

**NEW DEAL REGIONALISM:  
A CRITICAL REVIEW**

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## **NEW DEAL REGIONALISM: A CRITICAL REVIEW**

WILLIAM B. MEYER AND CHARLES H.W. FOSTER

Chapter XII of the National Resources Committee's December 1935 report *Regional Factors in National Planning and Development* bore the title "A Preliminary Exploration of Regionalism." It reported the findings of a questionnaire sent to a dozen social scientists, ten of them geographers and two sociologists. The respondents were asked three sets of questions about the nature, delineation, and use of regions; their responses were summarized and generously excerpted. The stated goal of the exercise was to draw on expert opinion to dispel some of the "vagueness of thinking" that seemed to prevail whenever the term "region" was used.

Two leading planners have called this survey and synthesis of views "the most sophisticated treatment of the regional concept available in an official government planning document, even today" (Friedmann and Weaver, 1979, 82n). Yet it never achieved wide circulation or influence. Least of all did it have an impact in geography, the field most centrally concerned with the nature of regions and the one from which most of the participants came. The issues addressed have continued to be hotly debated from time to time, but rarely with reference to the 1935 report. If its authors set out to bring order to the regional concept, they failed. What factors have so limited its influence? How is its fate to be explained? What lessons can be learned from the episode? A closer look at the report's context, leadership, participants, survey findings, and results may provide some answers.

### **The Context**

Only once in the nation's history has there been an attempt to conduct comprehensive national planning. Associated largely with the 1930s "New Deal" administration of Franklin Delano Roosevelt, its origins actually extend back into the administration of President Herbert Hoover. A President's Research Committee on Social Trends, established in September 1929 with Hoover's personal involvement and encouragement, attempted to capture the best thinking of the day on social trends and problems.

The chairman of the Committee, economist Wesley C. Mitchell of Columbia University, and its vice-chairman, political scientist Charles E. Merriam of the University of Chicago, would later emerge as principals in the nation's first planning agency. Roosevelt himself, favorably disposed toward natural resource-based planning from his earlier days as governor of New York, carried that interest forward. It did not hurt that Merriam enjoyed close ties with fellow

Chicagoans Harold Ickes and Louis Brownlow, two influential advisors to the incoming Roosevelt administration.

The first manifestation of a national planning presence grew out of the National Industrial Recovery Act of June 16, 1933, a major depression relief act that authorized the expenditure of more than \$1 billion in funds for public works projects. A provision of that act enabled the president to delegate powers and establish planning and research agencies. Pursuant to these authorities, the first administrator of the new Public Works Administration, Interior Secretary Harold L. Ickes, created a *National Planning Board* on July 20, 1933 to develop comprehensive and coordinated plans for national public works expenditures. The three member board he appointed - Frederic A. Delano (the president's uncle), chairman of the National Capital Park and Planning Commission; Charles Merriam; and Wesley Mitchell - and the Board's executive officer, Charles W. Eliot 2nd - would stay with national planning for virtually its duration.

The National Planning Board lasted less than a year. On June 30, 1934, it was replaced by the *National Resources Board*, an independent agency established by Executive Order 6772 with a membership expanded to include four members of the cabinet. Its initial assignment was to prepare a national report on land and water use by December 1, 1934. At a meeting with Roosevelt in June 1934, there had been vigorous discussion on whether the board's scope should be limited to just natural resources. The social scientist board members won the inclusion of human concerns through the use of "national" rather than "natural" resources in the title of the new agency.

Caught up in the dynamics of the New Deal, the National Resources Board also lasted less than a year. On June 7, 1935, it was abolished by Executive Order 7065 and replaced by the *National Resources Committee*. Since the National Industrial Recovery Act had been declared unconstitutional by the Supreme Court, a new authority had to be found - the provisions of the Emergency Relief Appropriations Act of 1935. The modifications were more of form than substance.

But on April 3, 1939, spurred by recommendations prepared with the help of of the National Resources Committee, a change of a different magnitude occurred. Pursuant to the Reorganization Act of 1939, President Roosevelt issued Presidential Reorganization Plan No. 1, which terminated the independent National Resources Committee and replaced it with a *National Resources Planning Board*. The Board was to be a central planning agency operating out of the executive office of the president. The plan called for a five member board - in practice, three appointed members and two advisors - three operating divisions and, eventually, a staff of more than two hundred.

By 1943, however, the political controversy over the merits of central planning had caught up with the board. Congress refused to appropriate, or allow the use of other appropriated

funds, for fiscal 1944, and required the board's work to be terminated by August 31, 1943. A complete set of records was compiled and furnished to the National Archives as of December 31, 1943, and the era of national planning officially came to a close.

The concern for other instruments of planning pervaded the actions of the various national boards almost from their outset. The first order of business in 1933 was to sort out the more than one hundred types of federal regional areas dealing with administration and planning. In the interest of order and efficiency, it was suggested that these be consolidated into ten or twelve regional centers, a recommendation that was never implemented. However, the national resources planning agency itself did move from a system of staff regional advisors/district chairmen to a set of eleven regional offices that enjoyed small technical staffs augmented by consultants. The federal cohesion sought was thus advanced by presence and persuasion rather than by fiat.

A second area of attention was the encouragement of state planning. As the result of an active program of grants and technical assistance, by June 15, 1935, thirty states had been persuaded to establish state planning agencies. Unlike the current strained relations between states and the federal government, unanimity of support was at a high level regardless of political or economic circumstances.

The remaining institutional piece was more troublesome. In its December 1935 report, *Regional Factors in National Planning and Development*, the National Resources Committee recognized that some national problems - notably natural resources - would require approaches based upon boundaries that extend beyond conventional political jurisdictions. The notion of regional planning had arisen formally during the 1920s due to the perceived need for interstate metropolitan planning, but the roots of areawide planning, especially for water resources, can be found as early as Theodore Roosevelt's 1908 Conference of Governors and the work of his 1909 National Conservation Commission. The creation of the Tennessee Valley Authority in 1933 during the first one hundred days of the New Deal had given added credence to this approach.

In 1935, with the National Resources Committee's active assistance and support, two experimental regional planning agencies were launched - the Pacific Northwest Regional Commission and the New England Regional Planning Commission. Other regional planning agencies would follow. In later years, the National Resources Planning Board would advance a modified form of regionalism - the concept of *area analysis* concentrating on geographically-determined but smaller areas. Fifteen such special reports were undertaken during the life of the agency.

But the *Regional Factors* report remained a significant benchmark, constituting not only a factual summary of regional planning at that time, but also a statement of the conceptual underpinnings of regionalism as a whole. The report was the responsibility of a special Technical

Committee on Regional Planning chaired by *John Merriman Gaus*, an active participant in Charles Merriam's Social Sciences Research Council, later to serve as professor of regional planning and government at Harvard University. Other members included *Jacob Crane*, a "new town" advocate and the proponent of the planned community of Greendale, Wisconsin; political scientist *Marshall E. Dimock* of the University of Chicago, a consultant to the National Resources Committee; and *George T. Renner* of Columbia University's Department of Geography and Teachers College, the Committee's senior staff economist. It was Renner who succinctly summed up the present and future of regionalism in the United States.

In prepared remarks for the National Conference on Planning, held in Richmond, Virginia, on May 6, 1936, Renner offered his personal views. "Regional organization is unquestionably the coming polity," he said. "Whether it will eventuate next year, next decade, or next century cannot be forecast. There are many forms it can assume. At any event, regionalism presents one of the most significant and insistent challenges to the professional planner today."

### **The Leadership**

Of the four committee members listed as the authors of the 1935 report, the geographer George T. Renner appears to have been alone responsible for Chapter XII [1]. Born in 1900, Renner entered graduate school at Columbia in 1922. There he earned an M.A. and, in 1927, a Ph.D. in geography. He taught at the University of Washington from 1927 to 1933 before entering government service at the start of the New Deal. He would return to Columbia in 1936 and remain on its faculty until his death in 1955 [2].

American geography by the 1920s was rapidly discarding the environmental determinism that had been espoused by many of the turn-of-the-century founders of the discipline. They had seen the discipline's proper subject matter as the ways in which human behavior and society were shaped by their biophysical surroundings: principally climate, landforms, soil, and vegetation. Even as a graduate student, and consistently thereafter, Renner explicitly rejected environmental determinism in the abstract (Renner 1927). He continued, though, to define geography as the study of society's relations with the environment (e.g., Renner 1926a; 1926b; 1931). He saw it as "human ecology" in the sense given the term by Harlan H. Barrows of the University of Chicago in a noteworthy 1922 presidential address to the Association of American Geographers (Barrows 1923). This view set Renner apart from the greater part of his contemporaries, who tended to see human ecology in that sense as an unduly narrow definition of the field. It excluded many topics of interest to them; it also seemed still too uncomfortably close to environmental determinism. It was sometimes questioned, and with good reason, whether Renner himself always managed to avoid determinism in practice as well as in principle (Taylor 1937, 134-35).

Another matter that set Renner apart from the mainstream of American geography in the 1930s was the low importance that he attached to field research. His M.A. thesis dealt with the Sudan and his dissertation with "Primitive Religion in the Tropical Forests," but both were based entirely on library sources. By 1935, Renner had published a dozen articles dealing with areas in Europe, Asia, Africa, and Latin America, full of confident pronouncements but none of them based on first-hand acquaintance with the places involved. As even his sympathetic obituarist would acknowledge, "Somewhat surprisingly Dr. Renner did not combine foreign travel with his wide range of regional studies and writing \_" (Percy 1958, 245). "The Statistical Approach to Regions" (Renner 1935), prepared around the time of the NRC survey, looked forward to the division of the United States into regional planning units purely on the basis of environmental, land-use, and economic statistics. Renner's armchair regionalism stood in strong contrast to the approach characteristic of the leading exponents of the regional concept in American geography at the time. A series of annual summer field meetings beginning in the early 1920s and continuing until 1940 (James and Mather 1977) helped to solidify a view of geography as the study of areal differentiation, or the varying occurrence of phenomena across the earth's surface. Intensive field survey was emphasized as the discipline's chief and characteristic research method, and regions understood as somewhat arbitrary constructs defined according to the purpose at hand, rather than as preexisting realities. Renner, on the other hand, already maintained that regions were real and definable divisions. His avoidance of fieldwork no doubt made it easier for him to do so, just as the field geographers's close acquaintance with the messiness of actual patterns must have inclined them toward the more nominalist view.

### **The Participants**

Of the ten geographers surveyed for the NRC report, four unquestionably belonged on the list. They were regular or at least frequent participants in the annual field meetings and leaders in the debates that those meetings provoked over the nature and methods of geography and of area study. The senior member of this group was Wellington D. Jones of the University of Chicago. The others were Robert Platt of the same department, Preston James of the University of Michigan, and Richard Hartshorne of the University of Minnesota. All tended to view regions as generalizations made for particular purposes and the study of areal differentiation as the discipline's core. None much sympathized with Barrows's (and Renner's) definition of geography as human ecology.

Two of the other geographers questioned were also prolific publishers and fairly prominent figures in the discipline. Both had experience in drawing regions in concrete application even though they had not taken an active part in the discussion of the regional concept. Clarence F. Jones, based at Clark University, had written extensively on South America

and on the economic and historical geography of the United States. Stephen S. Visher of Indiana University was the leading though increasingly lonely champion in his generation of a geography still defined in environmental-determinist terms. He wrote in 1932 that the discipline's "special field" was "the influence of the natural environment upon the nature and distribution of man's activities and qualities" (Visher 1932, 351).

The other four geographers consulted seem to have owed their selection chiefly to an acquaintance or an affinity with the survey's organizer. John E. Orchard taught geography at Columbia, where Renner had done his graduate studies and was to return after his stint of government service. Orchard's interests centered first on industrial location patterns and subsequently on the economic geography of the Far East and had little to do with the regional concept. C. Langdon White of Western Reserve University was presumably already at work with Renner on the co-authored introductory geography textbook that they published in 1936. White no less than Renner subscribed to the definition of geography as human ecology. So, in principle and practice alike, did another participant in the survey, Guy-Harold Smith of Ohio State. Charles Gooze, a 1929 Clark University Ph.D. in geography, was employed, like Renner, by the federal government: in his case, the U.S. Department of Agriculture. His academic publications were limited to one co-authored article in a minor journal and a few book reviews. Orchard, White, and Smith were all established scholars, but none of them was in the forefront of regional thought.

Not all of these individuals fully met Renner's description of them as "eminent regional geographers." Many others who could have been so described were not included: Barrows, for example; Isaiah Bowman of the American Geographical Society (whose published views, however, were quoted from elsewhere in the report), Carl Sauer of Berkeley, a prominent skeptic about both regional geography and government planning. The near-complete restriction of the survey to geographers also meant that many important figures in other fields were not involved. Two sociologists completed the list of participants. Roderick McKenzie of the University of Michigan was a leading scholar best known for his insistence that metropolitan cities plus their hinterlands formed the basic unit of regional division in the modern United States. The presence of T.J. Woofter of the University of North Carolina gave a voice on the panel to the Southern school of regional sociology that had formed at North Carolina around the figures of Howard Odum and Rupert Vance and the journal *Social Forces* [3]. But the 1930s were a period strikingly rich in regional thought in many different fields, including popular consciousness (Steiner 1983), the literary and artistic worlds (Dorman 1993), the other social sciences (Odum and Moore 1938), and many practical and planning domains described in the NRC report itself. None of these other currents of thought was drawn upon in the NRC survey.



Renner, if the choice of participants was indeed his, did involve a number of leading geographical regionalists and sociologists. But overall the answers of his panelists carried less weight than would have those of a larger and/or a better constituted set of experts. A smaller and narrower group at least had the advantage, it may have seemed, of being likelier than a large and diverse one to reach a consensus on the nature of regions. In fact, it did nothing of the sort.

### **The Survey Findings**

Several questions about regions were put to the respondents. The key ones were: "What do you conceive a region to be? Upon what basis would you delineate a region?" and "What, in your opinion, is the best type of region for use in regional planning and development?"

Two of the participants stood alone in their views. Visher replied in the terms of a classic environmental determinism that saw the relations of nature and society as the former's influence on the latter. A region, he wrote, was "an area in which some important environmental factors have approximately the same significance upon the population." Regions for planning should thus be defined by climate, terrain, and soil qualities. McKenzie's answers were an equally classic statement of his own theory of metropolitan dominance. A region was an area "in which the economic and social activities of the population are integrated around a focal economic and administrative center." The territory demarcated by the "retail shopping area about a metropolis" was therefore the "optimum type of unit to use in social and economic planning."

The clearest pattern visible in the remaining answers is the divide between two core groups of respondents. Those sharing Renner's own interests in human ecology—Smith and White, joined to some degree by Orchard and Woofter—judged a region to be an area displaying more or less uniform relations between the natural environment and human activities throughout ("natural-economic units," in Smith's words). They tended to view such areas as genuine regions and as providing the necessary and appropriate framework for planning. Wellington Jones, Hartshorne, Platt, and James, on the other hand, described regions as areas of general homogeneity in any chosen respect or combination of respects. The selection of a type of region for planning purposes they saw as a much less clear-cut matter, dependent on the specific goals to be attained.

In answer to other questions, most agreed, in Renner's words, that "except for a narrow range of developmental operations, the river basin is one of the poorest types of units which might be selected." Most agreed that regional boundaries necessarily contained an element of arbitrary judgment and were less important to define than regional core areas. Opinion was divided over whether state lines should be preserved or ignored in the bounding of planning regions.

## The Results

The neglect of the survey's results began with the NRC report itself. It took matters on which no consensus had existed in the replies as settled and unproblematic. Human-ecological relations were taken as the principal basis for the report's own proposed set of twelve regions. Those regions, contrary to what many of the respondents had urged, were drawn with sharp boundaries and no attention to existing state lines. Finally and most importantly, the character of regions as real and pre-existing phenomena was proclaimed throughout. Renner and his colleagues over and over declared "that regions are realities rather than abstractions, and that there are definite and recognizable subnational units within the national whole" (NRC 1935, 140). The task of regionalism was not to devise a system of units but to discern one, a position that Renner himself would consistently defend in his future work (e.g., Renner and Renner 1942).

Citing the report a few years later, one of the geography participants challenged it sharply on this very point:

Renner is expressing a very popular article of faith when he asserts that "regions are genuine entities" \_ in what purports to be a summary conclusion of views expressed by a number of "regional experts" in answer to a questionnaire, views however that showed a complete lack of agreement on the definition, delimitation, or essential character of regions. How genuine are entities of which we know so little? (Hartshorne 1939, 251).

The book in which these words occurred, Hartshorne's *The Nature of Geography*, argued strongly and, in its time, successfully for a number of positions very different from those dominating the NRC report. It rejected the definition of geography as human ecology in favor of geography as the study of areal differentiation. At its core, Hartshorne maintained, geography was an integrative rather than a systematic or topical discipline. As history dealt with the interrelations of the various phenomena, studied separately by topical specialists, that came together and affected one another in time, so geography dealt with their interrelations in space. The region was geography's principal tool for doing so, but it was a means rather than an object for study in itself. A region was defined only in order to clarify the problem at hand. Preston James's essay "Toward a Further Understanding of the Regional Concept" (James 1952) was another key statement of the same position. A 1954 essay that codified the thinking of American geographers on the subject firmly defined the region as "a device" rather than a preexisting reality and declared that the latter view had been "flatly rejected" in the mainstream of thought (Whittlesey 1954, 30-31). In such a climate of opinion, the NRC report had no chance of

exercising any influence. When the prevailing definition of the field shifted again, beginning in the 1960s, making it the science of location and spatial relations, it was away from regionalism altogether and no closer than before to human ecology.

In no other discipline does the report appear to have had much more impact. It was cited occasionally in *Social Forces* for a few years after its appearance, but before long that journal itself would lose its identity as an organ of regional sociology and the vitality that it had enjoyed in the 1930s. Public and political response focused on the NRC's eye-catching proposals for twelve specific regions and regional capital cities, which conservative Republicans attacked as a direct and immediate threat to states's rights (e.g., *New York Times* 1/1/1936, 2; 2/22/1936, 2) [4]. Outspoken foes of regionalism as an anachronism in a time of centralization, on the other hand, could praise the report only ironically for bolstering their view that the region was a confused and meaningless as well as a dangerous concept (e.g., Kollmorgen 1945). Federal regional policy in the years that followed showed no signs of having been influenced by the NRC's work. The one finding that had commanded something of a consensus in Renner's survey was the unsuitability of the river basin as a routine unit for planning. For legal and constitutional reasons, however, river basin development was the path taken by much federal regional policy (Wengert 1957, 268n21; Friedmann and Weaver 1979, 68).

### **The Lessons From History**

"A Preliminary Exploration of Regionalism" was laudable in its purpose but less so in its execution. Arbitrary in the experts it involved and cavalier in the use that it made of their responses, the NRC committee proclaimed the need for a canvassing of expert opinion as a basis for further work but itself failed either to secure a uniformly high level and representative diversity of respondents or to put into practice what its chosen experts recommended. It was marked all too deeply by the idiosyncratic views of George Renner to have much influence on the geography of the time, and it focused too narrowly on the views of geographers to have much of an impact elsewhere. Yet it remains instructive not for its failures alone. Though it was out of step with its own times, some of the report's features—above all the use of overall human-environment relations, defended by Renner and others, as a basis for demarcating regions—have become more thought-provoking and suggestive than they were at the time. Six decades later, these views seem worthy of examination again.

## NOTES

1. A draft of the report, dated June 1935 (copy at Loeb Design Library, Harvard University), lists Renner as the sole author of Appendix C, "A Preliminary Exploration of Regions" (pp. 193-203), which became Chapter XII of the final version. Moreover, one of the participants in the survey later cited Renner as the chapter's sole author: Hartshorne 1939.
2. Percy (1958), DeBres (1986), and Dunbar (1992, 68) are the principal secondary sources on Renner's career.
3. Woofter probably owed his inclusion directly to his article "Subregions of the Southeast" (Woofter 1934), a statistical exercise that Renner (1935) praised highly in his own use of a similar approach.
4. In 1942, Renner would ignite a similar but much hotter controversy. In an article in *Collier's*, he proposed a wholesale redrawing of the world political map to organize postwar nation-states on a more rational basis. He was attacked for high-handedness not only by other political geographers, but by such commentators as Walter Lippmann and Dorothy Thompson. For details, see DeBres 1986.

## PROFILES OF PARTICIPANTS

### a) Geographers Queried

*Charles Gooze* is believed to have been a geographer employed by the US Department of Agriculture. No biographical information on him is available.

*Richard Hartshorne* (b. 1899) specialized early in his career in political geography and industrial location. He became best known, however, for *The Nature of Geography* (1939) and later supplementary writings that for a time defined the subject matter and methods of the discipline for most of its American practitioners. Obituary, *Annals of the Association of American Geographers* 84 (1994), 480-92; see also Richard Hartshorne, "Notes Toward a Bibliobiography of *The Nature of Geography*," *ibid.*, 69 (1979), 63-76.

*Preston E. James* (b. 1899) received his Ph.D. in 1923 from Clark University, writing his dissertation on "Geographic Factors in the Development of Transportation in South America." He joined the faculty of the University of Michigan and published prolifically in Latin American geography, city form, regional planning, and the regional concept. In 1945, he moved to Syracuse, where he spent the rest of his career as a Latin Americanist, regionalist, and historian of geographic thought. Obituary, *Annals of the Association of American Geographers* 78 (1988), 164-75; Geoffrey J. Martin, "Preston Everett James, 1899-1986," in T.W. Freeman, ed., *Geographers: Biobibliographical Studies*, vol. 11 (London: Mansell, 1987)

*Clarence F. Jones* (b. 1893), after completing his dissertation on "The Port of Montreal" (Chicago, 1923), joined the faculty of the Graduate School of Geography at Clark University. He published many articles on the economic geography of Latin America and other topics, but was a somewhat isolated figure in a department still largely committed to environmental determinism. After wartime service in Washington, he moved to Northwestern University, where he continued his Latin American work and was instrumental in raising its geography program into the first rank. Obituary, *Annals of the Association of American Geographers* 83 (1993), 167-72

*Wellington D. Jones*, the senior geographer among those consulted, wrote his dissertation on the "Present Status and Future Possibilities of Agricultural Land Utilization in Patagonia," University of Iowa, 1914. He had substantial field experience in Asia, Latin America, and Europe. The author of some influential articles on methods of field study and a real characterization, Jones was never a prolific publisher but remained a highly respected and influential figure in the discipline. Obituaries, *Annals of the Association of American Geographers* 50 (1960), 51-54; *Geographical Review* 48 (1958), 285-87

*John E. Orchard* (b. 1893), though employed and consulted as a geographer, was an economist by training. After completing his dissertation (1923) at Harvard on "The World's Coal Resources and Some of Their Influences on National Economy," he was hired to teach geography in the Business School at Columbia University. There he established himself as an authority on American industrial location patterns, the relations between economics and geography, and the

economic geography of the Far East (he published a well-received book on Japan in 1931). His wrote little thereafter, being distracted from scholarship by applied employment, including work for the Council on Foreign Affairs. Obituary, *Annals of the Association of American Geographers* 56 (1966)

*Robert S. Platt* (b. 1891) spent his teaching career on the faculty of the University of Chicago, where he earned his Ph.D. in 1923 for a dissertation on "Resources and Economic Interests of the Bermudas." He published extensively on field methods in geography, the nature of regions, and the geography of South America. Environmental determinism, of which he became a fierce critic, was never apparent in even his early work. Platt became an advocate and practitioner of careful and systematic field study. He is best remembered for having introduced into American geography the idea of the functional or nodal region organized around a central point such as a town or city or administrative center—as opposed to the uniform region, characterized by homogeneity of some characteristic across its extent. Obituaries in *Annals of the Association of American Geographers* 54 (1964), 630-37; *Geographical Review* 54 (1964), 444-45; Richard S. Thoman, "Robert Swanton Platt, 1891-1964," in T.W. Freeman and Philippe Pinchemel, eds., *Geographers: Biobibliographical Studies*, vol. 3 (London: Mansell, 1979)

*Guy-Harold Smith* (b. 1895) earned his Ph.D. in 1927 from the University of Wisconsin with a dissertation on "The Settlement and the Distribution of the Population in Wisconsin." On the faculty of Ohio State from 1934 onwards, he pursued interests in population geography, the relation of terrain to human activities, and map and diagram techniques of representing geographic patterns. Obituary, *Annals of the Association of American Geographers* 68 (1978), 115-18

*Stephen S. Visher* (b. 1887) received his Ph.D. in 1914 from the University of Chicago with a dissertation on "The Geography of South Dakota" and spent his career on the faculty of Indiana University. His wealth of publications, many of them reflecting a steady commitment to environmental determinism, dealt in particular with weather and climate, with the geography of Indiana, and with the background of origin of eminent American men of science, studied statistically. Obituary in *Annals of the Association of American Geographers* 61 (1971), 394-406

*C. Langdon White* (b. 1897), from his dissertation on "The Agricultural Geography of the Salt Lake Oasis" (Clark University, 1925) through various articles on agricultural land use and location patterns in the iron and steel industry, showed a steady drift away from the environmental determinism apparent at the outset of his career but a persisting commitment to geography as the study of environment-society relations. He published the first in what was to be a lengthy series of geography textbooks in 1936. White moved from Western Reserve to Stanford in 1943 and spent the rest of his career there.

#### b) Sociologists Queried

*Roderick D. McKenzie* (b. 1885) did his graduate work at the University of Chicago with W.L. Thomas and Robert Park. He was a leading figure in the development of the sociological approach known as human ecology. Not to be confused with the same term as used in geography, it adopted such concepts as competition, succession, climax, and equilibrium from biological

ecology and used them analogically in studying human communities and institutions. McKenzie taught at the universities of West Virginia and Washington before becoming chair of sociology in 1930 at Michigan. The chief work of his later years was his book *The Metropolitan Community* (1933). Amos Hawley, "Introduction," in Amos Hawley, ed., *Roderick D. McKenzie on Human Ecology: Selected Writings*. Chicago: University of Chicago Press, vii-xxii.

*T.J. Wooster* (b. 1893) was affiliated during most of a long career with the sociology department at the University of North Carolina. His numerous publications focused on Southern affairs. They included book-length studies of black migration to the north, tobacco agriculture, and Southern community patterns and labor practices. He took an active interest in the Tennessee Valley Authority, the New Deal's first large experiment in regionalism, during its early stages.

## REFERENCES

- Barrows, Harlan H. 1923. Geography as human ecology. *Annals of the Association of American Geographers* 13: 1-14.
- DeBres, Karen. 1986. Political geographers of the past IV: George Renner and the great map scandal of 1942. *Political Geography Quarterly* 5: 385-94.
- Dorman, Robert L. 1993. *Revolt of the Provinces: The Regionalist Movement in America*. Chapel Hill: University of North Carolina Press.
- Dunbar, Gary S., comp. 1992. *A Biographical Dictionary of American Geography in the Twentieth Century*. Geoscience Publications, Department of Geography and Anthropology, Louisiana State University, Baton Rouge, LA.
- Friedmann, John and Weaver, Clyde. 1979. *Territory and Function: The Evolution of Regional Planning*. Berkeley and Los Angeles: University of California Press.
- Hartshorne, Richard. 1939. *The Nature of Geography: A Critical Survey of Current Thought in the Light of the Past*. Lancaster, PA: Association of American Geographers.
- Hawley, Amos. 1968. Introduction. In Amos Hawley, ed., *Roderick D. McKenzie on Human Ecology: Selected Writings*. Chicago: University of Chicago Press, vii-xxii.
- James, Preston E. 1952. Toward a further understanding of the regional concept. *Annals of the Association of American Geographers* 42: 195-222.
- James, Preston and Mather, Cotton. 1977. The role of periodic field conferences in the development of geographical ideas in the United States. *Geographical Review* 67: 446-61.
- Kollmorgen, Walter M. 1945. Crucial deficiencies of regionalism. *American Economic Review* 35, #2 (Papers and Proceedings), 377-89.
- Odum, Howard W. and Moore, Harry Estill. 1938. *American Regionalism: A Cultural-Historical Approach to National Integration*. New York: Henry Holt and Company.
- Pearcy, G. Etzel. 1958. George Renner, 1900-1955. *Annals of the Association of American Geographers* 48: 244-49.
- Renner, George T. 1926a. Geography's affiliations. *Journal of Geography* 25: 267-73.
- Renner, George T. 1926b. Some principles of commercial geography. *Journal of Geography* 25: 337-42.
- Renner, George T. 1927. *Primitive Religion in the Tropical Forests: A Study in Social Geography*. New York: the author.



Renner, George T. 1931. The introductory geography course in science. *Journal of Geography* 30: 33-38.

Renner, George T. 1935. The statistical approach to regions. *Annals of the Association of American Geographers* 25: 137-45.

Renner, George T. and Renner, Mayme P. 1942. Regionalism in American life. *Teachers College Record* 43: 337-57.

Steiner, Michael C. 1983. Regionalism in the Great Depression. *Geographical Review* 73: 430-46.

Taylor, E.G.R. 1937. Whither geography? A review of some recent geographical texts. *Geographical Review* 27: 129-35.

Visher, Stephen Sargent. 1932. Social geography. *Social Forces* 10: 351-54.

Wengert, Norman. 1957. The politics of river basin development. *Law and Contemporary Problems* 22: 258-75.

Whittlesey, Derwent. 1954. The regional concept and the regional method. In Preston James and Clarence Jones, eds., *American Geography: Inventory and Prospect*. Syracuse, NY: Syracuse University Press, 10-69.

Woofter, T.J., Jr. 1934. The subregions of the Southeast. *Social Forces* 13: 43-50.

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