They have focused more on multidisciplinary journals. For instance, I suspect that the most published membership of any single AAG Specialty Group in *Science* is that of Cultural Ecology.
  10. The biosphere has been so transformed by human action that the existence anywhere of "pristine" nature is seriously challenged. Therefore, environment-society might be a better term for the basic relationship in question. I have refrained from the use of the latter term because without the adjective "physical," "environment" may refer to any setting, including those purely social, as in sociology or psychology. Here I use nature to refer to the biosphere, albeit much transformed by humankind.
  11. The role of and attention given to the nature-

- society branch of geography appears to have been incommensurate until recently with its quantitative and qualitative representation in the discipline. This view has been voiced from both sides of the Atlantic by members of that branch (Kates 1987; Stoddart 1987) and is detectable in Abler's (1987) presidential address to the AAG.
12. A recent British publication purports to identify the linkages between archaeology and geography by way of contributions from ten British scholars, including five geographers (Wagstaff 1987). Even though the bulk of the work on prehistory by geographers, including Europeans, is performed by those affiliated with cultural ecology or anthropogeography, I could find the work of only one scholar situated within this tradition, Karl Butzer, briefly mentioned in the volume, excluding Andrew Goudie who was a contributor. Yet the volume abounds in references to "social" and spatial geography and geographers (also see Gamble 1987, 227-46).
  13. In its last several issues, *Progress in Human Geography* has shown a greater interest in the subject areas that are commonly associated with cultural ecology. Gamble's (1987, 227-46) review of archaeology and geography, however, links only the socio-spatial subfields of geography to archaeology. Ellen's (1988, 227-62) review of anthropology and geography has breadth and covers many of the key works by cultural-ecological geographers in the Anglo-world. It is noteworthy that Ellen is a British anthropologist.
  14. Stoddart (1987) and others argue that the relationship between nature and society is the very essence of geography, and hence, presumably its core. This raises an interesting argument, that cannot be developed here, about the kinds of geographic concepts, if any, that rest on the same conceptual plane as those central to other fields of knowledge. These may not be place or spatial relations.
  15. Much of geography's strength resides in its pluralism, drawing upon the sciences, social sciences, and humanities. Nevertheless, it is self-defeating for the discipline to ignore the primary arena in which the academy has placed us (or we have placed ourselves), the social sciences, with the exception of a few programs so designated. The academy evaluates geography primarily on the criteria of this arena. Arguments that the discipline at large will be judged on its own criteria or that it can assign itself primarily to the humanities or earth sciences are wishful thinking.
  16. It is noteworthy that Lee's (1986) discipline may reap most of the intellectual rewards for this merger. This situation typifies a pattern in work by geographers in general. Just as Harold Brookfield (1962, 1972, 1984) anticipated Ester Bose-rup's thesis, in perhaps a more subtle but less formal way, the concept or theory is claimed by and identified with another discipline. I am not certain how to rectify this situation, although I have few doubts that geography's strength in the research academy would be greatly enhanced if our contributions of this kind were identified

with our field. I suspect that the problem is attributable, in part, to the tendency of many geographers, especially those in the nature-society branch, to work up to the edge of a complete conceptualization or a formal theory and then to back off.

17. Geography consistently rejects possible means of integration that incorporate strongly the nature side of the relationship, even those that have no deterministic leanings (e.g., Rindos 1986) and that earn serious consideration throughout many of the other social sciences (e.g., Boyd and Richerson 1985). I am not an advocate of environmentalism or sociobiology. I am concerned, however, at what I detect to be our discipline's knee-jerk dismissal of the discourse on these subjects and any other that do not necessarily recognize "class" or "culture" as the sole problematic worthy of our attention. Our conscious repudiation of the heritage of environmental determinism can no longer be held responsible for this tendency. I suspect that a much more important reason can be found in the ideologies prevalent among our British-trained colleagues who dominate philosophical discourse in Anglo-American geography, a dominance that has no parallel in any other discipline in North America and that reflects the status of geography in American education.

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