CHAPTER

16

THE NEW GEOGRAPHY IN THE UNITED STATES—WORLD WAR I TO MIDCENTURY

Scarcely was physical geography established, or perhaps I should say rejuvenated and reestablished, before an insistent demand arose that it be "humanized." This demand met with prompt response, and the center of gravity within the geographic field has shifted steadily from the extreme physical side toward the human side, until geographers in increasing numbers define their subject as dealing solely with the mutual relations between man and his natural environment. By "natural environment" they of course mean the combined physical and biological environments.

The quotation above is from Harlan H. Barrows in his presidential address to the Association of American Geographers, 1922 (Barrows, 1923:3).

The period from World War I to the 1950s was transitional as the paradigm of acceptable geographical study was reformulated. Trained geographers began to emerge from graduate departments of geography and to enter the profession, with the result that the traditionally close ties with geology were gradually loosened (Harris, 1979; Trewartha, 1979). In the course of time, the focus of geographical inquiry shifted toward social science and away from exclusive concern with earth science. Indeed, many were deeply disturbed by the growing neglect of the methods and concepts derived from geology and by the tendency to relinquish the study of physical geography to other disciplines. The period has

been incorrectly described as one in which geographers devoted themselves to the "mere description of unique places" without any effort to formulate general concepts. Such a characterization seems unwarranted. Much attention was given to the information and use of concepts and models, and many principles and ideas current in the 1970s can be traced back to their early appearance in the 1920s and 1930s.

As the entry of the United States into World War I approached, the ideas of William Morris Davis were almost unchallenged in geomorphology and were only beginning to be challenged in human geography. With the benefit of hindsight, we can now see that the careful observation and measurement of physical processes were neglected in favor of qualitative studies of natural history. In the field of human geography, Social Darwinism was under attack; indeed, most of the historians and other social scientists had already rejected it (Barnes, 1925; Hayes, 1908). Many geographers, too, were ready to follow A. P. Brigham in rejecting strict environmental determinism and R. D. Salisbury in avoiding simple cause and effect explanations for complex associations of things on the earth's surface. But not all the geographers were aware of the validity of the criticisms of Davis's scheme of human response to physical controls. The persuasive teaching of Ellen Semple, the creative work of Ellsworth Huntington, and to a lesser extent the work of Ray H. Whitbeck (1926) continued to gain support for some kind of environmental control of human behavior (Huntington, 1924). Long after the physical cause and human response paradigm had been dropped, some geographers continued to use the language of "geographic factor" and "environmental control" (Atwood, 1935; Baker, 1921; Lewthwaite, 1966; Martin, 1951; Peattie, 1929, 1940; Whitbeck and Thomas, 1932).

The tradition established at Harvard was carried on after Davis's retirement in 1912 by Wallace W. Atwood (Bushong, 1981).[1] As professor of physiography at Harvard, Atwood attracted many students who were excited by his teaching and by his leadership in field studies. After 1921, when the Clark Graduate School of Geography was established with Atwood as director, students came not only from the United States but also from many foreign countries. Atwood's school texts were very popular, departing from the traditional organization by political units and adopting one based on natural regions. It has been said that "no American has ever brought geography to so many people." Unfortunately, the geographical ideas he taught

[1]Wallace W. Atwood was on the staff of the Department of Geology at Chicago when he was selected to succeed Davis at Harvard. At Harvard Atwood continued his interest in field studies in geomorphology and in the teaching of geography in elementary and secondary schools. His study of the San Juan Mountains of Colorado (Atwood and Mather, 1932) is a classic of its kind. The last chapter deals with "The Utilization of the San Juan Region by Man." In 1920 he became president of Clark University and in 1921 the director of the Graduate School of Geography. In 1925 he founded the periodical, *Economic Geography*. He was president of the Association of American Geographers in 1934. He retired in 1946.

were already disputed by his colleagues when he reached the peak of his influence—much as Davis's ideas of the causal notion were already outmoded when he used them as the organizing principle of the "new geography."[2]

CHANGING CONCEPTS

The period after World War I witnessed the gradual erosion of concepts of physical controls and human responses and a vigorous competition among proposals for new approaches to geographical inquiry (Brunhes, 1925). There is always a certain lag in such changes, a regrettable persistence of traditional error (James, 1967; Jastrow, 1936). But such a period of change is an exciting one because a variety of new ideas are used experimentally (Popper, 1959; Wright, 1966).

There were four main currents of geographic thought to examine. One proposal was that the scope of geographical study should be narrowed to focus on the adjustments made by humans to their physical and biotic environment. This was the proposal that geography should be described as *human ecology*. A second proposal was that geographers should focus on the identification and explanation of observed differences from place to place on the face of the earth. Such studies are included in *chorology*, or the study of places or regions. But chorology was to be more than descriptive. The third and fourth currents included the search for explanations that would make sense out of observed diversity. These took two chief directions: one was to seek genetic explanation in terms of processes of change acting through time, leading to *historical geography* and its specialized offshoot *sequent occupance*; the other was to seek functional explanations, leading to the concept of the *functional organization of space*. These explanatory procedures were applied in various topical fields.[3] Meanwhile, the decade after World War I also saw a notable shift of professional attention from academic studies to the use of geographic concepts and methods in the study of practical economic, social, and political questions. *Applied geography*, as it developed in the period between World War I and the decade of the 1950s, is the subject of Chapter 18.

[2]Another brilliant teacher who supported the ideas of environmental determinism was T. Griffith Taylor. He was on the staff of the Department of Geography at Chicago from 1928 to 1935. Taylor's work in Canada is discussed in Chapter 12.

[3]For full summaries of the contributions made in the various fields of geography in the United States up to 1954 together with extensive references to published materials, see James and Jones (1954). See also Colby (1936) and Whitaker (1954).

HUMAN ECOLOGY

That geography should focus on the study of human ecology, or the adjustment of humans to their natural surroundings, was presented by Harlan H. Barrows in his presidential address before the Association of American Geographers in 1922 (Barrows, 1923). Adjustment, as Barrows used the word, was not caused by the physical environment but was a matter of human choice. Barrows felt, however, that, although the subject matter of geography had been partly lost to other disciplines, it was still too broad and that such specialties as geomorphology, climatology, and biogeography should be relinquished. Like others before him, he sought a unifying theme that would bring coherence to the study of geography. The unifying theme, he argued, could be provided by restricting attention to human ecology. He continued:

> I believe that those relationships between man and the earth which result from his efforts to get a living are in general the most direct and intimate; that most other relationships are established through these; that, accordingly, the further development of economic regional geography should be promoted assiduously, and that upon economic geography for the most part other divisions of the subject must be based. . . . I believe that geography has been too much a library subject, and too little a field subject. I hold that the field is the geographer's laboratory. I believe that we have made only a beginning in the development of rigorous, scientific methods of field work in physiography and geology, and that the development of a thoroughly effective technique in field work is perhaps our greatest immediate need. Since most of us are "rebuilt geologists" do we not, in general, study the geological items and merely observe, in more or less haphazard fashion, the geographical items? Precisely how should one study in the field those relationships which are truly geographic? . . .
> I believe that much of our so-called geographical exposition is something else, that to be truly geographic a discussion must involve from beginning to end an explanatory treatment in orderly sequence of human relationships, and that the development of a satisfactory technique of exposition is only less important than the perfection of field methods (Barrows, 1923:13–14).

But geographers still had to examine skillfully two or more different sets of factors. To be sure, Barrows insisted that the physical conditions should only be studied in relation to humans, but this proved to be more easily said than done. Although Barrows' paper has often been quoted and assigned as reading for graduate students, it did not provide guidelines for a new orientation of the field (Hartshorne, 1939:123).

CHOROLOGY

Some sturdy chorologic inquiry was rendered by Mark Jefferson (1917) and W. L. Joerg (1914, 1936), but a much greater impact on the development of geography in the United States resulted from Carl O. Sauer's study entitled

"The Morphology of Landscape" (1925). (Also see Leighly, 1976; and Stanislawski, 1975.) This article was written shortly after Sauer became chairman of the Department of Geography at the University of California (Berkeley) in 1923. It was intended as a kind of inaugural lecture—a declaration outlining his concept of the field of geography to his colleagues in other departments of the university. Such a declaration was deemed necessary because of the common and uncritical acceptance of the earlier definitions of geography solely in terms of environmental influences. Sauer insisted that no field of study could be defined in terms of a single causal hypothesis that would commit the student to a particular outcome of an investigation in advance (Sauer, 1927:173). To go into the field to look for influences or evidences of control exerted by the physical conditions is to accept a single dogma. Sauer referred to Siegfried Passarge, who recommended that the first step in any geographic study must be to determine the facts by describing the visible characteristics of an area without attempting to explain them in advance.

Sauer went back to the writings of Humboldt and Hettner who supported the so-called chorological concept of the nature of geography. Geography, Sauer pointed out, is concerned with the study of things associated in area on the earth's surface and with the differences from place to place—both physical and cultural. Man, behaving in accordance with the norms of his culture, performs work on the physical and biotic features of his natural surroundings and transforms them into the cultural landscape.

> The design of the landscape includes (1) the features of the natural area and (2) the forms superimposed on the physical landscape by the activities of man, the cultural landscape. Man is the latest agent in fashioning of the landscape. The study of geography begins therefore with physical geography, but—coasts are marked by ports; mountains have flung over them the trails and workings of man. A phrase that has been much used in German literature, unknown to me as to origin, characterizes the purpose perfectly: "the development of the cultural out of the natural landscape." This is the newer orientation that continues the traditional position (Sauer, 1927:186–187).

This, Sauer suggested, is what geography is all about. It is the study of areas, not to describe them as unique occurrences—for there is no such thing as an idiographic science—but rather to identify the regularities and recurrences from place to place that permit the formulation of generalizations. To understand the changes human beings have made on the face of the earth, it is necessary to go back far enough in time to establish the nature of the processes. Geography as chorology, or the study of the associations and interconnections of things in areas or regions, is what Sauer calls a "naïvely given section of reality"—that is, a division of knowledge that is accepted as axiomatic. He concludes his paper with these remarks:

> Our naïvely given section of reality, the landscape, is undergoing manifold change. This contact of man with his changeful home, as expressed through the cultural landscape, is our field of work. We are concerned with the importance of site to man, and also with his transformation of the site. Altogether we deal with the interrelation of group, or culture, and site, as expressed in the various landscapes of the world (Sauer, 1925:53).[4]

Sauer's purpose was to make a clean break with the traditional geography inherited from the period before World War I. He might have discussed "the morphology of regions, or areas." But the word "region" in 1925 was encrusted with more ambiguities than the word landscape, including the notion of the uniform physiographic region that was also uniform in human response. The word "area" was even more ambiguous. As a result of these difficulties with confused word meanings, discussions of the nature of geography that followed not infrequently descended to controversy over the meanings of words.

Sauer's paper won widespread acceptance among the younger members of the profession, most of whom had completed their graduate training since 1920 and had recently been appointed to one of the several new geography staffs then being formed.[5] The new geographers had been raised on the search for geographic influences, but by 1925 there was enough skepticism concerning the content or method they had been taught to make the younger generation ready to accept a change of paradigm. With enthusiasm they turned to the study of landscapes, or regions, seeking the kind of interacting systems among diverse phenomena that gave character to particular places and tracing the changes introduced by the human settlement back to origins (Broek, 1938; Dodge, 1932). Here is what Norton Ginsburg wrote many years later in a position paper for the Commission on College Geography:

> Theirs was above all a "scientific" geography, concerned with regions as systems, and with the comparative method as a device for developing hypotheses concerning areal relations and processes. The use of statistics was simple and even primitive, to be sure, but their concerns were far from trivial, and the problems with which they dealt were of—to use a somewhat abused word—"overriding importance," at least to the development of geographic discipline.

[4]For Hartshorne's criticism of the use of the word "landscape" and the justification for its use presented by Josef Schmithüsen, see pp. 177–178. See also Broek (1938).

[5]Sauer had been appointed to the newly renamed Department of Geology and Geography at Michigan in 1915. The chairman was the geologist, William H. Hobbs. In 1921 Wallace W. Atwood became chairman of the newly founded Graduate School of Geography at Clark University. In 1923, when the Department of Geography was established in the Social Science Division at Michigan, K. C. McMurry became its chairman. Sauer became chairman of the department at the University of California in Berkeley. New separate departments were established in 1925 at Minnesota and in 1928 at Wisconsin. Meanwhile, there were many positions to be filled in departments of geology and geography. The number of new Ph.D.'s increased rapidly: 10 in 1916–1920; 32 in 1921–1925; 66 in 1926–1930; and 51 in 1931–1935 (the period of the Great Depression) (Whittlesey, 1935; see Browning, 1970 and also Hewes, 1946).

The younger generation developed new jargon, including the use of the symbols of the Köppen classification of climates, and proceeded to reject the older generation of seekers after environmental influences. Since most of these younger geographers had taken at least some of their graduate work at Chicago—where they had been participants in Salisbury's famous seminar—they spread to other universities the idea of regular staff-student discussions of philosophical or methodological questions.

Yet there is a curious fact about the impact of Sauer's paper. These things had all been said before. In 1924 Sauer himself had published a paper in the *Annals AAG* attacking the study of influences and advocating the field survey of the "areal expression of man's activities" (Sauer, 1924). Instead of going into the field with a set of a priori principles concerning the effect of the physical environment on man, one should seek to observe the facts and then draw conclusions from them. This part of Sauer's proposal drew immediate criticism from some of the older generation. As Dryer pointed out, no one could actually observe anything or describe anything without some kind of working hypothesis, conscious or unconscious. There would be no way to select things to record and describe. If anyone does try to do what Passarge and Sauer recommend, he wrote, "the result is likely to be a catalogue half rubbish, like a child's collection from a dump heap, and wholly unscientific."[6]

Dryer himself, in his presidential address to the Association of American Geographers in 1919, had presented the chorological concept, but not by that name:

> It seems clear and beyond question that the psychological foundation of the geographic concept is the sense of distribution in terrestrial space. We must concede the pertinence of the doctrine of Kant that "geography is a narration of occurrences which are coexistent in space." The idea, more sharply put by Bain in the statement that "the foundation of geography is the conception of occupied space," fits and includes every work generally recognized as geography from Strabo to Ritter and Reclus. With various additions and qualifications, it forms the essence of most of the current and accepted definitions of geography, of which quotation is unnecessary (Dryer, 1920:5–6).

N. M. Fenneman made almost the same point in "The Circumference of Geography," which was his presidential address to the Association of American Geographers in 1918 (Fenneman, 1919).

Dryer's paper seems to have had slight impact on his fellow geographers. Nor, for that matter, was Alexander Bain's[7] very modern-sounding idea of geography as dealing with "the conception of occupied space" (1879) given any attention. Sauer, who was present at the St. Louis meeting of the association in 1919 when Dryer gave his paper, makes no reference to it in "The Morphology of Landscape." The report on the St. Louis meeting in the *Geographical Review* has the following to say about Dryer's address:

> President Dryer's address on "Genetic Geography: The Development of the Geographic Sense and Concept" was scholarly to a high degree and will rank among the finest presidential addresses that have been presented before the Association. It ought to be given a much wider circulation than it will receive if its publication is confined to the Association's *Annals* [*Geographical Review* 9(1920):139].

The report on the meeting goes on to say that the average attendance at the sessions was about 35, half of whom were members, and that only three of the members were from eastern colleges. The large number of younger people about to enter the profession had not started in 1919.

After 1925, when a new generation of younger geographers began to emerge, it became common for geographers to report on situations where the physical features of an area were not of major importance. While some of the older geographers and a few of the younger ones continued to report on responses or influences, many of the younger ones took delight in describing cases where other factors were more significant than the physical ones. Richard Hartshorne presented a paper to the association in 1926 concerning the location factor in geography with special reference to manufacturing industries (Hartshorne, 1927). Location relative to the sources of raw materials, markets, power, and labor was more important than location relative to such features as relief, drainage, soil, or climate. For those who had been "explaining" the concentration of cotton textile factors in New England by the humidity of the climate (which permitted the spinning of thread without snarling due to static electricity), this reference to relative location with no mention of the elements of the physical environment came as an innovation. People who came to such conclusions were accused of leaving the "ge" out of geography.

HISTORICAL GEOGRAPHY

Those who adopted the chorological theme were never content merely to describe the content of an area in static terms. Attention was necessarily focused on the processes, or sequences of events, that provided an explanation of the observed landscapes. To explain is to make sense out of apparently endless diversity. Of course, the study of sequences of events gave a dynamic quality to regional studies that purely contemporary description could not provide. Andrew H. Clark explains it as follows:

> The genetic approach to geographical study inevitably leads to an examination of the past. This does not mean that one is to seek simple causes in the past to

[6] See Dryer in *Geographical Review* 16 (1926):348–350.

[7] Alexander Bain (1818–1903), a Scottish philosopher, professor of logic and English at Aberdeen from 1860 to 1880, in *Education as a Science* (London, 1879), p. 272.

> account for contemporary conditions, but rather that the conditions observed at any period of time are to be understood as momentary states in continuing and complex processes of change. Simple cause and effect relations are elusive, for no matter how far back a scholar may penetrate there is always a more distant past calling for further investigation. The genetic approach focuses attention on processes, for whatever interests us in the contemporary scene is to be understood only in terms of the processes at work to produce it. It is not, therefore, a search for origins in any ultimate sense, but rather views the present, or any particular time, as a point in a long continuum (Clark, 1954:71).

It is important to understand that the new approach to historical geography that appeared in America in the 1920s was not at all like that of Brigham and Semple in 1903 or like Barrows' course on "The Influence of Geography on American History." Barrows had been greatly influenced in his early years by Ellen Semple's interpretation of Ratzel and by the historian Frederick Jackson Turner, who in 1893 gave his famous lecture, "The Significance of the Frontier in American History" (Koelsch, 1969:634). Turner was an eloquent speaker for geographical influences on history. But at some time between 1920 and 1922 Barrows changed his basic approach to this topic. In 1923 he renamed his course "Historical Geography of the United States," and he focused his attention on examples of "creative human adjustments to a passive natural environment" (Koelsch, 1969:637). We should also note that Ellen Semple's book on the Mediterranean, published in 1931, offers outstanding examples of the method of historical geography.

The course Barrows gave at Chicago made a lasting impression on his students. Many of the graduate students wrote dissertations that can be classified as historical geography (e.g., Parkins, 1918); dissertations in other universities in this period were also contributions to historical geography (Clark, 1954:84–85). Yet it seems that not many of the new geographers trained in this way continued to produce studies in historical geography as such—although most of them made use of genetic explanations that involved some attention to the time dimension. Some of the most important studies in historical geography were written by nongeographers.[8] And one study that described in detail the movement of a former hill town down into the valley to locate at a new site on the railroad was written by the geologist, J. W. Goldthwait (the story of Lyme, New Hampshire, in Goldthwait, 1927). This paper, which was published in the *Geographical Review*, was regarded for many years as a model of its kind.

During the period we are discussing, two American geographers became the chief innovators in historical geography (Clark, 1954). One was Ralph H.

[8]For example: Allan C. Bogue, *From Prairie to Corn Belt* (Chicago, 1963); Bernard DeVoto, *The Course of Empire* (Boston, 1950); H. A. Innis, *The Fur Trade in Canada* (New Haven, Conn., 1930); J. C. Malin, *The Grassland of North America: Prolegomena to Its History* (Lawrence, Kans., 1947); and W. P. Webb, *The Great Plains* (New York, 1927).

Brown, the author of *Mirror for Americans* (Brown, 1943). In this study Brown undertook to write a geography of the eastern seaboard of North America as portrayed in about 1810 in the writings of the previous two decades or so. This imaginative approach to the re-creation of a past geography as perceived by scholars of the time foreshadows the modern attention to environmental perception. Brown then published a second book, *Historical Geography of the United States* (Brown, 1948), in which he traced the geographical changes during the course of settlement. Unfortunately, the career of this outstanding innovator was cut short by his untimely death at the age of 50.[9]

The other major source of inspiration in historical geography was Carl O. Sauer (Speth, 1981). At Berkeley, Sauer formed close intellectual ties with two other workers in allied fields: Herbert E. Bolton, historian, and Alfred L. Kroeber, anthropologist. These outstanding scholars, each bringing a different background to his studies, came together on the problems of interpreting Latin America. The combination proved enormously stimulating not only to these three men, but also to the many graduate students in all three fields. The first of many monographic studies that Sauer wrote with a graduate student as coauthor described the prehistoric Indian frontier of settlement on the Pacific coast of Mexico (Sauer and Brand, 1932). Sauer himself undertook to locate the old colonial highway from Guadalajara to Tucson on the basis of field study (Sauer, 1932). Additional samples from these studies in historical geography include: Broek, 1932; Carter, 1945; Clark, 1949; Hewes, 1950; Kniffen, 1931; Meigs, 1935; Parsons, 1949; Spencer, 1939; and West, 1952. Sauer extended his works on historical geography to cover a wide variety of topics (Sauer, 1952, 1956, 1966b, and his presidential address before the Association of American Geographers, 1941).

Out of these studies of sequences of settlement certain principles began to emerge. One was the principle that the same physical conditions of the land could have quite different meanings for people with different attitudes toward their environment, different objectives in making use of it, and different levels of technological skills. In agricultural areas it was clear that slope had one meaning for the man with a hoe and quite another for the man with a tractor-drawn plow. It might be that the introduction of machinery could reduce the arable area of a country or change the kind of soil considered desirable. People with one kind of culture might concentrate their settlements on flattish uplands, whereas another people in the same area might concentrate in the valleys. Water power sites that were useful for the location of industries before the advent of steam lost that attraction when power came from other sources.

One early study in which the changing significance of the land was traced through a sequence of periods with different cultures dealt with an arbitrarily

[9]See the list of his numerous articles in a brief obituary by Stanley D. Dodge in the *Annals AAG* 38(1948):305–309.

outlined area on either side of the Blackstone Valley, extending from the outskirts of Worcester, Massachusetts, to the environs of Providence, Rhode Island. The study, published in 1929, was summarized as follows:

> Thus the landscapes of the Blackstone area are made up of a complex of cultural impressions set one upon the other. The three chief cultures, the native Indian, the rural European, and the urban manufacturing, have each modified the natural setting in a unique and characteristic way. Forms developed by the Indian culture are visible, even today, in the shell mounds, the deposits of chipped stones and broken utensils, or the scarcely discernible trails. The forms of the rural European culture are visible on every side, some of them continuing without change of function to the present, others significantly modified in their use, and others remaining as weather-beaten ruins or brush-entangled fields to tell of a period which exists no more. . . . Finally the urban landscape, in spite of its relatively small area, has come to occupy the position of commanding importance around which the economy of the region is oriented (James, 1929:108).

In that same year Derwent Whittlesey gave a name to this kind of study. He described the studies of the processes of change in the occupance of an area as *sequent occupance*. Referring especially to New England, he wrote:

> . . . each generation of human occupance is linked to its forbear and to its offspring, and each exhibits an individuality expressive of mutations in some elements of its natural and cultural characteristics. Moreover, the life history of each discloses the inevitability of the transformation from stage to stage (Whittlesey, 1929:163).

Studies in sequent occupance represent the antithesis of environmental determinism. In a sense they represent a form of cultural determinism, for its recognized that with any significant change in the attitudes, objectives, or technical skills of the inhabitants of a region, the significance of the resource base must be reappraised. A large number of studies published during the 1920s and 1930s made use of the method of sequent occupance, whether or not that term was adopted (e.g., Colby, 1924; James, 1927, 1931; Platt, 1928, 1933).

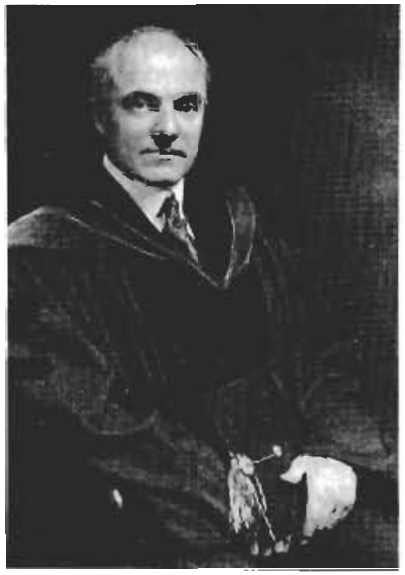
This was not a period when general concepts were neglected. Oliver E. Baker made effective use of economic principles to explain the development of American agriculture (Baker, 1921, 1923), and Harold H. McCarty used general concepts to interpret economic conditions and population regions in America (McCarty, 1940, 1942). Both Whittlesey and Hartshorne formulated theoretical structures to enlarge the reach of political geography (Hartshorne, 1950: Whittlesey, 1939). In 1939 Mark Jefferson wrote, "A country's leading city is always disproportionately large and exceptionally expressive of national capacity and feeling"—which he called the "Law of the Primate City" (Jefferson, 1939:231). As early as 1921 Marcel Aurousseau, an Australian geographer working in Washington, D.C., investigated the world distribution of population and sought to quantify the "expansion ratios" of already occupied regions (Aurousseau, 1921). In 1932 Stanley D. Dodge proposed that studies of population could be related to a statistically normal growth curve, a portion of a sine curve (Dodge, 1933). Studying population changes in Vermont and New Hampshire, he classified each minor civil division in terms of its position on the curve of growth or decline. Applying the concept to the whole of New England, he revealed a new pattern of population regions by plotting his results on a map (Dodge, 1935).

One of the most imaginative geographers of the period was Robert S. Platt,[10] who was a member of the Department of Geography at Chicago from 1919 to 1957. On his first field trip to the Antilles in 1922, he discarded the ideas of environmental determinism and became one of the most eloquent adversaries of those who continued to speak of responses or controls (Platt, 1946, 1948). It was Platt, who in 1928 in a report on a field study of a small Wisconsin community, first formulated the concept of a hierarchy of central places. "The radius of the community," he wrote, "is measured by the reach of the village institutions" (Platt, 1928:92). He noted that the individual farmer looked to the smallest village for those immediate services that had to be close enough for daily contacts. For his larger needs, which did not require such frequent visits, the farmer looked to the larger towns. The hierarchy that Platt identified started with the individual farmer, proceeded to the village of Newport, then Ellison Bay and Sister Bay, to Sturgeon Bay (the county seat), to Green Bay (the regional center), and to Chicago (the metropolis). If Platt were studying Ellison Bay today, he would have described it as a spatial system and he would have used quantitative techniques to make his observations of the functional relationships more precise. But the ideas were all there in 1928 (Thoman, 1979).

STUDIES OF SCOPE AND METHOD

The geographers in North America, like their colleagues in other parts of the world, had to clarify their own ideas regarding scope and method. Geography in America was nurtured in its early years by geologists, and most of the first generation of scholars in geography had a common background in geology.

[10]Robert S. Platt graduated from Yale in 1914 in history and philosophy. He taught for a year in the Yale Collegiate School at Changsha, China, and then returned for graduate study in geography at Chicago. He was appointed instructor in geography in 1919 and received the Ph.D. in 1920. He was a professor by 1939, and from 1949 until his retirement in 1957 he was chairman of the Department of Geography. When he returned to Chicago after teaching in China, he found that Wellington Jones was already teaching a course on Asia and that Walter S. Tower, who had taught a course on South America, had left the university; so he turned his attention to Latin America as his region of special interest. He was president of the Association of American Geographers in 1945.



Wallace W. Atwood

Harlan H. Barrows

Isaiah Bowman

J. Paul Goode

Richard Hartshorne

Ellsworth Huntington

Carl O. Sauer

John K. Wright

The few who were not geologists were mostly meteorologists or botanists. The direction offered by Davis in the 1880s and 1890s had led to the causal notion becoming the first paradigm in American geography soon after the turn of the century. As departments of geography were established in the universities and as graduate students trained in geography began to enter the profession, the spirit and purpose of geography were examined closely (Finch, 1939; Johnson, 1929). Initially, the main objective was to establish geography as an independent field of study. There was concern to define limits that would separate geography from other fields. This drive toward disciplinal independence probably retarded the development of geographic ideas because the workers in any field of learning must be in close contact with ideas being generated in other fields.

The habit of discussing philosophical and methodological questions was supported in at least three ways. One was the nature of Salisbury's seminars and many others that were patterned on the Chicago example. Then there were the many opportunities for such discussion offered by the annual meetings of the Association of American Geographers. By longstanding tradition, the presidents of the association make use of their presidential addresses to set forth their own ideas concerning the scope of geography. And of no small importance were the foreign visiting lecturers who were invited to American universities for periods ranging from a summer session to a whole academic year.[11]

Moreover, there was a widely based tradition in America of studying geography out-of-doors, and discussions concerning geographical ideas and procedures were more vigorous in the field than within the walls of the seminar rooms. Few indeed were the young geographers of that period who were content to give only a verbal definition of geography in logical terms. In the field there was no difficulty in moving the discussion promptly to the search for an operational definition—that is, in reaching an agreement about what must be done to identify a geographic idea or how a geographic idea could be used to increase knowledge of the earth as the home of man. In the field the concept of the region came alive. Symptomatic of this operational approach to the definition of geography was the oft-quoted remark that "geography is what geographers do."[12]

These two traditions—the habit of discussion and familarity with field study—resulted in the organization early in the 1920s of an annual spring field conference (James and Mather, 1977). The first such conference was

[11]For example, the French geographer Raoul Blanchard lectured at Harvard in 1917, at Columbia in 1922, at Chicago in 1927, and at Berkeley in 1932. He returned to give a lecture series at Harvard every year between 1928 and 1936. In addition to Blanchard in 1927, other Europeans invited to Chicago included James Fairgrieve in 1920, Sten De Greer in 1922, Ernest Young in 1924, L. Rodwell Jones in 1925, Helge Nelson in 1926, and Patrick Bryan in the summers of 1928 and 1929.

[12]Credited to A. E. Parkins (see J. Russell Whitaker in the *Annals AAG* 31 [1941]:48).

held in 1923 in the Indiana Dunes south of Lake Michigan. The participants were former students at Chicago who held positions in several midwestern universities.[13] A somewhat larger group met in May, 1924 at Bagley, Wisconsin, and in May 1925 at Hennepin, Illinois. In 1925 a report representing the joint conclusions reached at these conferences was published, entitled "Detailed Field Mapping in the Study of the Economic Geography of an Agricultural Area" (Jones and Finch, 1925). Thereafter field conferences were held almost every spring and included approximately the same people. In 1926 a second conference was organized consisting of junior scholars. In 1935 both groups were combined, meeting that spring in Menominee, Michigan, and in the spring of 1936 in Pokagan State Park in Indiana. In 1938 the geographers held their conference in the Muskingum Watershed in Ohio, where the Soil Conservation Service was carrying out a program of erosion control based on detailed studies of rainfall and runoff. In 1940 at Pokagan State Park proposed field studies were discussed. During the 1920s and 1930s many papers that originated in conference discussions were published (Finch, 1933; Hall, 1934; Hartshorne, 1932; James, 1931; James, Jones, and Finch, 1934; Jones, 1930; Platt, 1931, 1935; and Whittlesey, 1925, 1927).[14]

EXPERIMENTS IN METHOD

The field conferences helped focus attention on problems of methodology. How were geographical problems to be identified in the field? How were the necessary data to be collected in useful form? W. D. Jones had returned from

[13]The following geographers participated in these conferences: From Chicago: C. C. Colby, W. D. Jones, R. S. Platt, D. S. Whittlesey, and C. O. Sauer in 1923 only (Whittlesey continued to attend after he went to Harvard in 1928); From Wisconsin: V. C. Finch, A. K. Lobeck (until he went to Columbia in 1929); From Minnesota: D. H. Davis; From Northwestern: W. H. Haas; From Michigan: K. C. McMurry; From George Peabody: A. E. Parkins. The junior group that met first in 1926 included: From Michigan: S. D. Dodge, R. B. Hall, P. E. James; From Minnesota: R. H. Brown, Samuel N. Dicken, R. Hartshorne; From Wisconsin: L. Durand, G. T. Trewartha, J. R. Whitaker; From Chicago: H. M. Leppard.

[14]The members of these two field conference groups shaped the policies of the profession in the 1920s and 1930s. In those days membership in the Association of American Geographers was by election only, based on "an original contribution to some branch of geography beyond the doctoral dissertation." A nominating committee each year selected a single slate of officers. The president and vice-president held office for one year only, but the officers whose terms ran for several years naturally had the greatest influence on association policy. These were the secretary, the treasurer, and the editor of the *Annals*. At least two of these were always members of the conference group. Often at the spring conferences one evening was devoted to a discussion of association problems. Actually, the conference membership was not exclusive because the group was always looking for younger men with both energy and ability. Nevertheless, when the new constitution of the association was adopted after World War II, which opened the membership to any interested person, the existence of a "clique" was severely criticized by the flood of new geographers then emerging from the graduate schools. The association is now democratically operated under the management of a paid executive director. In 1941 the membership was 167; in 1980 it was approximately 6000 (James and Martin, 1979).

Patagonia many years earlier with an appreciation of the need to prepare maps of land use on the same scale and degree of generalization as the traditional maps of the physical features. Jones and Sauer had jointly published a paper on this subject in 1915. The field conference discussions of field methods began where the earlier discussions had ceased.

The basic problem involved in the study of agricultural areas was how to identify and plot on maps the significant units of area relevant to the understanding and guidance of land use. At first, it was proposed that several separate maps, all on the same scale, should be prepared to show the critical elements in land use problems. The next step was to reduce the number of such maps to two: one to show the conditions of the land, including units of soil, slope, drainage, and cover of wild plants; the other to show the categories of land use. When these two maps were superimposed, the precise covariance of the physical features and the land use could be examined in detail. Later, the suggestion was made that all this information could be plotted on one map by making use of a fractional code symbol. The denominator of the fraction was made up of digits representing categories of soil, slope, and drainage; the numerator comprised digits representing types of land use or wild vegetation. In the course of field-mapping, when the observer noted any difference of the physical land or the land use, a boundary had to be drawn and a new fractional code symbol shown. In each unit area, represented by one fraction, there was a single, uniform association of land quality and land use. Since every microscopic point on the face of the earth differs from all other points, these unit areas were, in fact, generalizations. Within each unit area there was a certain range of diversity that had to be small enough to be acceptable—and this of course depended on the proposed use for the resulting map.

The fractional code system was tested by V. C. Finch with a group of graduate students from the University of Wisconsin, and the results were published in the so-called Montfort Study in 1933 (Finch, 1933). The map was published on a scale of approximately 1/15,000 (Fig. 29) and provided an extraordinary amount of detailed information. From this map it was possible to prepare a number of thematic maps of individual elements, such as slope, soil, or land used for specific purposes. But the field-mapping had required so much time that Finch was unable to recommend the method as useful. In Chapter 18 we will look at a new method of random sampling applied experimentally to a part of the Montfort area.

The number of books and articles by American geographers increased so greatly after the 1920s that it is impossible to do more here than offer a few selected examples. Work was done in all the topical fields of geography: in population and settlement studies, in urban geography, transportation and other aspects of economic geography; and also in the various fields of physical geography and biogeography. All this work is reported at length in *American Geography: Inventory and Prospect* (James and Jones, 1954).

The innovative papers in the field of population geography may be

singled out as examples of the many studies in the 1930s, 1940s, and 1950s. The experiments with the mapping of population were greatly stimulated by the work of the Swedish geographer, Sten De Geer. Various kinds of dot maps and density maps were prepared. But one basic problem continued to bother the workers in this field. The census data are summed up within enumeration areas that are seldom relevant to the kinds of problems geographers want to study. In 1936 John K. Wright published a short paper on the mapping of population, using Cape Cod as an example.[15] He showed that quite different patterns of population are brought out by using enumeration areas of different sizes and shapes. He presented a quantitative method for distributing the densities within a large enumeration area, such as a township. He described his method as follows:

> Assume, for example, a township with a known average density of 100 persons to the square mile. Assume, further, that examination of topographic maps and consideration of other evidence have shown that this township may be divided into two parts, *m*, comprising 0.8 of the entire area of the township and having a relatively sparse population, and *n*, comprising the remaining 0.2 of the township and having a relatively dense population. If, then, we estimate that the density of population in *m* is 10 persons to the square mile, a density of 460 to the square mile must be assigned to *n* in order that the estimated densities of *m* and *n* may be consistent with 100, the average density for the township as a whole (Wright, 1936:107).

Wright provided a table to make estimates of density consistent with average figures for whole enumeration areas.

Another innovation in the study of population was offered in 1954 by Lester E. Klimm of the University of Pennsylvania (Klimm, 1954). He pointed to the existence of large empty areas within such a long-settled region as the northeastern states. He described empty areas as follows:

> These empty areas are not used for farming, no one lives in them, they contain virtually no recreational or commercial structures. Most of the surface is in woods or brush, ranging from "barrens," burnt-over land, or bog to large tracts of managed commercial forest in Maine, New Hampshire, and New York and extensive areas of state and national forest. Forestry and recreation are the principal present uses. Where they have resulted in structures, the areas occupied have been classified as not being empty (Klimm, 1954:325).

[15]John K. Wright was graduated from Harvard in history in 1913 and received the M.A. in 1914 and the Ph.D. in 1922. After serving in World War I, he was appointed librarian at the American Geographical Society. At the society he devised a new research catalog for use by geographers, with books classified both topically and regionally. He edited many of the society publications. From 1938 to 1949 he was the director of the American Geographical Society, and in 1946 he was president of the Association of American Geographers. Some of his more important writings are included in a book entitled *Human Nature in Geography* (Wright, 1952; 1966).

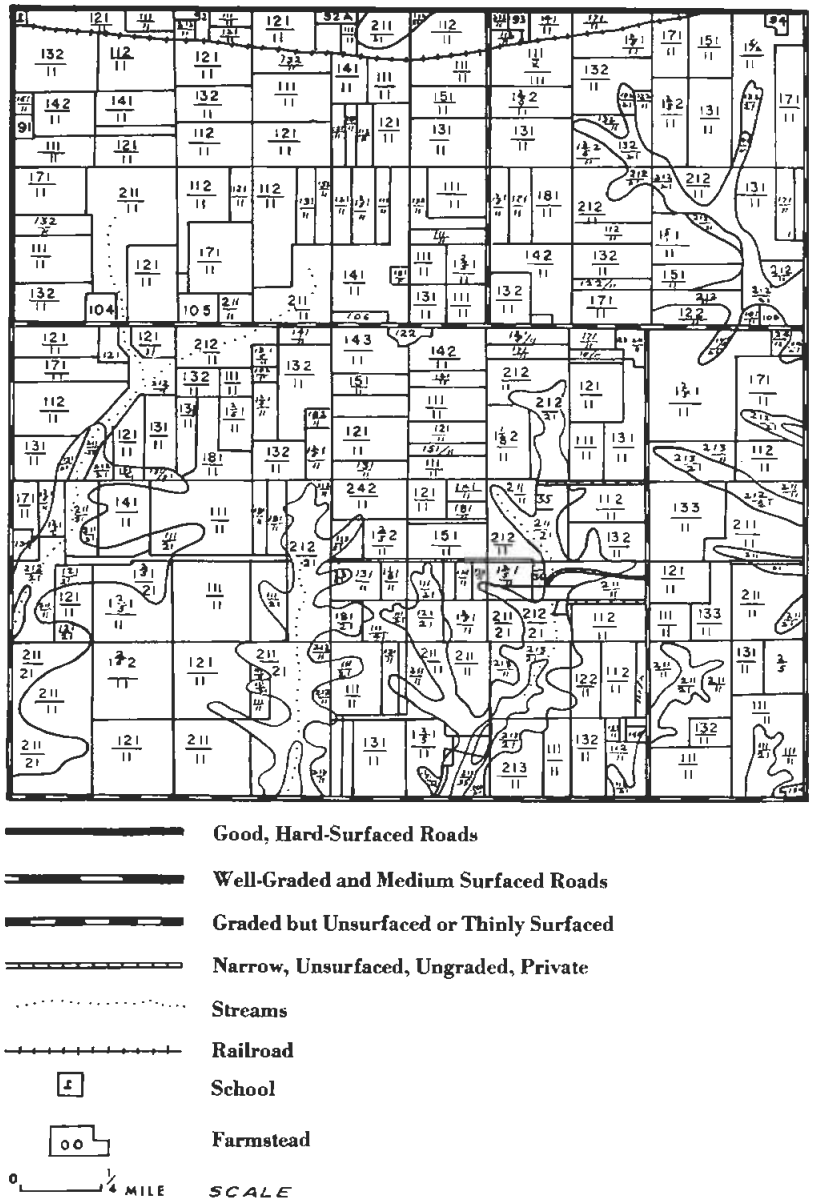


FIGURE 29. *A portion of Montfort area (from Finch, 1933).*

NUMERATOR

Left-hand Digit: Major Use Type	*Second Digit: Specific Crop or Use Type*	*Third Digit: Condition of Crop*
1. Tiled land	*1. Corn (maize)* *2. Oats* *3. Hay in rotation* *4. Pasture in rotation* *5. Barley* *6. Wheat* *7. Peas (mainly for canning)* *8. Soy beans* *9. Potatoes* *T. Tobacco* *X Sudan grass* *⅖ Oats and barley mixed*	*1. Good* *2. Medium* *3. Poor*
2. Permanent grassland	*1. Open grass pasture* *2. Pasture with scattered trees or brush* *3. Wooded pasture* *4. Permanent grass cut for hay*	*1. Good* *2. Medium* *3. Poor*
3. Timber land	*1. Pastured* *2. Not pastured*	*1. Good* *2. Medium* *3. Poor*
4. Idle land	*1. Is capable of use*	

DENOMINATOR

Left-hand Digit: Slope of Land	*Second Digit: Soil Type (Wis. Soil Survey Terminology)*	*Letter x: Condition of Drainage*
1. Level, 0°–3° *2. Rolling, 3°–9°* *3. Rough, 9°–15°* *4. Sleep, over 15°*	*1. Marshall silt loam* *2. Knox silt loam* *3. Knox silt loam (steep phase)* *4. Lintonia silt loam* *5. Wabash silt loam* *6. Rough, stony land*	X *Poor* XX *Very poor*

FIGURE 29 *Continued*

Klimm's map on a scale of 1/2,000,000 shows large, continuous empty areas, especially in northern Maine and New Hampshire, in the Adirondacks, the Allegheny Plateau, the Catskills and Poconos, and in the New Jersey Pine Barrens. He also shows a patchwork of smaller empty areas scattered in many parts of the region. It is clear from an examination of this study that the first step in preparing a map of population (by whatever method population is to

be shown) must be to mark off the empty areas. Of course, the population data by census districts entirely obscures this kind of information.

These are only a few examples of the many experiments with method that were tried and then discussed in seminars and at meetings of the association.

DEFINITION OF THE FIELD

The Commission on the Social Studies in the Schools appointed by the American Historical Association invited Isaiah Bowman to represent geography and subsequently to write a book on the relation of that branch of science to the social studies. The book Bowman wrote was *Geography in Relation to the Social Sciences* (1934). Its content includes: "By Way of Definition," "Measurement in Geography," "Population and Land Studies," "Technique in Geographical Analysis," "Regional Geography," "Economic and Political Bearings," and "Conclusions." Bowman had for some years been predisposed toward undertaking such a book. Schoolteachers, fellow geographers, and university administrators had frequently asked him to define geography. There was a void in the literature concerning the scope and nature of the field. Points of view conflicted, and there was little philosophical cohesion to geography. Bowman revealed his thought and feelings on the scope of geography:

> This world is made up of regions and each region has its own personality, its own set of significant conditions. A Tibetan yak driver, an Egyptian fellah, an Uros fisherman, an Argentine hacendado, a Kansas farmer, a Peace River pioneer—each lives in a world whose conditions and outlook are almost completely unlike the others. To apprehend those earth qualities, conditions, outlines, measured components, and interactions that enable us to look understandingly at man in relation to the pervasive elements of his complex regional environment—these are the most distinctive as they are the culminating purposes of geographical research (1934:4).

Bowman did not wish to impose an orthodoxy on workers in the field, but he did suppose that a consensus was desirable. The book represented his own geographical point of view. Five years later another book was published that synthesized many geographers' viewpoints concerning the nature of geography. Occasionally, a book is published that stands as a landmark in the history of geographic thought. Such a one is *The Nature of Geography* (Hartshorne, 1939). Hartshorne, then at the University of Minnesota, had been a graduate student at Chicago and a participant in the spring conferences. His published studies during the 1920s and 1930s ranged widely over the field, including studies of agricultural regions, transportation and urban development, climate, and studies of the factors in the location of manufacturing industries. He also published a paper on racial distributions in the United States and on some fundamental concepts in political geography (Hartshorne, 1927, 1932, 1938, 1950). Field studies on the boundary problems of the upper Silesian

industrial district (Hartshorne, 1934) excited his curiosity about boundary questions in general. When he was granted a sabbatical leave in 1938–1939 together with financial aid from the Social Science Research Fund of the University of Minnesota, he planned to make a field survey of European boundary problems. But 1938 was no time for an American geographer to be examining European boundaries with notebooks, maps, and camera—for the events leading up to World War II had already begun. Before leaving for Europe, he had submitted a paper to the *Annals* regarding certain methodological questions. In Vienna, hoping that he might yet be able to carry on field studies, he received several letters from Derwent Whittlesey, then editor of the *Annals*, suggesting additional materials that could be added to his paper. He made use of the library at the University of Vienna to consult new sources of information. But as time went on and conditions grew worse rather than better, he focused his attention on the many documentary materials available in European libraries and also carried on interviews with leading geographers. The result was a book of nearly 500 pages (Hartshorne, 1979).

Hartshorne describes his purpose as follows:

> The detailed examination of the nature of geography which this paper endeavors to present is not based on any assumption that geography is or ought to be a science—or that it ought to be anything other than it is. Assuming only that geography is some kind of knowledge concerned with the earth, we will endeavor to discover exactly what kind of knowledge it is. Whether science or an art, or in what particular sense a science or an art, or both, are questions which we must face free of any value concepts of titles. . . .
>
> The writer's concern . . . is to present geography as other geographers see it—or have seen it in the past. If we wish to keep on the track—or return to the proper track . . . —we must first look back of us to see in what direction that track has led. Our first task will be to learn what geography has been in its historical development (Hartshorne, 1939:205, 207).

Hartshorne's book was widely acclaimed and is generally accepted as an authoritative account of the points of view of the major builders of geographical ideas. It is a product of careful scholarship. But in the course of time colleagues and graduate students in seminars all across the country attempted to identify the positive conclusions regarding the nature of the field, and this proved to be very difficult. Hartshorne had either quoted or paraphrased some 300 methodological writings, some of which departed from what he identified as the mainstream of geographic scholarship. The continued discussion of these fundamental questions raised certain doubts and challenges that required clear answers (Hartshorne, 1955, 1958; Schaefer, 1953). Hartshorne undertook to provide a restatement of the positive conclusions to be drawn about the nature of geography. His *Perspective on the Nature of Geography* (1959) is organized around ten topics, each of which is the subject of a chapter:

1. What is meant by "geography as the study of areal differentiation"?
2. What is meant by the earth's surface?
3. Is the integration of heterogeneous phenomena a peculiarity of geography?
4. What is the measure of significance in geography?
5. Must we distinguish between human and natural factors?
6. The division of geography by topical fields—the dualism of physical and human geography.
7. Time and genesis in geography.
8. Is geography divided between systematic and regional geography?
9. Does geography seek to formulate scientific laws or to describe individual cases?
10. The place of geography in a classification of the sciences.[16]

The conclusions that Hartshorne reached (1959) are summarized in the following statements (note that the earlier ones are modified somewhat by the later ones):

> Geography is concerned to provide accurate, orderly, and rational description and interpretation of the variable character of the earth surface [p. 21].
>
> The earth surface is the outer shell of the earth where lithosphere, hydrosphere, atmosphere, biosphere, and anthroposphere are intermingled. This is the geographer's universe [pp. 22–25].
>
> The goal of geography, the comprehension of the earth surface, involves therefore the analysis and synthesis of integrations composed of interrelated phenomena of the greatest degree of heterogeneity of perhaps any field of science [p. 35].
>
> Any phenomenon, whether of nature or of man, is significant in geography to the extent and degree to which its interrelations with other phenomena in the same place or its interconnections with phenomena in other places determines the areal variations of those phenomena, and hence the totality of areal variation, measured in respect to significance to man [p. 46].
>
> In describing and analyzing individual features and elements, we are free to utilize whatever categories of classification are empirically significant to the study of their interrelationships, without concern for the abstract distinction between those of human origin and those of natural origin [p. 64].
>
> The traditional organization of geography by topics into two halves, "physical" and "human," and the division of each half into sectors based on similarity of the dominant phenomena in each, is of relatively recent origin and has proven detrimental to the purpose of geography—the comprehension of the integrations of phenomena of diverse character which fill areas in varying ways over the earth [p. 79].
>
> . . . historical studies of changing integrations are essentially geography rather than history as long as the focus of attention is maintained on the character of areas, changing in consequence of certain processes, in contrast to the historical interest in the processes themselves [p. 107].
>
> Geographic studies do not fall into two groups (topical and regional) but are distributed along a gradual continuum from topical studies of the most elementary integration at one end to regional studies of a most complete integration at the other [p. 144].
>
> [Regarding the question of the nomothetic or the idiographic approach:] We start with "observation"—sensory description, often assumed to be the sole meaning of "description." We proceed to "analysis"—the description of the several parts of what has been observed as they appear to be related to each other. Next we state a hypothesis of relationships among the elements and processes. If sound, we have arrived at a higher level of knowledge—"cognitive description" of the elements and interrelationships among them [p. 171].
>
> [Regarding Hettner's concept of geography as a chorological science:] Acceptance of the concept is in no way essential to geographic work. But students who cannot accept the particular characteristics empirically demonstrated as essential to geography, because they cannot understand that necessity, repeatedly attempt to change the subject to fit their view of what a science should be. The long history of such attempts demonstrates that their only effects are the personal frustration and professional unhappiness of those who try to fit a square peg into a round hole [p. 181].
>
> To comprehend these areal variations fully we must dip back into past relationships of the factors involved, and those whose interest so directs them may reach as far back into history as the availability of data may permit. Release from the necessity of focusing our attention on the relations between two particular groups of features, human and nonhuman, permits a wider expansion of interest and at the same time a more effective coherence of the entire field. The opportunity to develop generic studies leading to scientific principles is present in the many forms of topical geography. Likewise, the unlimited number of unique places in the world, each of which is important and intellectually significant at least to those who live there, provides an inexhaustible field for those most interested in this type of research [p. 183].

[16]Hartshorne sidesteps the question: Is geography an art or a science? "Whether such a field is to be called 'science' is a semantic question, depending on what particular definition is given to a word on which there is much disagreement" (1959:11). He also insists that writers on methodology should read carefully the writings of others of whom they are critical.

AMERICAN GEOGRAPHY: INVENTORY AND PROSPECT

As the fiftieth anniversary of the founding of the Association of American Geographers approached, some geographers felt that this was a time for stocktaking. World War II had created an unprecedented demand for trained geographers, and those engaged in any of the numerous branches of war work had to devise new methods and make use of new, and often unfamiliar, materials. In 1949 at a meeting in Evanston, Illinois, attended by the chairmen of several committees that had been appointed by the National Research Council to discuss different aspects of geography, it was decided to undertake

a series of symposia for the discussion of geographical questions and eventually to publish a book on the results. Preston E. James and Clarence F. Jones were appointed to direct the project. With funds from the Social Science Research Council and the National Research Council a number of conferences were set up, each one to consider the controversial problems of the various parts of the field. The whole program called for wide discussion throughout the profession. The original drafts of chapters were read critically by members of the committees and were also presented to sessions of the Association and to university seminars throughout the country. The resulting book, therefore, represents the combined thoughts of between 100 and 200 geographers. In fact, a major accomplishment of the project was its stimulation of widespread discussion throughout the profession of the objectives, methods, and concepts of geography (James and Jones, 1954). The following is a list of the chapters and the principal author of each:

1. The Field of Geography, Preston E. James
2. The Regional Concept and the Regional Method, Derwent Whittlesey
3. Historical Geography, Andrew H. Clark
4. The Geographic Study of Population, Preston E. James
5. Settlement Geography, Clyde F. Kohn
6. Urban Geography, Harold H. Mayer
7. Political Geography, Richard Hartshorne
8. The Geography of Resources, J. Russell Whitaker
9. The Fields of Economic Geography, Raymond E. Murphy
   Marketing Geography, William Applebaum
   Recreational Geography, K. C. McMurry
10. Agricultural Geography, Harold H. McCarty
11. The Geography of Mineral Production, Raymond E. Murphy
12. The Geography of Manufacturing, Chauncy D. Harris
13. Transportation Geography, Edward L. Ullman
14. Climatology, John Leighly
15. Geomorphology, Louis C. Peltier
16. The Geographic Study of Soils, Carleton P. Barnes
17. The Geographic Study of Water on the Land, Peveril Meigs III
18. The Geographic Study of the Oceans, C. J. Burke and Francis E. Elliott
19. Plant Geography, A. W. Küchler
20. Animal Geography, L. C. Stuart
21. Medical Geography, Jacques M. May
22. Physiological Climatology, D.H.K. Lee

23. Military Geography, Joseph A. Russell
24. Field Techniques, Charles M. Davis
25. The Interpretation of Air Photographs, Hibberd V.B. Kline, Jr.
26. Geographic Cartography, Arthur H. Robinson

It is important that no one answer was to be expected regarding controversial issues. The purpose was to identify differences of opinion and, so far as possible, to eliminate differences among the definitions of words. The various chapters did not necessarily record an accepted version of geography, but they did express the variety of interests and points of view that were actually held by members of the profession at midcentury. Not the least important was the extensive bibliography of geographical writings included in each chapter (Wooldridge, 1956; Wooldridge and East, 1958).

Other articles analyzing or summarizing the geographical work of the period between World War I and the decade of the 1950s include: J. Brunhes (1925), C. Sauer (1927), A. E. Parkins (1934), R. Hartshorne (1935), C. Colby (1936), and G. Pfeifer (1938). Two books that reveal much American geography during this period include T. G. Taylor's collection of essays on *Geography in the Twentieth Century*, which was discussed earlier (Taylor, 1951); and J. K. Wright's story of the activities of the American Geographical Society from 1851 to 1951 (Wright, 1952).