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Organon 14, 183-197

1978

Artykuł umieszczony jest w kolekcji cyfrowej Bazhum, gromadzącej zawartość polskich czasopism humanistycznych i społecznych tworzonej przez Muzeum Historii Polski w ramach prac podejmowanych na rzecz zapewnienia otwartego, powszechnego i trwałego dostępu do polskiego dorobku naukowego i kulturalnego.

Artykuł został zdigitalizowany i opracowany do udostępnienia w internecie ze środków specjalnych MNiSW dzięki Wydziałowi Historycznemu Uniwersytetu Warszawskiego.

Tekst jest udostępniony do wykorzystania w ramach dozwolonego użytku.

Preston E. James (USA)

THE DEVELOPMENT OF PROFESSIONAL GEOGRAPHY IN THE
UNITED STATES
(1885 - 1940)

Before any professional field of scholarship can come into existence, three conditions must be created. First, there must be university departments staffed by specialists who can provide advanced training. Second, there must be opportunities for employment where qualified graduates can earn a living, thus making it possible for them to devote the greater part of their scholarly careers to one specialized field of study. And third, there must be some minimum number of qualified scholars in close enough contact with each other to permit the rapid exchange of ideas. To build up such a "critical mass" of specialized scholars and to facilitate the exchange of ideas requires the organization of professional societies and the publication of professional journals.

As in other parts of the world, important contributions to geographical knowledge were made long before there were any professional geographers. Benjamin Franklin and Thomas Jefferson are not usually identified as geographers, yet both of them contributed to the growth of geography as a field of study. George Parkins Marsh, whose studies of man's destructive use of the land were published more than a century ago, served his country as a diplomat. John Wesley Powell, and other men who led the Great Surveys of the American West during the last three decades of the 19th century, had to work out their own concepts and methods.

Furthermore, geography appeared from time to time in the course offerings of universities. Geography was part of the standard curriculum at Harvard in the 17th century, where the Newton edition of Varenus was used as a text. John Daniel Gross was Professor of German and Geography at Columbia College from 1784 to 1795, and John Kemp was Professor of Geography from 1795 to 1812. Louis Agassiz was Professor of Zoology at Harvard from 1848 to 1873, and Arnold Guvot, one of Ritter's disciples, was Professor of Physical Geography and Geology at the College of New Jersey (later Princeton University) from 1854 to 1880. From 1863 to 1872 Daniel Coit Gilman was Professor of Physical and Political Geography in the Sheffield Scientific School at Yale. Gilman was the President of the Univer-

sity of California (1872-1875), and the President of Johns Hopkins University (1875-1901) where he introduced German ideas regarding the university as a community of free scholars offering advanced training in their fields. Up to that time the courses offered by these geographers were not restricted to qualified students; rather they were lecture courses which included no specialized training.

THE APPEARANCE OF ADVANCED SPECIALIZED STUDY

In the United States the first opportunity for advanced study in a field called geography was offered at Harvard after 1885. William Morris Davis and his teacher Nathaniel Southgate Shaler, offered seminars and field courses in physical geography starting in that year. The students trained in this way went out to organize similar advanced work in other universities and so became the first leaders in the development of professional geography in America¹.

Before the process of competitive discussion by which any scholarly field is developed can begin there must be a clear statement of a proposed model of scholarly work. Two such models were proposed in the United States. The earliest was the statement of William Morris Davis. He proposed that any geographical study must start with the "explanatory description" of the earth's physical features followed by an account of the relationship of these features with the earth's organic inhabitants. The model that Davis worked out is clearly stated in his presidential address to the newly organized Association of American Geographers in 1905:

Any statement is of geographical quality if it contains a reasonable relation between some inorganic element of the earth on which we live, acting as a control, and some element of the existence, or growth, or behavior, or distribution of the earth's organic inhabitants, serving as a response².

The second model was proposed by Emory R. Johnson, an economist in the Wharton School of Finance and Commerce at the University of Pennsylvania. Johnson's dissertation, which he presented to the Wharton School in 1893, was entitled *Inland Waterways: Their Relation to Transportation*. Derwent Whittlesey,

¹ There were six outstanding graduate students at Harvard with Shaler and Davis in 1891-1892. A. P. Brigham, who was on the faculty at Colgate University from 1892 to 1925; Richard E. Dodge, who was at Teachers College, Columbia University, from 1897 to 1916, and at Connecticut State College, Storrs, from 1920 to 1938; Curtis F. Marbut, who taught at the University of Missouri from 1895 to 1910, and was in charge of soil surveys for Department of Agriculture from 1910 to 1935; Robert DeC. Ward, the climatologist, who taught climatology at Harvard from 1890 to 1930; and Lewis G. Westgate, who became a field geologist of the U. S. Geological Survey. Distinguished scholars who studied with Davis after this first group include: A. H. Brooks, who, after 1903, was in charge of Geological Survey work in Alaska; Ellsworth Huntington, author of numerous books on climate and man, who was a research associate at Yale from 1917 to 1945; Mark Jefferson, who inspired many young geographers to go on into graduate schools when he taught at the Michigan State Normal College at Ypsilanti, Michigan, from 1901 to 1939; Isaiah Bowman, Director of the American Geographical Society from 1915 to 1935, and President of Johns Hopkins University from 1935 to 1949; Douglas W. Johnson, geologist at Columbia University; and J. W. Goldthwaite, geologist at Dartmouth College.

² W. M. Davis, 1906, *An Inductive Study of the Content of Geography*, "Bulletin of the American Geographical Society", Vol. 38, pp. 67-84. The Association of American Geographers was founded in 1904. Davis was Chairman at the first meeting held in Philadelphia in 1904, and was President in 1905 and again in 1909.

in his survey of doctoral dissertations in the United States, identifies this as the first dissertation on a geographical topic³. Starting in 1893 Johnson offered a course in which he combined studies of physical and economic geography with the history and theory of commerce. After 1896 he offered advanced courses for qualified students focusing on economic production and trade in relation to the earth's physical resources. This was a kind of antithesis in which he turned the Davis model around to give primary emphasis to man's way of making a living. At Harvard advanced degrees were given in geology; at Pennsylvania the degrees were in economics.

Johnson also had his enthusiastic disciples who began to spread his ideas to other universities. In 1899-1901 Johnson was engaged in a study requested by the Isthmian Canal Commission to forecast the amount of traffic which would pass through a canal across Central America by 1915. Johnson asked one of his advanced students to assist in this job—the student was J. Russell Smith. Johnson and Smith had to work out their own methods of gathering and evaluating detailed information concerning the geography of commerce and the likely changes in the world pattern of trade. They actually produced a remarkably accurate forecast. The experience convinced them of the urgent need to add more advanced courses in geography to the curriculum. In 1901-1902 Smith went to Germany to study with Friedrich Ratzel in Leipzig, and he returned to complete a dissertation with Johnson in 1903. In 1906 Smith was appointed chairman of a new Department of Geography and Industry at Pennsylvania⁴.

A synthesis of the ideas of Davis and Johnson was developed at the University of Chicago in 1903, but not as a result of discussion among qualified scholars, for there still was no professional society for geographers. The first separate Department of Geography offering advanced degrees in geography was established at Chicago in that year with the geologist, Rollin D. Salisbury, as chairman. When Salisbury was confronted with the need not only to draw up a list of courses to be included in his new department but also to prepare a justification for including them in geography, he looked for some one with a broad background of training to assist him. The person he selected was J. Paul Goode. Goode had taken one of Davis' advanced seminars at Harvard in 1894, and had been at Chicago in 1896-1897 as a Fellow in Geology. But when he found that there was no place where he could earn a degree in geography, he enrolled at Pennsylvania with Emory Johnson, seeking a degree in economics. He completed his dissertation in 1901, and was on Johnson's staff when Salisbury called him back to Chicago. Here is what Goode had to say, some fifteen years later, in a letter to Isaiah Bowman (dated October 24, 1918):

Very few people know that it was my outline and argument that was presented at the University of Chicago on the formation of the Department of Geography in 1903. Every course that has

³ D.S. Whittlesey, 1935, *Dissertations in Geography Accepted by Universities in the United States for the degree of Ph. D. as of May 1935*, "Annals AAG", Vol. 25, pp. 211-237, Ref. p. 213.

⁴ E. R. Johnson was one of the 48 original members of the Association, and was elected Vice-President in 1909. In 1914 he resigned from the Association explaining that he could not be active in two professional societies, and that his chief concern was with economics.

been offered since, with one or two exceptions in the case of work outlined by Mr. Barrows, was outlined by me. I have the good fortune to have kept my manuscript⁵.

The manuscript seems to have been lost. Nevertheless, it is clear that Goode was the author of the synthesis of geology and economics which characterized the "Chicago School" in its early years. The focus at Chicago was on what man did to the land, not on what the land caused man to do.

The year 1903 was of great importance in the history of geography in the United States. Not only was the first separate department of geography offering the Ph. D. degree established at Chicago, but also, this was the year when Davis first proposed the organization of a professional society. Also in 1903 two remarkable books were published. One was *American History and its Geographic Conditions* by Ellen Churchill Semple, and the other was *Geographic Influences in American History* by Albert Perry Brigham. The two books approached the same subject from opposite directions. Semple, who had been trained as an historian, was turned toward geography by her studies with Friedrich Ratzel in Leipzig. Her book, which was her first major work, traced the historical development of the United States as influenced or guided by the physical setting in which the human drama took place. Brigham emphasized the physical geography of the United States and was relatively light on the history. Yet in spite of these differences the two authors held very much the same point of view. Ellen Semple introduced Ratzel's ideas to the English-speaking world in her *Influences of Geographic Environment* published in 1911. After that date she turned her attention to the Mediterranean region, which she visited frequently during the next twenty years. Her book, *The Geography of the Mediterranean Region. Its Relation to Ancient History*, was published in 1931, shortly before her death.

When the Association of American Geographers was founded in 1904, and when the "Annals" of the Association was started in 1911, the opportunity for the competitive discussion of geographical ideas among the members was provided. Some of the earliest criticism of the model Davis had proposed came from one of his most loyal disciples. Albert Perry Brigham's presidential address to the Association in 1914 pointed to the danger of accepting examples of so-called influences and responses without rigorous proof⁶. Charles Redway Dryer's presidential address in 1919 introduced ideas from European sources which foreshadowed the search for alternatives to the Davis model⁷.

Meanwhile, the tradition of the field survey of resources which had been inherited from the Great Surveys of the western territories was maintained at all three of the geographical centers: Harvard, Pennsylvania, and Chicago. For example, when the government of Argentina was planning the construction of railroads across Patagonia after 1902, it looked for guidance from the experience in the United States of the surveys of potential traffic that had been made prior to the construction of

⁵ From the archives of the Association of American Geographers in the Smithsonian Institution, Washington, D.C.

⁶ A. P. Brigham, 1915, *Problems of Geographic Influence*, "Annals AAG", Vol. 5, pp. 3-15.

⁷ C. R. Dryer, 1920, *Genetic Geography: The Development of the Geographic Sense and Concept*, "Annals AAG", Vol. 10, pp. 3-16.

the trans-continental railroads. Assistance was requested from the U.S. Geological Survey, and the Stanford geologist, Bailey Willis, was appointed to direct field studies in that country. When Willis found that he needed some one trained in economic geography he turned to Salisbury for a recommendation. The young man who worked with Bailey Willis in Patagonia in 1912 was Wellington D. Jones, then a graduate student at Chicago. Jones found that survey procedures proposed by Willis called for a careful and detailed study of the physical character and resources of the area, but that the use of the land was done in less detail. Returning to Chicago to complete his dissertation, Jones found in Salisbury's seminar another graduate student who was concerned about the same problem. This was Carl O. Sauer. Together Jones and Sauer published an outline of a more balanced study of an agricultural area which, for the first time in America, called for a systematic examination of existing forms of land use⁸.

THE SEARCH FOR ALTERNATIVES

The search for alternatives to the Davis model which characterized geographical work in the United States during the 20s and 30s was a result of several changes in the body of professional geographers. The meeting of the Association in 1919, at which Dryer gave his address, attracted a total attendance of only 38, and less than half of this number were members. Ever since the organization of this professional society in 1904 membership had been restricted to persons with an "ample record of original studies". Davis had insisted on this restriction because of the widespread popular interest in geography, which, he feared, would dilute the exchange of ideas among specialists. As a result the membership remained small. By 1919 a total of only 131 persons had been elected to membership, including the 48 original members who had been included in 1904⁹. Most of the members were either teaching in eastern universities, or were working for various agencies of the federal government. Only a few of them had been trained originally in geography. In 1919, however, six candidates for election to membership were approved by the Credentials Committee, and all were elected in the spring of 1920. All had been trained as geographers¹⁰.

The influence of Chicago-trained geographers was not solely the result of the separate status of the department. It was also the result of the appointment of exceptional teachers. Salisbury's courses were always filled to capacity, not because he offered easy grades, but because of his widely appreciated ability to stimulate the imagination of young people. His method of teaching differed from that of Davis. Whereas Davis was noted for the perfection of his carefully organized lectures, Salisbury was famous as a superb leader of class discussions. In advanced seminars Davis was often sharply critical of his students, with the result that those with tender

⁸ W. D. Jones and C. O. Sauer, 1915, *Outline for Field Work in Geography*, "Bulletin of the American Geographical Society", Vol. 47, pp. 520-525.

⁹ P. E. James and R. Ehrenberg, 1975, *The Original Members of the Association of American Geographers*, "The Professional Geographer", Vol. 27, pp. 327-335.

¹⁰ The six included: Charles C. Colby, Vernor C. Finch, Wellington D. Jones, Carl O. Sauer, Stephen S. Visher, and Frank E. Williams.

sensibilities dropped away and only the hardest survived¹¹. But Salisbury's seminars provided an educational experience that scarcely could be matched elsewhere at that time. The Chicago students learned how to discuss professional problems with their peers, how to accept criticism without emotional reaction, and how to respect the words of others even when they expressed differing views. The Chicago graduates who began to staff other universities after 1920 brought with them the tradition of frequent staff and student discussions, as well as the tradition of studying geography in the field—all of which was an enormous benefit to the spread of competitive discussion in the profession as a whole.

Numerous new avenues for geographical studies were suggested and pioneered during the next two decades. In his presidential address to the Association in 1922, Harlan H. Barrows, then chairman of the Department of Geography at Chicago, proposed that geographers should focus their attention on human ecology, that is on the adjustment of man to his natural surroundings¹². This was similar to the approach that led Ellsworth Huntington to help in the organization of the Ecological Society of America, of which he was the second president in 1917¹³. But the proposal that geographers should abandon such traditional fields as geomorphology, or plant geography, or climatology, and focus attention only on man's adjustment to the land did not gain large support. Huntington's presidential address in 1923 struck a more familiar note when he spoke on *Geography and Natural Selection: A Preliminary Study of the Origin and Development of Racial Character*¹⁴. Nevertheless, there was a steady drift toward the study of human geography and away from the physical aspects of geography; but geomorphology and other physical and biotic subjects were never entirely abandoned.

During the 20s many of the geographers in the Midwest were involved in land classification studies as a basis for efforts in land use planning. After World War I the state of Michigan faced a serious financial problem. The lands once occupied by forests of white pine had been cut over and burned over during the previous half century until the resource base had been destroyed. The northlands of Michigan were bankrupt, and the small isolated communities left over from the lumbering period posed a difficult planning problem for the state government. Different interest groups offered contrasting plans: the foresters pressed for reforestation; the farm groups wanted to redevelop the agriculture, in spite of the short growing season and poor soils; the hunting and fishing clubs wanted to remove the stranded populations and let the scrub vegetation grow up to provide cover for game animals.

The geographer who provided leadership at this point was Carl O. Sauer, then on the faculty of the University of Michigan. Sauer began to apply the ideas developed by himself and Wellington Jones regarding the field survey of resources. The

¹¹ G. J. Martin, 1968, *Mark Jefferson, Geographer*, Ypsilanti, Michigan, Eastern Michigan University Press, Ref. p. 41.

¹² H. H. Barrows, 1923, *Geography as Human Ecology*, "Annals AAG", Vol. 13, pp. 1-14.

¹³ G. J. Martin, 1973, *Ellsworth Huntington. His Life and Thought*, Hamden, Conn., Archon Press.

¹⁴ E. Huntington, 1924, *Geography and Natural Selection. A Preliminary Study of the Origin and Development of Racial Character*, "Annals AAG", Vol. 14, pp. 1-16.

north country was much too diverse to permit the adoption of any one land use plan; but no planning could be attempted without a detailed knowledge of land quality, and current land use. In 1922 the Michigan Land Economic Survey was established, and between that date and 1933 many of the counties were mapped, and their economic condition described¹⁵.

The survey was discontinued in 1933 during the early years of the Great Depression. Enough of the state had been mapped so that programs of improved land use could be applied throughout the state. Furthermore, by 1933 the method of field mapping used by the survey had become obsolete. Instead of compiling the maps by pacing with compass and alidade, vertical air photographs were used. The first experiment with such photographs for geographical studies was made in 1929 by K. C. McMurry, working on Isle Royale in Lake Superior¹⁶. Mapping was done directly on the photographs in all the subsequent land classification work: notably the Tennessee Valley Authority, and in numerous "problem areas" throughout the country supervised by the Land Committee of the Resources Planning Board, in which Charles C. Colby and G. Donald Hudson played important roles.

Meanwhile, in 1923 Carl O. Sauer had left Michigan and had become the chairman of the Department of Geography at the University of California in Berkeley. In 1925 he published his *Morphology of Landscape*¹⁷ in which he introduced ideas in part from German sources focusing attention on the diverse patterns of arrangement of things on the face of the earth resulting from the changes introduced by human action. Sauer objected to the attempt to define the objectives of geography in terms of a single hypothesis—that man responds to the physical characteristics of his environment. He urged his fellow geographers to examine the record of man's occupation of the earth as revealed in the landscape, and seek to explain that record. Sauer's ideas found immediate and enthusiastic support from most of the younger geographers then coming out of the graduate schools, few of whom had ever read Dryer's address in which similar ideas were presented.

During the 20s geography gradually loosened its traditionally close ties with geology, and began to form closer ties with economics and anthropology. The younger geographers began to emphasize economic, social, or political factors rather than the traditional factors of the physical environment. In 1926, for example, Richard Hartshorne discussed *Location as a Factor in Geography*¹⁸. He showed that in the search for general concepts regarding the location of industries such factors as raw material sources, markets, availability of power, and the supply of labor were more important than surface features and climate. He was accused by some of his more traditional colleagues of "taking the ge out of geography". Geographers in that period generally avoided accepting any restrictive definition of their field, but

¹⁵ P. E. James, 1972, *All Possible Worlds. A History of Geographical Ideas*, Indianapolis, Indiana, Bobbs Merrill, pp. 436-442.

¹⁶ *Ibid.*, pp. 490-492.

¹⁷ C. O. Sauer, 1925, *The Morphology of Landscape*, University of California Publications in Geography, Vol. 2, pp. 19-53.

¹⁸ R. Hartshorne, 1927, *Location as a Factor in Geography*, "Annals AAG", Vol. 17, pp. 92-99.

preferred to justify the choice of things or events to observe in terms of relevance to stated objectives¹⁹.

Geography in the 20s and 30s was not merely descriptive, as some later writers have suggested. There was always the underlying effort to formulate illuminating general concepts²⁰. But geographers of that time did not usually attempt to describe their general concepts as theoretical models.

The search for explanations of observed conditions on the face of the earth moved in two quite different directions. One of these directions, the genetic approach, led to historical geography. Andrew H. Clark described this approach as follows:

The genetic approach leads to an examination of the past. This does not mean that one is to seek simple causes in the past to account for contemporary conditions, but rather that the conditions observed at any one period of time are understood as momentary states in continuing and complex processes of change... The genetic approach focuses attention on processes, for whatever interests us in the contemporary scene is to be understood only in terms of processes at work to produce it²¹.

The use of the genetic approach in the search for explanations found many supporters throughout the profession. A major center for the development of historical geography was at Berkeley, California, where Sauer and his students produced a long list of such studies. Here is the way one of Sauer's students characterized the work of his teacher:

What Sauer did... was to open up his mind, go to work on a problem, think out loud, let us see how a mind richly stocked with a great breadth of knowledge explored its way into a problem and found a way toward a solution. He did little of presenting facts, virtually nothing in the way of formal methodology. He was concerned with inquiry, with thinking, not with narrow methodologies. He would use any tool that fitted the nut of the problem: but the emphasis was on the problem, not the tool²².

The genetic approach was also widely used in other parts of the United States. The concept that the significance to man of the physical and biotic features of the environment is a function of the attitudes, objectives, and technical skills of man himself was widely accepted. For this reason the earth features have different meaning for different people, and when any change takes place in the culture of the inhabitants of an area the resource base must be reexamined. Derwent Whittlesey's term sequent occupance was used by many writers, but not always exactly as defined by Whittlesey²³. Sequent occupance often referred to the succession of cultures in an area, each forming a somewhat different relationship to the underlying physical and biotic conditions²⁴. At Chicago, Harlan H. Barrows offered his famous course

¹⁹ P. E. James, W. D. Jones, and V. C. Finch, 1934, *Conventionalizing Geographic Investigation and Presentation*, "Annals AAG", Vol. 24, pp. 77-122.

²⁰ P. E. James and C. F. Jones (eds.), 1954, *American Geography: Inventory and Prospect*, Syracuse, N.Y., Syracuse University Press, pp. 12-15.

²¹ A. H. Clark [in:] James and Jones, *op. cit.*, pp. 70-105; ref. p. 71.

²² From a letter by George F. Carter, quoted in Donald J. Ballas, 1975, *Carl Ortwin Sauer's Life and Work*, "Places", Vol. 2, pp. 24-33.

²³ D. S. Whittlesey, 1929, *Sequent Occupance*, "Annals AAG", Vol. 19, pp. 162-165.

²⁴ P. E. James, 1929, *The Blackstone Valley. A Study in Chorography in Southern New England*, "Annals AAG", Vol. 19, pp. 67-109.

on The Historical Geography of the United States, in which he traced the process of settlement and development in relation to the underlying land²⁵. Somewhat later, Ralph H. Brown offered still another form of the genetic approach when he reconstructed the geography of the eastern seaboard of America in 1810 on the basis of the way it was perceived by the writers of that time²⁶.

There were some, even in the 20s and 30s, who proposed a very different way of arriving at acceptable explanations. This may be called the functional approach. This way of reaching an understanding of the "organization of space" on the face of the earth, which has grown in popularity in the contemporary period, was, in fact, clearly suggested by Dryer in his presidential address in 1919. During the 20s, when many geographers were experimenting with methods of mapping land quality as a basis for planning the better use of the land, some imaginative scholars suggested that attention should be focused on "functional areas" rather than "unit areas". A functional area is one that can be identified by the economic, social, or political ties of the inhabitants to one or more central places, whereas a unit area, as the term was used in the 20s, is an area homogeneous in terms of selected criteria²⁷. Robert S. Platt in a field study of a part of eastern Wisconsin in the summer of 1927 identified a hierarchy of central places, each with a functional area determined by what Platt called "the reach of the village institutions". The individual farmers go regularly to the nearest small villages for their daily needs, but for larger needs requiring less frequent contacts they go to towns; for other services requiring fewer contacts they go to the county seat; and at still longer intervals they are drawn to the regional center of Green Bay. Finally, their ultimate connections with the outside world are made through the metropolis of Chicago. Platt's identification of these functional areas arranged in a hierarchy of central places was published in 1928²⁸. The German geographer, Walter Christaller, is usually credited with the formulation of "central place theory"²⁹, published in 1933. The important difference between these two formulations is that Platt was only offering a general picture of the organization of space in a small part of the American midwest, and did not believe that he could claim universal applicability, whereas Christaller announced his general picture of southern Germany as if it were an example of a universal phenomenon.

Today both the genetic and the functional approaches are widely used, each with enthusiastic supporters. The functional approach permits the use of quantitative techniques and provided the basis for the so-called "quantitative revolution" of the 50s and 60s. It is important to appreciate that many geographers in the 30s made use of quantitative procedures, and even formulated what would now be called

²⁵ W. A. Koelsch, 1969, *The Historical Geography of Harlan H. Barrows*, "Annals AAG" vol. 59, pp. 632-651.

²⁶ R. H. Brown, 1943, *Mirror for Americans. Likeness of the Eastern Seaboard 1790-1810*, New York, American Geographical Society.

²⁷ D. S. Whittlesey [in:] James and Jones (eds.), 1954, *op. cit.*, pp. 32-44.

²⁸ R. S. Platt, 1928, *A Detail of Regional Geography: Ellison Bay Community as an Industrial Organism*, "Annals AAG", Vol. 18, pp. 81-126.

²⁹ W. Christaller, 1933, *Die zentralen Orte in Süddeutschland*, Jena, Gustav Fischer; E. A. Ullman, 1941, *A Theory of Location for Cities*, "American Journal of Sociology", Vol. 46, pp. 853-864.

“theoretical models” based on mathematical concepts³⁰. The functional approach provided the essential point of view for identifying the market potential used in the selection of locations for retail stores — a kind of applied geography that was pioneered by William Applebaum in the 30s³¹. Studies of the geography of transportation were also important in the development of the concepts and methods of the functional approach, beginning with the pioneer work of Emory R. Johnson and J. Russell Smith in 1899-1901. The development of transportation geography, including its application to the practical problems of government and business, is described in 1954 by Edward L. Ullman, who became a specialist in this aspect of geography³²

THE AGRARIAN PHILOSOPHY IN AMERICAN GEOGRAPHY

Although there were numerous contributions to the geographical studies of cities during the first half of the 20th century, as reported by Harold M. Mayer³³, there was also a curious lag in the thinking of some of the more prominent American geographers, especially during the 20s and 30s. As Charles S. Aiken points out, geographers such as Isaiah Bowman, J. Russell Smith, and O. E. Baker, who became leaders in the application of geographical concept to public policy, all were strongly agrarian³⁴. They shared the conviction that agriculture was the fundamental occupation on which all other economic activities depend, and that the farm life was the “natural” life, in contrast to the artificial life of city people. Yet by the 30s changes had taken place in the United States that made these ideas obsolete. This lag was by no means restricted to geographers, for it can be identified also in the ideas of many of the leading social scientists.

Hindsight tells us that America went through at least two unprecedented changes in the 20s and 30s³⁵. The first was a reversal of the flow of energy: before World War I there was a large flow of energy, in the form of animals and feed, from the rural areas into the cities; but during the 20s the flow was reversed, as machines and the fuel to run them moved from urban areas to rural areas. And the second change took place during the 30s. Before that decade, when a family could no longer find employment either in rural or urban areas, the “employer of last resort” was the subsistence farm, usually located in some rural pocket of poverty. But by the end of the 30s a destitute family moved to the cities where it was possible to get on the welfare rolls. The movement of young people to the cities in search of better jobs is a very old social phenomenon; but the movement of destitute families to the cities had no precedent in American life.

³⁰ S. D. Dodge, 1935, *A Study of Population Regions in New England on a New Basis*, “Annals AAG”, Vol. 25, pp. 197-210.

³¹ W. A. Applebaum, [in:] James and Jones (eds.), 1954, *op. cit.*, pp. 245-251.

³² E. A. Ullman [in:] James and Jones (eds.), 1954, *op. cit.*, pp. 310-332.

³³ H. M. Mayer [in:] James and Jones (eds.), 1954, *op. cit.*, pp. 142-166.

³⁴ C. S. Aiken, 1975, *Expressions of Agrarianism in American Geography: The Cases of Isaiah Bowman, J. Russell Smith, and O. E. Baker*, “The Professional Geographer”, Vol. 27, pp. 19-29.

³⁵ T. Lynn Smith, 1974, *Studies of the Great Rural Tap Roots of Urban Poverty in the United States*, New York, Carlston Press.

During the time when the nature of the migration to the cities was changing fundamentally, Bowman was seeking to guide families to new zones of pioneer settlement, Baker was pleading for the restoration of rural family life, and Smith was proposing the establishment of green belts around the cities where people could become part-time farmers and thus not lose touch with the land. Smith's famous *Industrial and Commercial Geography*³⁶, which provided the basic text for college courses in economic geography for many decades, limits the discussion of the tertiary sector of an economy to trade and transportation. Service occupations are not seen as the concern of geographers. He even suggests that in the city one must "pay for a host of services that add no value to goods and often detract from their value"³⁷.

THE NATURE OF GEOGRAPHY

In 1939 Richard Hartshorne published his now widely read book on *The Nature of Geography*³⁸. It is important to understand how he came to write this book, and what purposes he had in mind. It happened that in 1938-1939 he had been granted a year's leave of absence from the University of Minnesota to carry on certain field studies of European boundary problems. Before leaving for Europe he had submitted a manuscript to the "Annals of the Association of American Geographers" dealing with questions of methodology. When he reached Vienna he received several letters from the editor of the "Annals", Derwent Whittlesey, urging him to expand some of the ideas in his paper, using sources available in European libraries. The year 1938 was no time for an American geographer to be studying boundaries in the field. As time went on conditions grew worse making field studies almost impossible. Hartshorne decided to spend his time to expand coverage of the European writings on methodology, using various libraries and also seeking interviews with some of the European geographers. As a result his paper was extended to a book nearly 500 pages long. Here is what Hartshorne had to say about his purpose:

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 what 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.

(quotes on pp. 205 and 207)

³⁶ J. Russell Smith, 1913, 1925, *Industrial and Commercial Geography*, New York, Henry Holt.

³⁷ *Ibid.*, 1925, pp. 34-35.

³⁸ R. Hartshorne, 1939, *The Nature of Geography. A Critical Survey of Current Thought in the Light of the Past*, Lancaster, Pa, Association of American Geographers.

Hartshorne's book was widely acclaimed as an authoritative account of the points of view of the major builders of modern geographical concepts and methods. It is the product of careful scholarship which seeks to report as exactly as possible the ideas of geographers presented before 1940. But during the decades following World War II, as a new generation of geographers entered the profession, the backward look at the history of ideas seemed less challenging than a forward look seeking to chart new trails. Hartshorne's "critical survey of current thought in the light of the past" was often assumed to be a program for the years ahead. Furthermore, it proved easier to find out what Hartshorne had written by reading summaries of his work written by other geographers than by reading his words in the original. By quoting passages out of context it was possible even to prove that both Hartshorne and Hettner had said that the description of unique areas was the basic objective of geography. Neither Hartshorne nor Hettner made such a statement. Yet the argument still goes on, as if geography could be either idiographic or nomothetic, but not both³⁹.

In 1959 Hartshorne published his *Perspective on the Nature of Geography* in which he restated the positive conclusions to be drawn from the earlier work. The *Perspective* is organized around ten topics, each of which is the subject of one chapter⁴⁰.

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.

Here are a few of the conclusions presented in the *Perspective*:

"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 (which is) the comprehension of the integrations of phenomena of diverse character which fill areas in varying ways over the earth" (p. 79).

"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

³⁹ P. E. James, 1967, *On the Origin and Persistence of Error in Geography*, "Annals AAG", Vol. 57, pp. 1-24.

⁴⁰ R. Hartshorne, 1959, *Perspective on the Nature of Geography*, Chicago, Rand McNally.

ntegration at one end to regional studies of a most complete integration at the other" (p. 144).

"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 for those who live there, provides an inexhaustible field for those most interested in this kind of research" (p. 183).

A SUMMARY OF AMERICAN GEOGRAPHY BEFORE WORLD WAR II

As the fiftieth anniversary of the founding of the Association of American Geographers approached, some geographers felt that this was a time for stock-taking⁴¹. 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 which would not only summarize the work undertaken before 1940 but would also look to the future. The purpose was to promote a competitive discussion of objectives, concepts, and methods, and eventually to publish a book incorporating the results of these discussions. Preston E. James and Clarence F. Jones were appointed to direct the project. With funds provided by 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 original drafts of the chapters of the resulting book were read critically by members of the several conferences, and were also presented at sessions of the Association and at seminars in various universities throughout the country. The resulting book, therefore, represents the combined thought of between one and two hundred geographers. In fact, a major accomplishment of the project was the stimulation of wide spread discussion. The following is a list of the chapters in *American Geography: Inventory and Prospect* and the name of the principal author of each⁴².

1. The Field of Geography, Preston E. James
2. The Regional Concept and the Regional Method, Derwent S. Whittlesey
3. Historical Geography, Andrew H. Clark
4. The Geographic Study of Population, Preston E. James
5. Settlement Geography, Clyde F. Kohn

⁴¹ This section reproduced with permission from P. E. James, 1972, pp. 421-423.

⁴² James and Jones (eds.), 1954, *op. cit.*

6. Urban Geography, Harold M. Mayer
7. Political Geography, Richard Hartshorne
8. The Geography of Resources, J. Russell Whitaker
9. The Fields of Economic Geography, Raymond R. 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. Kuchler
20. Animal Geography, L. C. Stuart
21. Medical Geography, Jacques M. May
22. Physiological Climatology, D. H. K. Lee
23. Military Geography, J. 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

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 those differences that were due to definitions of words. The various chapters did not necessarily record an accepted version of geography, but they did provide for an expression of the variety of interests and points of view actually held by members of the profession. For most part the chapters reflect the thinking of the American geographers as developed before 1940. Not the least important was the extensive bibliography of geographical writings included with each chapter.

A PROJECTION

Geography, as a field of scholarship, has shared with other learned professions the fundamental changes that followed World War II. Of very great importance are the new electronic devices that make possible the collection of information concerning the arrangement of things on the face of the earth in a detail and with a frequency unheard of before. At the same time the electronic computer makes possible the organization of data banks in which information can be stored and retrieved on a scale that would have burst the walls of pre-war libraries and archives. The computer also opens a vast field of new problems and new ways of solving them. Peter Gould has summarized the novelty and excitement of this new world:

As geographers have extended their concern for modelling complex spatial processes, extremely difficult mathematical problems have arisen. Some of these are totally intractable in any analytic sense, either because they cannot be specified with mathematical exactness, or because no one knows how to solve them. It is for this reason that geographers have turned when necessary to simulation methods, often employing large capacity computers and Monte Carlo solutions. There are large areas of important geographic problems today which have literally been opened up by computers. Indeed, many of the questions that are being asked by students and research workers would have been impossible to conceive of two decades ago⁴³.

The period of the 50s and 60s witnessed an enthusiastic swing toward the mathematical approach, accompanied by a decline of concern with the language of literature. This was the so-called "quantitative revolution", which, of course, was by no means restricted to geography. There was an attack on "mere empirical description" with no effort to formulate and test general concepts, which some people call theory. But most geographers recognize that concepts can, in fact, be formulated either in the language of mathematics or in the language of words. In either case rigorous thinking is required. The mere use of mathematical procedures is no guarantee that rigorous thinking has indeed taken place. Not every one who describes geographic problems in the language of mathematics has been able to reach the goal prescribed by the leaders of the quantitative revolution. There seems now to be a new emphasis on the literary tradition as many younger members of the profession feel that the claims of the 50s and 60s have not been entirely fulfilled. Hopefully, this new trend will not obscure the real accomplishments of the earlier post-war period.

Perhaps the effort to achieve the status of "scientist" goes too far. For example, is "central-place theory" properly described as a theory? The physicists reserve the words "law" or "theory" to generalizations of unrestricted range in space and time⁴⁴. Obviously the generalizations of things and events observed on the face of the earth are not necessarily universals. Perhaps they can be treated as if they were universals; but in that case some proof that they can be so treated is necessary. When Walter Christaller noted that "crystallization of mass about a nucleus is part of the elementary order of things", he was using an analogy to physical theory to illuminate the functional areas developed by human settlement. But continued study of this analogy reveals a failure of actual spatial patterns to conform to theoretical expectations⁴⁵. Is it possible that Robert S. Platt in 1928 had a clearer view of what geographers could do with the concept of a hierarchy of central places than did those who tried to elevate this generalization of restricted range to the level of universal physical theory? Geographers in the 20s and 30s did not shrink from formulating generalizations; but they did seek to identify the areas within which each general concept might be considered valid. This was the essence of the regional method.

Questions such as these deserve further careful study. A survey of the interplay of geographical ideas in America in the 50s, 60s and 70s will, hopefully, be the subject of a subsequent report.

⁴³ P. Gould, 1975, *Mathematics in Geography: Conceptual Revolution or New Tool?*, "International Social Science Journal", Vol. 27, pp. 303-327, ref. p. 308.

⁴⁴ P. E. James, 1972, *op. cit.*, p. 473.

⁴⁵ D. Harvey, 1969, *Explanation in Geography*, London, Edward Arnold, p. 138.