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## **The Contribution of Carl Sauer to Latin American Geography**

When Tom Martinson wrote me some months ago about my presenting a talk on Carl Sauer's contribution to Latin American geography, I replied affirmatively without hesitation, realizing that his invitation was an honor and thinking that preparation of the talk would be no trouble. After all, I considered myself to be a Latin Americanist, I was one of Sauer's students, and I had already finished two biographical papers on my mentor. What could be an easier and more pleasant task? Yet when I got around to preparing this address, I found great difficulty in isolating Sauer's contributions to Latin American geography from the large reservoir of seminal ideas and observations that pervaded his writings and his statements that I recalled from seminars and field trips.

Carl Sauer was not a *Latin Americanist* in the narrow sense of that term. If we can label him at all with a regional rubric, it would be an *Americanist*, for in his writing and teaching he was as much concerned with Anglo- as with Latin America. Perhaps the best label for him would be World Humanist, for eventually Sauer used the entire earth as a stage for illustrating his views of man and nature. James Parsons has characterized Sauer as a "major spokesman and critic in the world of scholarship and humane letters" (Parsons, 1976, 83). Another appropriate label for him might be *Culture Historian*, for in most of his views he incorporated, as did H.J. Fleure, the disciplines of geography, history, and anthropology to trace the origin and spread of man and his works through time and place. But whenever he was prone to do so, Sauer classified himself as a *Historical Geographer*, curious about man, his culture, and his natural environment as developed through time.

For Sauer, Latin America, but Mexico in particular, became a field laboratory for discovering and testing ideas in culture history and for introducing students to geographical problems within a foreign land. It was in Mexico, for example, that he first became intrigued with native domesticated plants cultivated by contemporary peasant farmers; this topic was to concern him for the rest of his academic career and eventually led to his classic work of world scope, *Agricultural Origins and Dispersals* (1952; 1969). Again, his investigations of aboriginal population in northwestern Mexico effectively challenged the prevailing notion of low densities in the Americas at European contact; this study helped to initiate a series of papers on American Indian demography by many of his colleagues at

Berkeley and the subject has likewise engaged the attention of several of his students (Aschmann, 1959; Denevan, 1976).

Sauer's interest in Mexico and things Latin American developed after he came to Berkeley from Michigan in 1923. Several factors may have prompted that interest. During the first years on the Berkeley campus he and his family usually visited the San Diego area in southern California during the Christmas holidays, chiefly as a respite from the chilly winter rains of the Bay Area. Although he may not have crossed into Mexico on these early trips, he could hardly have failed to observe and appreciate the Spanish cultural heritage of the border zone. Moreover, at Berkeley he found that most research problems within California had been claimed by other departments, but northwestern Mexico, the nearest foreign area, was relatively untouched, save by some of the historians. Besides, as John Leighly has suggested, the industrial and mechanized character of the California scene repelled Sauer as much as the simple rural folkways south of the border attracted him (Leighly, 1978, 122), for Mexican culture was deeply rooted in the land and in the distant past.

In the late spring of 1926 Sauer, with three graduate students, made his first field excursion into Mexico, exploring the northern part of coastal Baja California as far as the old Dominican mission settlement of San Fernando de Velicata. This began a long series of field trips into Mexico, twenty in number, that extended over a period of four decades (West, 1979). Sauer's knowledge of Mexico was profound and intimate. He was less acquainted with South America, having made only one extended trip into the Andean countries in 1942; Central America and the West Indies he visited only briefly. Many of his colleagues may have traveled much more extensively in Latin America, but probably none could approach Sauer's depth of knowledge and understanding of the Latin American scene, nor his familiarity with the vast geographical, historical, and anthropological literature of that area.

On the Berkeley campus Sauer's interest in the lands south of the border was stimulated by many colleagues. Among these were historian Herbert Bolton and anthropologist Alfred Kroeber, and later, Lesley Simpson of the Spanish department and Sherburne Cook, a physiologist concerned with aboriginal demography. From the close cooperation among several departments, especially history, anthropology and geography, evolved the so-called Berkeley School of Latin American Studies, whose main organ publication has been the distinguished serial, *Ibero-Americana*, founded in 1932 and published by the University of

California Press. Later, in 1946, another campus organization, called the Associates in Tropical Biogeography, was founded, chiefly through the efforts of Carl Sauer, to further tropical biological research, mainly in Latin America. Finally in 1952 Sauer obtained an open-ended contract with the Office of Naval Research to underwrite graduate study in the Caribbean area; this contract lasted for 17 years. It was in this Berkeleyan atmosphere of strong research commitments and intellectual cross-fertilization from many disciplines that Carl Sauer developed his research program in Latin America, into which he led many of his students and inspired others outside geography.

What were Carl Sauer's academic contributions to Latin American geography? How can we evaluate his contributions in light of present-day developments' in Latin American studies? In addressing such questions we should bear in mind that Sauer's contributions to the Latin American field far transcended the discipline of geography; his influence on Latin American history, anthropology, and demography were equally significant. And his influence emanated not only from his writings, field contacts, and classroom instruction, but also from personal, friendly conversations carried on in his office on the Berkeley campus. His door was open to students, colleagues, and outsiders who came to seek his views and counsel in quiet discussion. In speaking of his relationship with Sauer, historian Woodrow Borah recalls:

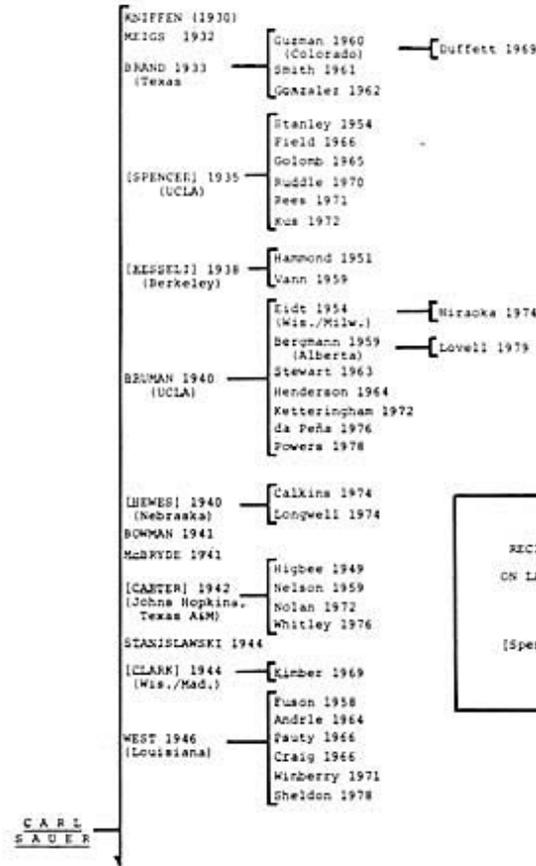
"My own entrance (into Sauer's influence), like that of many graduate students, came in more through personal conversation and dealing with specific issues than looking to printed work. Most ideas developed in friendly conversation and discussion outside of formal relationship. Through all this, Sauer was the kindly patron, never pressing but always willing to talk and presenting new ideas obliquely in conversation" (Borah, 1979).

Thus a large number of people were exposed, directly or indirectly, to Sauer's views on all nature of themes and problems regarding Latin America, as well as other subjects. That exposure in itself might be considered one of Sauer's major contributions, but that is difficult to measure. I have attempted a kind of yardstick in the accompanying genealogical chart (Figure 1). To be sure, one cannot assume that Sauer's ideas and viewpoints prevailed for all of his descendants from one generation of doctoral students to the next. To ascertain the degree of acceptance and practice of the Sauerian philosophy by the people listed in the chart, the dissertation and subsequent writings of each descendant would have to be examined—a task perhaps not worth the effort. Nonetheless, just a cursory perusal

of dissertation titles has led me to believe that a respectable number of descendants may have been strongly influenced by Sauer's ideas passed down through the lineage here represented. People belonging to the lineage are spread across the United States, but the strongest thrust in terms of numbers of Ph.D. theses still comes through Berkeley under the leadership of James Parsons and has been continued through Wisconsin at Madison under William Denevan. Moreover, one-fourth of all dissertations on Latin American geography produced in North American universities since 1909 are represented in this chart.

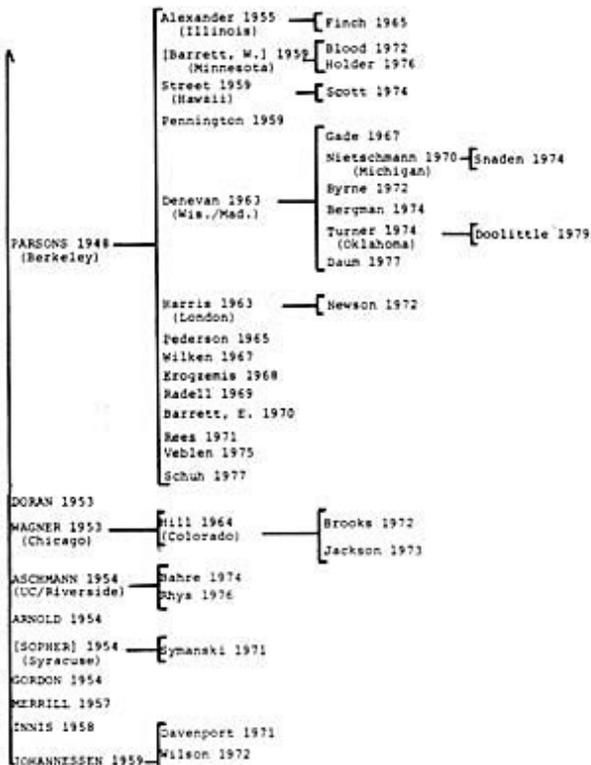
FIGURE 1

GENERATIONS: FIRST (26) SECOND (57) THIRD (16) FOURTH (2)



RECIPIENTS OF THE PH.D. DEGREE WITH DISSERTATIONS  
 ON LATIN AMERICA, DESCENDANT THROUGH THE SAUER LINE  
 1930 -- 1979

[Spencer] = Non-Latin American Ph.D. under Sauer, but  
 supervisor of Latin American dissertations.



Perhaps Sauer's main contributions to Latin American geography can be seen best through the philosophical tenets that he employed in writing and teaching. Underlying almost all of his academic work was a keen sense of history. For him time was the "fourth dimension" of geography – as important as place, area, and pattern (Sauer, 1974). He considered the study of geography, both physical and human, to be essentially historical or developmental through time. I believe that most would agree that his concern with the past may have been his greatest contribution to the study of Latin American geography and to geography in general.

A number of topics that he investigated in Latin America can be subsumed under the rubric of the "geography of the past." Such topics would include his early work in northwestern Mexico on what he liked to call "archaeogeography" – the study of archaeological sites in relation to their environmental setting (Sauer and Brand, 1932); another would be his estimates of aboriginal population in northwestern Mexico at Spanish contact, based on his knowledge of the terrain and on the restudy of colonial documents (Sauer, 1935); again, the reconstruction of the early Spanish colonial geography of parts of Mexico, such as his *Colima of New Spain in the Sixteenth Century* (1948) and *The Early Spanish Main* (1966), both based on archival and field research; and, later in his career, investigations into paleogeography, the study of early man in his physical environment, a subject he traced through fieldwork in Mexico and the United States and through library work for the Old World (Sauer, 1944).

At the time of their publication such studies were regarded by most of Sauer's geographer colleagues in the United States as more akin to anthropology and history than to what was considered to be "geography." And many geographers in this country today are probably of the same opinion. But Sauer and his followers thought of such work as a part of culture history.

Sauer also believed that the present-day geographical scene could not be well understood without knowledge of its past development, a concept whose validity few would deny today. Sauer emphasized this concept in his Association of American Geographers presidential address, "Foreword to Historical Geography" (Sauer, 1941), but it is perhaps best illustrated in his basic article, "The Personality of Mexico," published in the *Geographical Review* in 1941. I quote from that article:

"The two most important things to know about Mexico still are the patterns of life that existed before the coming of the white man and the changes that were introduced during the first generation or two or the Spanish period. Although a third period of transformation is under way, we may yet best delineate the basic traits of this land and its people from its prehistoric geography and from the geography of the sixteenth century" (Sauer, 1941, 354).

Sauer once wrote to Preston James: "I think I can do a good basic geography of Mexico that doesn't get this side of 1690," (Sauer, 1940). And, indeed, in his regional course on Latin America given at Berkeley from 1930 until his retirement in 1957 Sauer rarely got past the end of the colonial period.

Another illustration of the importance of the past comes from one of Sauer's earlier articles in which he explains the position of the United States-Mexican borderland. I quote:

"The northward growth of New Spain was determined largely by the attitude of the natives.... Within the present limits of the United States, Spanish forces for the first time met with really formidable nomadic tribes, the Apache and the Comanche.... The American-Mexican boundary is due more largely to the barrier which the Apache formed from the Gila River to the Texas plains than to any other cause. No Spanish settlements were made in Apache territory, even the frontier garrisons being placed well to the south of the Apacheria in the land of sedentary Indians, such as Pima, Opata, and Concho" (Sauer, 1935, 3).

A large number of Sauer's students and those of subsequent generations wrote their dissertations on some aspect of the historical and pre-historical geography of Latin America, most of whom have continued research in that area. Of the total number of people represented on the genealogical chart (Figure 1), fully one quarter dealt with a problem in historical geography for the doctoral thesis. In contrast, only three percent of the dissertations on Latin America written by United States and Canadian students unrelated to the Sauer line, dealt with historical geography.

A related interest is seen in Sauer's work on early Spanish geographical exploration in Mexico and the Southwest, among which the short monograph *The Road to Cibola* is the outstanding example (Sauer, 1932). Such studies represent his concern with the history of geography, the subject of several graduate seminars that he offered at Berkeley. He always considered that students of geography

should be well grounded in the history of their discipline. An interpretation of sixteenth-century Spanish exploration of northwestern Mexico, *The Road to Cibola* is one of the products of Sauer's intensive fieldwork in Sonora and Sinaloa from 1928 through 1931. The study illustrates well his insistence on an intimate knowledge of the terrain in interpreting documentary materials on routes of exploration, settlement, and resource exploitation. He stated his reasons for writing *The Road to Cibola* thusly:

"Incidental to a study of aboriginal conditions in northern Mexico, it became necessary for me to scrutinize the routes of Spanish exploration. This was done by applying a firsthand knowledge of virtually the whole terrain to the interpretation of the documents. The resultant instruction of the northern explorations led me to disagree in numerous respects with the customary rendering of course" (Sauer, 1937, 270).

Many years later, near the end of his writing career, Sauer resumed studies on geographical exploration—those of the sixteenth and seventeenth centuries dealing with North America, including Spanish activity in the American Southeast and Southwest, and within the Caribbean (Sauer, 1971; 1979). These volumes are exemplary for those who would pursue similar investigations for other parts of Latin America, interpreting the contemporary cultural and physical geography as seen through the eyes of early explorers.

As I mentioned previously, in the course of his observations in Mexico Sauer early became interested in peasant agriculture, which in turn led to his study of plant and animal domestication. His introduction to the writings of the German culture historian Eduard Hahn and the Russian plant geneticist Vavilov, and his later association with Edgar Anderson of the Missouri Botanical Garden, furthered his interest in that subject. From the mid-1930s onward Sauer's fieldwork in Mexico and later in the Andes was directed mainly to the collecting of domestic plant specimens and observation of aboriginal farming practices. Many journal articles resulted from this work, which contributed to a largely neglected aspect of agricultural geography in Latin America. Sauer's concern with subsistence economies and traditional rural folkways contrasted with the interest in commercial agriculture held by most Latin Americanist geographers of his time and since.

Sauer inspired several of his students to pursue the question of plant domestication and aboriginal farming in the Americas. At least eight doctoral

theses on Latin America supervised by Sauer dealt with aboriginal farming, and most of his students who have specialized in Latin America have at one time or another published on that subject. At least one of his students, Carl Johannessen, has become deeply involved in research and theory of plant domestication and has led several of his students into that subject.

As an enlargement upon the subsistence agricultural theme, Sauer also guided students into investigations of both past and present-day aboriginal economies with emphasis on culture and environment. Here again, anthropology, geography, and history combine to produce what might be called ethnogeography, another trademark of the Sauerian persuasion. Dissertations and other studies emanating from Berkeley, Wisconsin (both at Madison and Milwaukee), Louisiana State, and other Sauerian strongholds exemplify the practice of the ethnogeographic tradition.

As William Speth has pointed out, destructive exploitation and a concern for conservation of the natural environment have been persistent themes in Carl Sauer's writings and teaching (Speth, 1977). Sauer extolled the wise and durable native systems of living with the land, such as slash-and-burn farming in the New World tropics, and he decried the destruction wrought on the natural environment through European-type commercialization. However, Sauer never published specifically on those themes for Latin America, but in the classroom and in the field he rarely failed to note the extent of such things as soil erosion and deforestation in central and southern Mexico or in the Andean countries. In a letter to William Vogt, the environmentalist, he once referred to some of his observations on soil erosion that he thought had occurred in colonial times around Mexican towns:

"...I should rather estimate that the pack animals which had to be pastured in large numbers outside the bigger towns were one of the worst irritants of the surface. Perhaps you have noticed the ghastly gullying which is likely to show on the hills where the old pack trails came into town. There are good illustrations south, west and northwest of Mexico City" (Sauer, 1944).

He went on to mention the environmental destruction around every mining center, which "became the middle of an area of thoroughgoing deforestation." He thought that destructive exploitation in Mexico was worse in the nineteenth century than in the colonial period. In the same letter he continued:

"The Spanish Crown did attempt to maintain somewhat of a balance between white man, Indian, and resources. Also I think the population did not show strong signs of recovery until toward the end of the Spanish period. This rebound of population at present is a pressure on resources probably greater than anything the country has ever seen".

In 1945, travelling through Oaxaca for the first time, Sauer recorded a number of observations on soil erosion. In a letter to Joseph Willets of the Rockefeller Foundation he wrote:

"We have had an interesting tour through the cold Mixteca highland pretty straight Indian population. We stopped at small pueblos and my wife got her first sight of minimum subsistence levels under which human life can endure. It is the most distressing area of soil erosion I have ever seen-(It is) terrific and should be studied. I don't know the answer. At the time of the conquest it was a prosperous and densely settled region; there still are some of the greatest architectural monuments of old Dominican convents to be seen in the New World and good historical records. The area was strongly exploited for growing wheat, barley, and cattle by the Spaniards, being a cold land surrounded by hot country, and I think the answer lies there. At any rate, tens of thousands of acres are completely gone and erosion is gnawing fast at much of what is left.... Soil erosion is pretty bad all over the south Mexican uplands as it is in Central America, and the whole country is bursting at the seams with too many people. The answers are hard to find and I don't know who is working on them" (Sauer, 1945).

On a trip through Mexico in 1947 Sauer did interest his colleague and field companion, Sherburne Cook, to investigate further evidence they had seen of widespread pre-Spanish soil erosion in central Mexico. Cook's efforts resulted in two milestone monographs on the relation between human populations and ecology in pre-Conquest Mexico: *The Historical Demography and Ecology of Teotlalpan and Soil Erosion and Population in Central Mexico*, both published in the *Ibero-Americana* series (Numbers 33 and 34) in 1949. Cook also published a third article on the erosion problem in Mexico (Cook, 1963).

As early as 1938 Sauer had begun writing on the subject of destructive exploitation, and ten years later he had expanded his thinking to total ecology, as expressed in a letter to Dan Stanislawski:

"I think we are getting around to the biggest problem of geography which is that

of total ecology or ecological balance and which has been missed almost entirely by geographers. It has also been missed by the whole of our modern commercial civilization and that may be its ultimate tragedy. It looks to me very much as though there is a natural order in the world involving an accommodation of all living things to each other and providing for orderly progressive changes or evolution. Our society has gone heedlessly about breaking these interdependencies" (Sauer, 1948).

Perhaps the culmination of Sauer's interest and concern for man's husbandry of the natural environment is seen in the symposium entitled "Man's Role in Changing the Face of the Earth," held at Princeton in 1955, and which Sauer helped to organize (Thomas, 1956). But not one of the some 50 papers presented at that symposium was on an environmental problem dealing with Latin America. Subsequently interest in environmental quality appears to have grown among geographers in this country, but at Berkeley Sauer long before was introducing most of his students to such problems. Today these subjects more than ever concern certain members of the geography department at Berkeley, especially the Latin American experts James Parsons, Hilgard Sternberg and Bernard Nietschmann and their students, as reflected in publications and dissertations recently completed and in progress.

Carl Sauer never wrote regional monographs on Latin America similar to his Ozark Highland (1920) or Pennyroyal (1927) papers on the United States. We may be the poorer for his aversion to writing regional treatises on portions of Mexico, which he knew better than most geographers of his time. And rarely did he permit his doctoral students to indulge in such studies for the dissertation, usually insisting on a problem-oriented topic. However, he was not completely averse to regional description. He once replied when questioned on the value of descriptive versus theoretical work in geography:

"I have a feeling that the good descriptive things are the things that last. The nice theoretical things are going to be of value for a very brief time.... Humboldt's labeled descriptions of New Spain will be used by students in Latin America as long as there are students of Latin America. My general attitude is that when I see someone doing with enthusiasm a descriptive job in which he sees some relationships, I bless him.... It is nice to have a general philosophical frame in which to fit your thinking, but that work is going to endure in which the descriptions are made so sharply that someone a hundred years from now will be able to use the material under whatever then is the view of the problem...." (Sauer,

1945, 127).

Sauer had a far deeper antipathy toward the writing of textbooks on the college level, and he often poked fun at some of his geographer colleagues who did so. On one occasion in 1927, during his early years at Berkeley, while engaged in a vigorous program of upgrading the quality of the University of California Publications in Geography, he wrote to R.J. Russell:

"It is rather disturbing apparently to our mid-western friends that we have undertaken a program of publication when they haven't. But when they get their text-book commitments out of the way they are all going to begin promptly. What they will do will be in the center of geography, not on its periphery.... I am more convinced than ever that the Chicago group and even more so the one at Madison, has become irrevocably committed to teaching and methodological discussion. We must look elsewhere for geographers who will hew the way..." (Louisiana State University Archive, 1927).

If Sauer had had a more tolerant view of textbook writing, one wonders what kind of book he might have written on Latin America, or on Mexico, in his later years.<sup>1</sup>

One of Carl Sauer's life-long biases, in part an outgrowth of his rural and small-town upbringing, was his dislike of large urban centers. Not surprisingly, this prejudice extended to an apparent disinterest in studies of urban geography. During a conference on the Southwest held at Huntington Library in 1945, Sauer was asked about his views on urbanism. His answer:

"I do not know what urbanism means. I have kept away from cities in my thinking. The growth of cities reflects something that is happening in and to the country(side) round about. It is a phenomenon, and as such is worth studying, but I cannot get into it" (Sauer, 1945).

It is true that Sauer's first two doctoral students at Berkeley – John Leighly and Warren Thornthwaite – both wrote their dissertations on urban geography (Leighly on the towns of southern Sweden (1928), Thornthwaite, on Louisville, Kentucky (1930). But subsequently he steered his students clear of such studies, despite the increasing importance of urban geography worldwide, especially after World War II. Sauer's dislike of cities may have deprived us of a series of significant investigations particularly in the field of historical urban geography of

Latin America. And it is the emphasis on teaching and investigations of cities and industrial society now current in the geography department at Berkeley that distinguishes it from the days when Sauerian cultural-historical geography was paramount.

Sauer's prejudice against cities even extended to his living habits while engaged in fieldwork in Mexico. Whenever possible he preferred to camp in the open countryside, rather than seek lodging in urban places nearby. When obliged to stay in towns or cities he had a strange predilection for the cheapest hotels, where he often picked up bedbugs, and for small restaurants of questionable cleanliness, where he sometimes caught intestinal disorders from eating quantities of beans and tortillas.

Perhaps most geographers today would consider Carl Sauer's contributions to Latin American geography to be in the traditional mold of the social sciences as they developed during the first half of this century. Sauer had little patience with the statistical and theoretical approaches that have pervaded geography since the 1950s. And he scorned those whose work was not based on thorough personal observation of phenomena in the real world. He once said that he tried for an understanding of man and nature " that is other than examination by analytical methods" (1970). He often worked intuitively, but always insisted that the historical method has a major place in geography. Through all this, I think, one of Sauer's qualities as a teacher and expositor of geography stands out: his ability to inspire students and colleagues, his ability to open up new horizons of research and understanding of man and his environment. And for that we in the field of Latin American geography are all the richer.

## Note

1. Sauer's nearest approach to a college-level textbook was a mimeographed syllabus written with John Leighly as a guide for teaching the beginning geography course at Berkeley (*Syllabus for the Introduction to Geography. 1. Elements*. (Ann Arbor: Edwards Brothers). First produced in 1924, the syllabus went through six editions (6th, 1935). In 1939 Sauer published a grade-school text entitled *Man in Nature: America before the Days of the White Man. A First Book in Geography*. (New York: Charles Scribner and Sons). In writing the book Sauer was helped by educator Leo Baisden (assistant superintendent of the city schools of Sacramento) and others. It is still regarded by many as a model for presenting the story of the American Indians to grade school children; it can be read with profit by adults as

well.

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