

**The McKern "Taxonomic System and Archaeological Culture
Classification in the Midwestern United States: A History
and Evaluation**

By

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Abstract

In the first half of the 20th century three major archaeological culture unit classifications were formulated in the United States. The most curious one was the Midwestern "Taxonomic" System, a scheme that ignored time and space.

Alton K. Fisher suggested to W. C. McKern in the late 1920's that the Linnean model of morphological classification, which was employed in biology at a time of pre-evolutionary thinking, might be adapted to archaeological culture classification (Fisher 1986). On the basis of this idea McKern conceived the Midwestern Taxonomic System and planned to present his concept in a paper at the Central Section of the American Anthropological Association at Ann

Arbor, Michigan, in April, 1932. Illness prevented him from making the presentation. The first public statement was before a small group of archaeologists at the time of an archaeological symposium, Illinois Academy of Science, May 1932 (Griffin 1943:327). After input from various archaeologists a formal account was prepared as a manuscript entitled "Culture Type Classification for Midwestern North American Archaeology" at the Chicago Conference, December 10, 1932. Other participants at this conference were Samuel A. Barrett, Fay-Cooper Cole, Thorne Deuel, Carl E. Guthe, A. R. Kelly (Cole and Deuel 1937a:34) and James B. Griffin (as a graduate student, personal communication, 1986). This classification method was more fully and formally presented three years later, in December 1935, at the original Indianapolis Archaeological Conference (Guthe 1937). A more detailed history of the origins of the McKern system is provided by Griffin (1943).

The McKern system is one of three major pioneering archaeological culture classifications proposed in the United States from 1927 to 1939 that had a basic historical impact in subsequent archaeological research, the others being Kidder's Southwest Pecos Classification (Kidder 1927) and the Heizer-Fenenga (1939) Central California Classification. (1) The conceptual basis for each of these schemes differed. Proceeding by order of historical occurrence the Pecos Classification consisted of narrow homeotaxically ordered "chronologically sequent periods" or developmental stage units, the Midwestern Taxonomic system of hierarchically ordered categories of morphologically similar associated component assemblages, and the Central California Classification geologically associated archaeological assemblages temporally arranged by horizon markers (and eventually geographically arranged into provinces and zones by Beardsley 1947, 1948).

One suspects these approaches arose from the immediate geographic circumstances that spawned them. In the mountainous Colorado Plateau of the Southwest the best known archaeological remains were late and often found in deep occupational deposits within a restricted area. Interest was in temporal change where there would be continuity, and the importance of stratigraphic deposition was apparent. In the glacial plains of the Midwest

similar archaeological materials may spread over wide geographic areas and be overlapping, the methods of stratigraphic excavation of occupational debris (in contrast to complete mound overburden removal) occur late. Interest is in geographic variation of archaeological components. In Central California remains are simpler, but geographically varied, geological context is considered important.

Though the Central California classification had less affect on North American archaeology, the invention of the horizon concept by Heizer, Fenenga and Jeremiah B. Lillard in the late 1930's (Fenenga, personal communication, 1986) and its use as an ordering device (Heizer and Fenenga 1939) was probably the stimulus to Kroeber (1944:108-111) formalizing Uhle's idea of the horizon style that ultimately had a profound impact in Andean archaeological study. Kroeber's involvement in this area apparently came about as the result of a seminar he taught, about 1940, on the topic of "Archaeology in the Eastern United States" in which the California horizon concept and McKernian classification were discussed (2) and his 1942 tour to Peruvian pottery collections. The California horizon concept may also have had a delayed secondary effect on eastern United States culture classification. Willey and Phillips credit Kroeber's influence in their formulation of the horizon in their 1958 system (see below). This is understandable since Heizer and Fenenga never formally defined or explained their horizon concept in print, they just applied it. History has shown us that it is the Midwest classification, named after original formal proposer, W. C. McKern, that is the curious one. It is best to directly quote McKern (1939:310) in describing the interrelated structural units of the system:

...the taxonomic frame consists of five major divisions: focus, aspect, phase, pattern, and base, progressing from localized detailed to large general classes. The manifestation of a focus at any site is called a component of that focus. The method is comparable to a filing cabinet equipped with labeled drawers to facilitate the orderly arrangement of culture-indicative data.

The writer is unaware of the occurrence of any archaeological culture classification, other than McKern's, that completely ignores spatial criteria as an ordering and also any consideration of possible temporal variation of the materials being ordered, "the archaeologist requires a classification based upon the cultural factor alone; temporal and distributional treatment will follow as accumulating data shall warrant" (McKern 1939:303). Indeed, to many American archaeologists the term taxonomy has come to mean non-temporal classification. McKern does not define his use of the word taxonomy but states "the advisability of adopting a certain culture-type classification or taxonomic method" (Guthe 1937:70). On the basis of McKernian practice archaeological taxonomy means the classifying of material on the basis of morphological (he uses the term cultural) similarity. Mathematicians view taxonomy as a method of formulating taxa, non-dimensional externally subdivided classes, that have been defined by exclusion (Dunnell 1971:79). Actually McKern's units are not taxa, but paradigmatic classes; they are dimensional and formed by intersection. A dimension is a set of attributes or features which cannot co-occur (Dunnell 1971:71), e.g. if a pot is conoidal in form it cannot be globular. The selection of taxa or paradigmatic classes may be on any basis, including time or space. In traditional biology the selecting criterion for taxa is phylogenetic relationship or descent. "Taxonomy" (in quotes) will be used from this point on in this presentation in the sense operationalized by McKern. One is also struck by the elegance, logic and precision of his work, in contrast to the subsequent efforts done by archaeologists who view classification as a means to an end.

Chronology has been a fundamental assumption of virtually all professional archaeology. Piggott (1959:51) states: "Any enquiry into the past which does not reckon with the dimension of time is obviously nonsense: The past is the past by virtue of the place it occupied in the timescale. The archaeological approach to the human past has to concern itself with problems of chronology no less than that of the historian working from written records, and indeed the archaeologist has to spend a far greater part of his time in worrying out his time-scales than has the historian, because so often he is dealing with non-literate societies which of their very nature provide no direct evidence of their place in time. As a result, the archaeologist studying prehistoric, or non-

historic, societies has to devise means whereby these societies can be put in chronological relation one with another, or with co-existing literate and historical communities with a time scale of their own.”

Why then was chronology deferred in Midwestern United States classification methods? It seems to this writer that Midwest classification is the result of excavation techniques devised about 1925 at the University of Chicago by Fay-Cooper Cole and Robert Redfield (the latter’s involvement based on personal communication Raymond S. Baby to J. M. Whitehead, late 1950’s). At this time sites were believed to be mostly mounds. Early Midwestern site survey forms provide spaces that ask for data not applicable to campsites, but to mounds. Therefore, excavation strategies were propounded to recover ceremonial and mortuary goods, often deposited at a single time and then covered with mound forming earth. Cole and Deuel (1937b) make no mention of excavating in either depositional or metric levels in their outline of excavation procedures undertaken from 1930 to 1932. Another reason that chronology was deferred was the abundance of large surface collections amassed by avocational archaeologists that presented non-contextual materials for analysis. It is surprising that such a system was devised by archaeologists who understood relative sequencing. For example one of the most intimate formalizers of the Midwestern “Taxonomic” System, Fay-Cooper Cole, had established the Fulton County Illinois sequence by 1930 (Griffin 1985:3).

Geographic distribution has not been as basic to archaeology as chronology, but it too has a time honored position. Daniel states, “the distribution map is one of the main instruments of archaeological research and exposition to accomplish and to demonstrate the totality of information about some archaeological fact, to study the total evidence in space regarding one aspect of the material remains of the past (1962:80).”

James B. Griffin, in 1937-38 (personal communication, 1986), formulated the first temporally ordered archaeological sequence in the Eastern United States, (1) *Paleo-Indian*, (2) *Transitional*, and (3) *Neo-Indian* (1946). This synthesis was presented at a symposium on “Man in the Northeast,” American Anthropological Association meetings, Andover, 1941. James A. Ford was with Griffin at Ann Arbor during the 1937-38 academic year and this contact probably stimulated him to devise, with Gordon R. Willey, a classification scheme for the Southeast United States (Ford and Willey 1941). Their use of developmental stages and roman numerals as unit designators, suggests that the Pecos Classification served as its model. Ford had recent direct contact with Southwestern archaeology during the summer of 1935 at Chaco Canyon. This classification could be termed, as a counterpoise to McKern’s Midwestern Taxonomic System, Ford and Willey’s Southeastern Developmental System. Willey maintains, however, that they were more influenced by Childe’s (1929) concept of broad geographic sloping stageline divisions, rather than the narrowly bound Pecos sequence (Gordon R. Willey, personal communication, 1986).

Though a more abstruse formulation, the utilization of the original McKern classification by Cole and Deuel in their landmark Fulton County, Illinois archaeological investigations (1937a) and the publication of *Archaeology of Eastern United States*, (Griffin, 1952, a series of papers by Cole’s students, virtually all functioning archaeologists doing work in the eastern United States) insured that Griffin’s revision of McKern’s system, namely (1) *PaleoIndian*, (2) *Archaic*, (3) *Early Woodland*, (4) *Middle Woodland*, (5) *Mississippi and Late Woodland*, periods (Griffin 1952a:352) would eventually dominate over Ford and Willey’s more concretely defined Southeastern Developmental System of (1) *Archaic*, (2) *Burial Mound I*, (3) *Burial Mound II*, (4) *Temple Mound I*, (5) *Temple Mound II*. The unit name *Mississippi and Late Woodland* belies Griffin’s use of period. His units are not time intervals, but are concerned with content and would be called horizons in California. The etymology of the words used by Griffin for McKern’s units is completely inconsistent: (1) *Archaic* - a time unit name, (2) *Woodland* - a descriptive environmental name, and (3) *Mississippian* - a geographical regional name. Griffin also expanded his revised scheme into three “areas,” undefined and unmapped, covering the scope of the volume he is editing, the eastern United States. McKern’s Midwest Classification now becomes Griffin’s Eastern United States Classification.

Since the birth of the McKern system was based on biological concepts, parallels in the development of zoological and archaeological classification may be of interest. Griffin's periods resemble Cuvier's successive creations. In fact the idea of population replacement of Middle Mississippian peoples still has support, especially examples such as Aztatlan and Macon Plateau. The continuity implied in Ford and Willey's stages have parallels with the initial post-Darwin phylogenetic classifications of Haeckel and T. Huxley.

Meanwhile, Willey changed from his and Ford's simple developmental approach and, with Phillips, crafted an essentially non-hierarchical ordering system, the widely applied Willey and Phillips Classification Scheme, beginning in 1953 (Phillips and Willey 1953) and published in detail in *Method and Theory in American Archaeology* (Willey and Phillips, 1958). Here the Central California Classification integrating device of the horizon reemerges. Willey and Phillips credit Kroeber, however (1958:31).

Two fundamental changes in eastern United States culture classification were brought forth at the 1961 Philadelphia Conference "Hopewell Culture and its Extension," organized by A. R. Kelly (one of the original 1932 Chicago Conference participants) at the American Anthropological Association meetings (Caldwell and Hall 1964): (1) the reformulation of the McKern-based hierarchical classification with adaptations based on the Willey-Phillips Scheme, and (2) the separation of classification by culture content, namely employing different approaches to ceremonial-network and utilitarian "cultural" archaeological manifestations. Hopewell became viewed more as an economic or ceremonial system, rather than as a cultural expression or lifeway.

The data core used in McKern's classification was the known archaeological components of the Upper Mississippi Valley. Griffin's chronological terminology was initially incorporated in reformulating the Mills-Moorehead terminology with McKern's "Taxonomic" System. Therefore, it is perhaps not surprising that the initial Midwestern intrusion of the Willey-Phillips Scheme was in Ohio. The act was, in essence, the result Olaf H. Prufer's doctoral dissertation (1961), done at Harvard under the influence of Willey and Phillips and presented in condensed form at Philadelphia (Prufer 1964).

With the sudden exposure of "New" Archaeology on the scene in 1968 archaeological culture classification became unfashionable among American archaeologists, but in descriptive reports the terms continued to be used. It is often forgotten that, not only in western science, but human knowledge in general (the ordering of the universe) is based on classification. Classifications are not absolute; if one is not effective it should be altered or replaced. Their purpose is to discover order so that generalizations about reality can be made. Indeed we would be confused if we failed to classify our experience. In fact we would not have language.

A recent area of specialization has developed in zoology, called cladistics. Like McKernian "taxonomy," and indeed original Linnean systematics, the basic tenet of this field is the classification of phenomena (in this case genera) based exclusively on morphology, temporal considerations being completely ignored. These are then sequentially ordered into morphoclines. On the other hand, McKernian "taxonomists" order foci into hierarchies. The difference of interpretation appears to be the anastomosing nature of cultural remains of archaeological assemblages. A fusion of these two approaches might result in interesting studies in the future. It is curious that nontemporal classification is now passé in archaeology, but in zoology.

Endnotes

1. A second Southwestern scheme, the Gladwin Classification (Gladwin and Gladwin 1934), a dendritic model, had less lasting effect and is not dealt with here. It is of interest to note that McKern was invited to the 1931 Gila Pueblo Conference, but did not attend. Emil W. Haury (personal communication, 1987) believes that McKern's ideas, especially those related to the "taxon" class focus, had an important influence on the formulation of Gladwin's phase concept, a classification unit basic to current Southwestern archaeological research.

2. The seminar came about because of two doctoral proposals, one by Beardsley and another dealing with the McKern classification. Some of the enrolled students were Heizer, Beardsley, Philip Drucker and Alex D. Krieger. Fenenga was yet to take "advanced study" and was not included, but he was invited to give a report of his Central California archaeological work. Fenenga was reared in St. Louis and attended the Indianapolis Archaeological Conference as a youth. He, therefore, could offer insights into the McKern method, a method that disturbed Kroeber. Kroeber was impressed with the Ford-Willey system (see following text) and distributed pre-publication copies of Ford and Willey (1941) in the seminar. Information in this footnote is from Fenenga (personal communication, 1986). Certainly the Heizer-Fenenga-Lillard concept of horizon was a major issue in this gathering and shaped Kroeber's thinking.

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Clark and Prehistory at Cambridge

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If honours and titles give measure of a man, then Professor Sir Grahame Clark was indeed important. Faculty Assistant Lecturer in the Faculty of Archaeology and Anthropology at Cambridge University from 1935-46, University Lecturer 1946-52, Disney Professor of Archaeology 1952-74, Head of the Department of Archaeology and Anthropology 1956-61 and 1968-71, Fellow of Peterhouse, Cambridge 1950-73, Master of Peterhouse 1973-80, he a visiting lecturer at diverse universities; appointed CBE in 1971, he received many awards including the prestigious Erasmus Prize for 1990, presented by Prince Bernhard of the Netherlands, for his "long and inspiring devotion to prehistory" (Scarre 1991:10); and in June 1992, he was knighted.

Yet well before fame and position were rewards, Clark made major contributions to the establishment of prehistory as an academic subject at Cambridge University. Cambridge was the first and, for many years, only British university granting an undergraduate degree which offered prehistory as a specialization. "The development of postgraduate research in prehistoric archaeology at Cambridge had to wait on the provision of undergraduate teaching," Clark (1989b: 6) recently observed. The "faculty was the only one in Britain producing a flow of graduates in prehistoric archaeology" (Clark 1989a: 53).

During the 1920s, and 30s, the Cambridge Archaeology and Anthropology Tripos produced some of the most eminent archaeologists of this century. Cyril Fox, one of prehistory's first students, earned the University's newly instituted Ph.D. degree in 1922 for his surface geological and geographical study of the Archaeology of the Cambridge Region. Louis Leakey graduated as Miles Burkitt's student in African prehistory, gaining First Class Honours in 1926. Matriculating in that same year, Clark achieved Honours in 1930, concentrating on northwestern European prehistory, a specialization specifically set up at his request (Faculty Board Minutes, 7 October 1928). Clark then chose to become one of the very few research students in the Faculty of Archaeology and Anthropology. (1)