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Gordon R. Willey: Settlement Patterns in Archaeology By Jorge Sifuentes and Eric White

Background

Widely recognized as one of the most important American archaeologists of the second half of the twentieth century; Gordon Willey (1913–2002) was appointed in 1950 as the first scholar to hold the Charles P. Bowditch Chair at Harvard University. He was a professor in the Department of Anthropology for 36 years.



Willey pioneered settlement pattern studies based on fieldwork in Peru's Viru Valley during the late 1940s and early 1950s. Before that he worked in the American southeast, applying innovative methods for the analysis of pottery and the reconstruction of ancient cultural history.

Willey was born on 7 March 1913 in Chariton, Iowa. He majored in anthropology at the University of Arizona and obtained his Ph.D. degree from Columbia University in 1942. He worked at the Smithsonian Institution until appointed to the Bowditch chair. His *Archaeology of the Florida Gulf Coast*, published in 1949, became an instant classic.

His master synthesis, co-authored with former student, Jeremy Sabloff, *An Introduction to American Archaeology: Volume I, North and Middle America; Volume II, South America and The History of American Archaeology*, is now in its third edition. It established his reputation as leading scholar of archaeology in North, Central, and South America. His contributions to the discipline are remembered in the many prizes and symposia instituted in his honor by the American Anthropological Association, the Society for American Archaeology,

and the Peabody Museum of Harvard University.

Innovation

Before 1940, archaeologists prepared site maps and sometimes were concerned with site locations, but little attention was paid to settlement patterns. There were few detailed studies emphasizing the disposition of artifacts and ruins over large regions prior to Willey's investigations of Peru's Virú Valley. In 1946 and 1953, field surveys were combined with aerial photography to produce detailed maps of all of the archaeological features of the valley.

Willey's big contribution was in looking at archaeological evidence on a regional scale. He applied this approach in the Virú Valley Project resulting in the publication of *Prehistoric Settlement Patterns in the Virú Valley*. This work was generally well received, but few recognized that Willey's approach represented a revolution in the way that archaeologists view landscapes. Although this contribution has proven to be remarkable, it was largely unrecognized for over a decade. Yet, the theoretical implications of this work were significant; instead of just looking at a site in isolation, the work suggested that understanding the prehistory of a site required a consideration of the larger regional context. Willey demonstrated that the spatial relations between sites were important to understanding what was going on at a particular location.

After completing the Virú Valley work, Willey continued to focus on the spatial distribution of cultural activities across landscapes at given moments in time. His subsequent research contributed to refining the level of detail in which settlement variability was presented by archaeologists. His focus shifted from South to Central America in the early 1950s. He worked in Belize from 1953 to 1956; in Nicaragua in 1959 and 1961; and in Guatemala in 1958, 1960, and 1962, and from 1964 to 1968. His books *Prehistoric Maya Settlements in the Belize Valley* and *Prehistoric Settlement Patterns in the New World* are often pointed to as cornerstones of landscape archaeology. As a result of his settlement pattern studies, by the 1960s the research emphasis of many archaeologists was shifting from single sites to the study of regions and their archaeological contents.

For most civilizations, subsistence economy is usually commensurate with settlement densities and cultural achievements of the society. In the case of the Maya, prior to Willey's work, few scholars focused on the study of settlement patterns, or on population estimates from evaluations of carrying capacity of land cultivated with swidden agriculture. When settlement surveys identified the remains of residential units, their counts became a preferred and more accurate method for producing population estimates. Residential house mounds were found to have a distribution decreasing in numbers with distance to centers, but nevertheless found throughout the intervening territories in between centers, often suggesting considerably larger populations than deemed before. Revised

population estimates hinted of alternate and more intensive cultivation methods, such as terracing and the ingenious use of raised field wetland cultivation. Such alternate methods were eventually confirmed (Turner, 1978).

To Willey, settlement patterns did not simply provide examples of human adaptation to the environment. He saw the potential of settlement patterns to provide insights into a broad spectrum of human behaviors that were influenced by both cultural and ecological factors. He argued that settlements reflect not only a society's natural environment and level of technological sophistication, but also the influence of various institutions of social interaction and control on which the culture is maintained (1953:1). His research demonstrated how the analysis of settlement patterns could provide information on environmental strategies and on social organization.

The study of settlement patterns at a larger scale reveals geographical locations of cities of varying sizes and suggests a hierarchically structured organization that helps the articulation of socio-political processes. Even if ideology can be considered as epiphenomenal to the more immediate concerns of subsistence, settlement patterns, and socio-political organization, it affects all phases of cultural development. Willey's work (1980, 1982) exposed a systemic link between these basic concerns and trade, warfare, and ideology. On this basis, he was an advocate of a holistic approach that sees no meaningful separation between science and humanism in archaeology.

Willey's holistic approach made settlement studies readily applicable to subsequent archaeologists, who continue to employ spatial analyses in their attempts to explain prehistoric human behavior. For instance, predictive modeling in archaeology has its basis in the settlement studies first carried out in the 1950s and 1960s by Willey. Some examples of current applications of Willey's Virú Valley methodology (i.e., the study of regional prehistoric settlement patterns using a surface survey strategy) are summarized by archaeologists Bill Sanders, Charles Stanish, and others in *Settlement Pattern Studies in the Americas—Fifty years since Virú* (Billman & Feinman, editors, 1999). An example of GIS applications to the study of settlement patterns is found in Stanton W. Green's (1990) *Sorting out settlement in southeastern Ireland: Landscape archaeology and geographic information systems*. These recent works suggest that Gordon Willey's pioneering work will be enhanced greatly by new spatial analytic methodologies.

Publications

Willey, G. R. (1953). *Prehistoric Settlement Patterns in the Virú Valley, Peru*. Bureau of American Ethnology Bulletin 155. Washington, D.C.

Willey, G. R. (ed.). (1956). *Prehistoric Settlement Patterns in the New World*. Viking Fund Publications in Anthropology No. 23, New York.

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Related Works

Billman, B. R. and G. M. Feinman, Eds. (1999). *Settlement Pattern Studies in the Americas—Fifty years since Virú*. Smithsonian Series in Archaeological Inquiry. Washington, Smithsonian Institution Press.

Green, S. W. (1990). *Sorting out settlement in southeastern Ireland: Landscape archaeology and geographic information systems*. in *Interpreting space: GIS and archaeology*. K. M. S. Allen, S. W. Green and E. B. W. Zubrow. London ; New York, Taylor & Francis: xiv, 398, [8] of plates.