How the Normative Paradigm in American Archaeology Works

[The following is based on Kuhn, Thomas. The Structure of Scientific Revolutions, Chicago: University of Chicago, 1962, and on the research by Darrell J. Doughty]

The concept of a "normative paradigm" derives from a book written some time ago by Thomas Kuhn, entitled The Structure of Scientific Revolutions. This book was primarily concerned with paradigmatic presuppositions in the physical sciences, but its insights are illuminating for American archaeology and prehistory as well. In the same way as the physical sciences, archaeology is governed by a collection of presupposed "paradigms," shared in common by the scholarly community. In the physical sciences such paradigms are derived from experimental achievements in the past regarded as fundamental for present research; in American archaeology they are derived from the past works of great masters, figures such as Franz Boas, A.L. Kroeber, A.V. Kidder, etc. In both disciplines, however, such paradigms are regarded as foundational because they seem more successful than their competitors in making sense of the multifarious "facts" with which one's discipline is concerned (Ibid., 16, 33). According to Kuhn, these paradigms constitute an "implicit body of intertwined theoretical and methodological belief" which tells the practitioner "what both the world and his science are like" (Ibid., 16f, 40-42). Those persons whose research is based on shared paradigms "are committed to the same rules and standards for scientific practice. That commitment and the apparent consensus it produces are prerequisites for the genesis and continuation of a particular research tradition" (Ibid., 11). This is what I refer to as a "normative paradigm," namely, the interlocking collection of assumptions, commitments and methodologies that determines the way in which American archaeology and prehistory studies are pursued today, consciously and unconsciously.

While early on theories of cultural connections between America and the rest of the world were quite common, since many basic cultural similarities were obvious even to a casual observer, sometime by the middle of this century such a view became heresy among "reputable scholars". And so American Isolationism became entrenched. That there should not be any cultural connections between ancient America and the rest of the world became a rigidly enforced dogma, or the normative paradigm in the Kuhnian sense.

Kuhn emphasizes that, at least to begin with, it is not necessary that all the "facts" be explained, but only that the paradigm is able to integrate a wide range of facts in a more satisfactory way than alternative paradigms. So the creators of the present Isolationist
paradigm, archaeologists of 100 years ago, tended to put aside certain facts that were inconvenient for their Isolationist view. These facts, unfortunately, still remain shunted aside.

But the problem is that once the normative paradigm is in place, the task of future research will be merely to show how the remaining facts and unsolved problems can be explained in its light. The paradigm takes on a life of its own. The paradigm itself identifies those "facts" which are "particularly revealing about the nature of things," the problems that remain to be solved, and the rules "that limit both the nature of acceptable solutions and the steps by which they are to be obtained." A "revealing fact" is one which extends the paradigm. A legitimate problem is one for which the paradigm indicates that a solution can be obtained. And an acceptable solution must cohere with the assumptions of the presupposed paradigm.

Facts that do not fit the paradigm are often not perceived as facts at all. (Such was the case with Garcia Payon's Roman head, for instance. Nobody was interested in it for the longest time.) Solutions that fall outside the paradigm are not regarded as solutions at all.

Kuhn likens the normative paradigm to a jigsaw puzzle for which the only acceptable solution makes use of all the pieces, interlocking them to create the correct picture. If a certain piece cannot be made to fit unless the entire picture is modified, it is unacceptable. (Ibid., 24-27, 38f.) So there are many such "unacceptable pieces" lying around neglected in various dusty rooms of museums around America, just like Garcia Payon's Roman head. As Alice Kehoe remarks in her recent book [Land Of Prehistory: A Critical History Of American Archaeology, Kehoe, Alice Beck, Routledge, 1998], there are whole ancient cities that litter the American archaeological landscape, extensive and mysterious ancient ruins that scholars often prefer not to notice, because they don't happen to fit into their preconceived idea of a gradualist and linear cultural evolution of ancient America.

[She uses the ancient ruins of Cahokia as one such example. For a review of Kehoe's book, http://archaeology.tqn.com/library/weekly/aa062799.htm?pid=2826&cob=home]

As Kuhn points out, once in place the normative paradigm tells us which studies and which facts revealed by these studies are relevant for future research. This paradigmatic picture of the past determines how future research priorities are set and funded, who gets promoted in archaeological departments, which young PhD graduates get jobs and which don't, and on what basis articles are accepted for publication in
prestigious archaeological journals. Only when the historian's "imagination" conceives a different picture of the past, only then the credibility of a different research perspective and the alleged facts it presents are perceived in a different way.

Kuhn observes that "scientists work from models acquired through education and through subsequent exposure to the literature often without quite knowing or needing to know what characteristics have given these models the status of community paradigms." They do not usually ask or debate what makes a particular problem or solution legitimate, not because they necessarily know the answer, but because "neither the question nor the answer is felt to be relevant to their research" (Structure, 46).

The assumption of American Isolation determines almost the entire research agenda for American archaeology and prehistory today. The on-going production of dissertations and monographs and commentaries in American archaeology and prehistory at this time still tries to show that satisfactory interpretations can be provided under the present paradigm.

After all, Kuhn observes that once the normative paradigm is in place the enterprise of normal research "seems an attempt to force nature into the preformed and relatively inflexible box that the paradigm supplies. No part of the aim of normal science is to call forth new sorts of phenomena; indeed those that will not fit the box are often not seen at all. Nor do scientists normally aim to invent new theories, and they are often intolerant of those invented by others. Instead, normal-scientific research is directed to the articulation of those phenomena and theories that the paradigm already supplies" (Structure, 25).

So whether such interpretations focus on a single, obscure item, or the entire archaeological record, still, at a fundamental level they merely represent attempts to undergird the paradigmatic assumption of American cultural isolation in some new way; and they are regarded by the scholarly community as "satisfactory" in so far as this goal seems to be achieved.

But, in my view, and in the view of some other dissident scholars like Alice Kehoe, or George Carter, the present paradigm has failed to mediate a satisfactory understanding of the huge diversity of data we encounter in the American archaeological record. As a result, many of the most basic problems presented in this record still remain unresolved.

So what is the way to the future in American archaeology and prehistory?

According to Kuhn,

"Normal science can proceed without rules only so long as the relevant
scientific community accepts without question the particular problem solutions already achieved. Rules should therefore become important and the characteristic unconcern about them should vanish whenever paradigms or models are felt to be insecure. This is, moreover, exactly what does occur." (Structure, 47)

According to Kuhn, new paradigms are necessary and a scientific "revolution" takes place when indisputable "anomalies" appear for which the present paradigms provide no explanation and thus "subvert the existing traditions of scientific practice" (Structure, 6).

As archaeology proceeds and new discoveries are made, more and more of such "anomalies" continue to appear. For example, increasingly scholars are now coming to the view that some of the earliest migrations to America were water-borne. As underwater archaeology, a relatively new field, is developing, we are uncovering more evidence of very early marine-adapted cultures in America. Also DNA studies are providing some new exciting evidence of early American cultures having unexpected links with the cultures in the rest of the world, both in Asia and in Europe.

For Americanist studies, however, it is not simply a matter of a few anomalies being fitted into the existing Isolationist paradigm, because some of this new research puts into question our entire understanding of American archaeology and prehistory. It is as if we had been working a jigsaw puzzle upside down, for many years, and turning it over we found no picture at all.

So more and more scholars are coming to realise that new paradigm is sorely needed in American archaeology. A new and more honest approach is needed to explain so many "anomalies" that so many traditionalist scholars preferred not to see. Ben Madison's effort may be flawed in some ways, but at least he's trying to do what thousands of professionals are trying so hard to avoid doing.

For the construction of a new paradigm in American archaeology and prehistory, we need to talk about methodological "rules." We need to ask about what makes a particular problem legitimate as a subject of research.

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For more info about Kuhn's "The Structure of Scientific Revolutions", you can see the following webpages.

A Synopsis from the original by Professor Frank Pajares,
http://www.philosophers.co.uk/current/science.htm

Outline and Study Guide,
http://www.emory.edu/EDUCATION/mfp/Kuhn.html
In the next little while, I will present some more evidence about apparent links between the American Copper Culture, and the early Bronze Age Mediterranean cultures. Also I will present some new information about pineapple, a native American plant, and its wide attestation in the ancient Old World, both in Asia and in the Mediterranean.

Yuri.

Yuri Kuchinsky -=O=- http://www.trends.ca/~yuku

A great many people think they are thinking when they are merely rearranging their prejudices -=O=- William James

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