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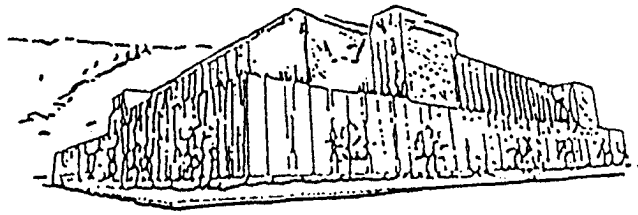
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What's Theory Got To Do With It?

Problems, Processes and Purposes for Archaeological

Explanation

by

Jeffrey W Sogard

B.A. The University of Montana, 1968

J.D. The University of Colorado, 1971

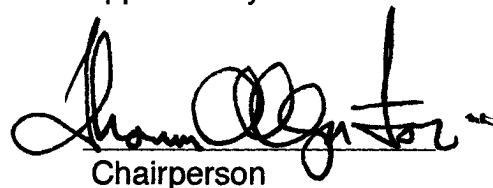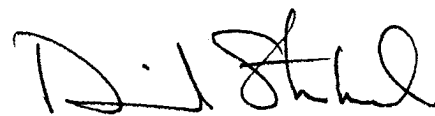presented in partial fulfillment of the requirements

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There is an ongoing dialog on the purposes and methods of archaeology. This is a result in part, of our compelling and somewhat urgent need to know the "unknowable" past. Theory is used to make understandable (the "need" to know) a <u>specified</u> set of archaeologically derived phenomena. This criteria points us down the road of science. Traditionally, there has been a historically developed focus on more upper-level or macro-theoretical processes which have been implicitly accepted, and have played a normative role in archaeology by prescribing many activities of investigation. Theoretical debates have demonstrated how unsatisfactory many of these upper-level theoretical prescriptions have been. These debates have been fueled by the unrealized expectations of these upper-level theories. Besides a growing dissatisfaction with theory, archaeologists are also troubled by gaps between theory and data, and by what seems to be the quite specious ease by which archaeological reasoning too often leaps these gaps.

As presently constituted, the so-called "science" of archaeology and particularly architectural anthropological theory is in a state of imperfect "scientific" form. It lacks a clarification of terms and definitions ie., the unambiguous observational language regarding the objective section of the real world. The proposal herein, is to promote more <u>inductively</u> based anthropological architectural approaches with respect to investigation and ultimate descriptions, resulting in more "grounded" archaeological explanations. Inductive approaches begin with (i.) sensory perceptions of concrete phenomena (ii.) which create scientific assumptions (or hypotheses) verified according to well defined terms, and (iii.) finally the development of general rules or theories. This process calls for the initial de-emphasis of more abstract metaphysical considerations eg., religion, symbolism, cosmological findings. The proposal described herein, underlines the importance of the development of critical standards with which to judge how well theories, explanation, strategies, and research programs fulfill their goals and purposes.

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Preface

The book entitled *The Master Masons of Chartres*, by John James, is a story of the building and meanings of the structure identified as, *Our Lady of Chartres*. Today Chartres is almost exactly as men saw it seven hundred years ago.

> Other cathedrals of the Christian world have not known how to say so many things, nor how to say them in such splendid order (Emile Male, cited in James 1990:1).

Chartres, which is located in France, is a spectacular Christian cathedral that was relatively completed in the 1230's. It is known as a great work of art. Even though this structure was built in Europe in a period of the historic record, and therefore should be well documented, "Chartres seems to pose as many riddles as the Sphinx. The books and theories on it are endless" (James 1990:4). For example, a researcher is faced with questions such as: (1) Was it the first architecture to enhance structure above that of form? (2) Why is it, that though it was such a work of genius, "The design is not a well controlled and harmonious entity, but a mess" (James 1990:9)? (3) Why was this great work of art, not thought through to the end before it was begun? (4) Why was it such a revolutionary and experimental type of architecture for its time? Little is known of the builders. There are no known documents or legends about the masters of Chartres. We are left primarily with an interpretation through the examination of its structure. This examination has shown, that it is an amazing accumulation of historic events set in stone.

With these thoughts in mind, imagine a Chartres (call it "Structure A-IV") located instead at a site in a region of the Maya Lowland. In addition, view it

as being in the same condition as the best of the large monumental Classical architecture of the Maya, and with a paucity of historical information regarding its construction and builders. Assume at a minimum that you correctly determined that it was likely, that it was some type of religious edifice. Given the hindsight of the knowledge of the mysteries surrounding the present day Chartres (remember it is the same as it was seven hundred years ago), it would certainly give one pause to even begin to think about addressing the complexity of meanings inherent in this "Maya" structure. Taken a step further, how could one hope to provide meaningful explanations or "truths" of prehistoric Maya architecture of any type? Complicating these issues is the fact, that the process of explanation is far from a matter of simply applying an agreed upon methodology and theoretical guide.

The examination of one aspect of archaeological inquiry ie., architecture, is used in this thesis. This example is used in order to illustrate in part, the dilemma of what I view as the disruptive acrimony, disorder, incoherency, political biases, and confusion regarding the theoretical processes of the realities of explanation and ethics in anthropology and archaeology (Kuznar 1997:4-5). Maya architecture, as used in this thesis, has a particular analytical potential, though historical analysis of this particular architecture often relied upon subjective assessments of scale and quality of those structures rather than more empirical, quantitative studies (Abrams 1994:5). Therefore, its lack of "analytical" background as well as its analytical potential makes it a good fit for the proposed methodology discussed herein.

Perhaps architecture is also appropriate due to the fact that the "post-

modernism" movement, which is impacting anthropology and archaeology today has its roots in architecture. Post-modernism and the critical theorists in essence, contend that there is not a real knowable world. This has put pressure on archaeologists adhering to scientific goals to be even more objective in providing credible methodologies, and hence explanations.

As a result, an emphasis on a scientific methodology is proposed regarding the examination of the material record in as non culturally specific way as is possible. At the same time it is recognized that, ..."Scientific knowledge is always partial, and never exempt from political, cultural and ethical biases" (Kuznar 1997:X). In this case, the material record discussed is that of Maya architecture (principally from the Classic period).

I am concerned (after having examined some of the more contentious theoretical debates in the discipline) that by mentioning even a portion of a known method or theory, that one is then "tagged," that is, you are automatically placed in the appropriate "theory box" with all the labels, critiques, analysis, history and other baggage that goes with it. It certainly makes one reluctant to use the more theoretical terminology of the discipline (particularly because most of it is so ill-defined), due to the emotion and bias that seems to accompany it. Therefore, an advanced disclaimer is hereby made, that unless specifically stated otherwise, I am not adopting any one of these so-called "isms," nor am I making an intentional effort to "fit" specific, existing, defined theoretical or methodological structures into the text of my opinions or conclusions, other than in the general sense of a scientifically inductive approach.

Upon the completion of this thesis, the thought came to mind that the source of much of the theoretical rhetoric comes, not only from attempting to explain the past, but from learning to "cope" with the past. That is, we are consumed with a craving for knowledge and a "need to know" what came before. This may be a result of some urge for control by Western civilization, as well as a need for understanding. In other words, is there a compulsion to acquire knowledge on our terms and as <u>quickly as possible</u>? Therefore, if during this effort "truths" cannot be obtained (and of course they won't be) then we need to learn to "cope" with that fact and accept our theories on that basis. This is where a scientific methodology may play a key role. Under this scenario, "theorists"may be more useful if they would direct their initial efforts towards developing accepted methods of obtaining objective, empirical data, and worry about the ultimate and generalized explanations later.

Introduction

How many a dispute could have been deflated into a single paragraph if the disputants had dared to define their terms (Aristotle, as quoted in Kuznar 1997:1).

The initial objective is to critically examine some of the significant aspects of archaeological inquiry, that is, the theoretical and/or methodological. Then, a methodology is suggested that pursues the ultimate goal of archaeological "explanation" with respect to the material record, in this case that of Maya architecture.

In keeping with the methodological spirit of this thesis, and to avoid misunderstandings and miscommunications that seem to plague the discipline, it is appropriate at the outset to define the basic terms being used, as each of us may have something else in mind. The Brockhaus-Encyclopedia (1987) defines "theory" as "the scientifically summarizing of teaching to explain a complex of phenomena with the <u>systematic goal</u> of setting related objects in a <u>proper order</u>" (Egenter 1992:51, Emphasis added). The narrower definition: "A system of <u>validated hypotheses</u> that explain phenomena scientifically," is more in keeping with the direction herein (Haviland 1994:20, Emphasis added). At the same time, it is important to be reminded of the meaning of the word "explanation" as it is often used herein. It is ... "the act of making <u>plain or comprehensible</u>, to offer <u>reasons</u> for the cause of" (The American Heritage Dictionary, Emphasis added). David Clark wrote that:

Archaeology ... is the discipline with the theory and practice for the recovery of unobservable hominid behavior patterns from indirect

5

traces in bad samples (Trigger 1986:8).

However, the definition with the most appropriate, precise and applicable meaning (as it is more "methodological") for this thesis, is that of Albert C. Spaulding:

> Archaeology is not a science nor is it history or a humanity; it is instead <u>a technique or group of techniques</u>, a way of recovering knowledge about past human activities through the material remains of those activities (Spaulding 1988:263, Emphasis added).

The techniques in this instance are to be based principally in science. Though it sound trite, Clarke's comment about "indirect traces in bad samples" should be kept in mind as these "techniques" (principally from the humanities and natural sciences) are developed to pursue only possible explanations, and not truths about archaeological data and human behavior.

The nature of the archaeological material record is presumably the product of both "natural" and behavioral processes. By "natural" it is meant, that the artifacts are altered by the natural processes of aging, material degradation, erosion and the like, therefore the application of natural sciences is appropriate for analyzing material evidence. Because this material record is a product of <u>both</u> natural and behavioral processes there are the inevitable disagreements among archaeologists over what kind of record archaeology forms (Kosso 1991:621). In addition, there is a variety of positions among archaeologists over appropriate methods for the discipline, and issues which involve the status of reality, the evaluation of competing claims, and the politics of research (Kuznar 1997:20).

For example, Lewis Binford in a search for objectivity and using natural science, tests the causal connections between things in the past and their

remains found in the present. On the other hand, Ian Hodder is perhaps more "interpretive" in that he believes you must view artifacts in the context of the ideas and norms during their manufacture and use. That is, the evidence and the artifact of interest is one of signification rather than of causation (Kosso 1991:622). However, the point here is not to resolve and explain the differences and similarities among individuals such as Hodder, Binford, Michael Schiffer and others. It is merely to illustrate a sample of the archaeological dialogs that exist regarding what to do with the material record, and how to go about explaining it.

For the foregoing reason ie., the sorting out what people mean through their dialogs, and a lack of well defined terms, archaeology, at least on the theoretical level, has become a discipline that appears to spend much of its time in contentious debates (ie., paradigm anarchy) about science, interpretation, processualism, modernism, post-modernism, and the like. Apparently, Bruce Trigger believes that as a result of these debates, a less narrow and sectarian, as well as more promising views of archaeology have been produced (Trigger 1986:1). However, after a review of the relevant literature, one may question the justifications for that view

Paul Courbin (as quoted in Watson 1992:165) remarked that,

> The role of archaeology is, I think, one that the archaeologist alone can play under the most favorable conditions: the establishment of the 'facts' relevant or not.

Though, this thesis, by its scientific emphasis seems to discuss that "relevant or not" view, it is not calling for a final "just-the-facts-folks" type of an approach. Instead, the primary aim is for the establishment of the facts by scientific objectivity (and then "explanation" in whatever form it takes), even

if it isn't humanly possible to achieve this ideal of absolute objectivity (Shanks and Tilley 1987:46).

The essential goal is not only to form a methodology to develop and test hypotheses in an objective a manner as is possible (working to rid science of bias) and to provide the scientific basis for a better understanding of all known facts, but to put greater theoretical emphasis on that process. How do we get at being objective? General theoretical deductive paradigms may eventually play some role, but not in the first instance. The emphasis is first on the initial inductive methodologies. Hypotheses are inductively built on the basis of inference from observations and then we test these hypothesis by checking implications deduced from them (Kuznar 1997:45). Underlying this analysis of the scientific cycle is how one goes about the primary development of objective empirical data before relating that data to our ideas. This is the heart and core of archaeology ie., developing the proper methods of systematically recording the outside world.

The ultimate goal is to create knowledge generally acceptable in the discipline and to identify and give scientific meaning to that "specified" set of phenomena we are theorizing about. Of course, we will continue to strive for the best explanation of phenomena, but that explanation will always remain open to systematic, scientific revision (Kuznar 1997:33). This initial objective is not to develop supporting arguments for established theories, or to establish truths.

How do we best continually develop, evaluate and accommodate the data in the context of archaeology? Will this emphasis make archaeology a more

viable discipline? How can we move away from ... "the acrimony we now experience in academia and elsewhere" among many anthropological as well as archaeological theorists (Kuznar 1997:4)? It may be helpful to examine some of the problematic aspects of general archaeological theory and those that voice those theories, the so-called "theory-heads." How appropriate and beneficial are the various "schools" of more abstract theory to archaeology and in providing direction for meaningful explanations of the incomplete data? The search here is for narrower "normative" standards with which to judge how theories and explanation strategies accomplish their defined purposes.

The proposed approach and its central role in interpretation, may be open to criticism as more or less of a ..."mechanical application of a naive positivism dressed up as scientific procedure" (Yoffee and Sheratt 1993:2). That is, these techniques of systematic observation are of the "positivist/empirical" discourse, and therefore, are "disabling capitalistic ideologies." Post-modernists and critical theorists allege that ..."neither the experience nor the interpretive activity of the scientific researcher can be considered innocent" (Kuznar 1997:17).

In response, these propositions have to be examined in their total context. Because facts are theory-laden most knowing scientists "heed" the danger of bias.

> One means of limiting the biasing effect of facts being theory-laden is to treat all theories, hypotheses, definitions, and even observations as hypotheses that must be tested, and that, surviving scrutiny, need further corroboration before provisionally being accepted as scientific fact... In the end, a scientific use of reflexivity will provide for more valid data, a condition for robust theory testing (Kuznar 1997:220).

At the same time one must keep in mind that in the end, prehistoric people and their cultures do matter The intent is not to ..."investigate and create a world purged and divested of meaning (and value), an unreal and alienated world" (Shanks and Tilley 1987:66). It is understood, that an object may have meaning above description that involves the subjectivity of the aesthetic, supernatural, morality, ethics, and religion. However, viewed in its entirety, the theme herein is a long ways from Ian Hodder's statement that,

> ... it is only when we make assumptions about the subjective meanings in the minds of people long dead, that we can begin to do archaeology (Hodder, cited in Yoffee and Sheratt 1993:5).

The objective here is only to set the "stage" for better explanations, which will allow eventual respect for alternate versions of the past and create stability in archaeology. It is not to answer questions such as why the archaeological record should be studied.

This renewed emphasis on the structure of the development (logic and epistemology) and eventual application of reliable empirical data, is justified in order to hopefully evaluate create, challenge and eventually focus more "grounded" theoretical paradigms. This is a concentration on the reexamination of the dialogue between the objects or facts, and the archaeologists (Irwin-Zarecka 1993:89). In the end, the "truths" of the past will depend much on the way people view or experience the investigations. Professor Indiana Jones, a follower of Wittgenstein, stated: "Archaeology is about facts; if you want the truth, go next-door to the Philosophy Department" (Bintliff 1993:100).

In the illustration regarding Maya architecture, the objective is not to develop laws of architectural anthropology or to explain or interpret the intricate

aspects of Maya monumental architecture. For the present, John Lloyd Stephens descriptions (as hereinafter set forth) will have to suffice. It is to return to perhaps more traditional approaches of piecing together and understanding the data. This type of archeological emphasis may signify the mundane or a retreat to some, as its importance seems to have taken a back seat to those more theoretical pursuits that ..."are primarily concerned with explicating, defending, or attacking a way of doing archaeology" (Fagan 1996:711).

The point is that there has been a considerable disparity between the forms of explanation advocated by

> ... the partisans of various isms and those actually employed and found effective by working archaeologists (Colin Renfrew, cited in Renfrew, Rowlands and Seagraves 1982:20).

As a result, Renfrew believes that the theorists generally lack credibility and their formulations may seem at times to be irrelevant to the development of archaeological theory At the same time, theory developed by the "working" archaeologist often appears to be lacking in both logical form and in any clear awareness (if the research is valid) of what constitutes good explanation. On the plus side, Jeremy A. Sabloff apparently believes that archaeologists are now attempting to employ more rigorous or "scientific" procedures (Sabloff 1994:13). Depending on how you define "more" and in comparison to what went before, this is appears to be a step towards challenging intuitively based understandings.

Why be concerned about theorists that develop these ..."tacit and fuzzy set of assumptions concerning the nature of the archaeological record and human societies, the proper tasks of archaeology, the structure of scholarly inquiry

etc." (Fagan 1996:711)? Why be concerned about the "theory-heads?" The concern relates to the development of the discipline. These individuals have influence. They are quoted. They are studied. Their books are purchased. They lecture. They form the conceptual component, the theoretical of schools of archaeology. They seem to command the primary stage of the discipline. Most importantly, they play a "normative' role in that their assumptions prescribe some activities and goals of the discipline (Fagan 1996:710-711).

Part 1 - The Emotional - Subjective Approach to Interpretation

The Subjective Aesthetics

There are both emotional and intellectual meanings to be found in the archaeological record. It is appropriate to start this discourse with the more emotional, or metaphysical "theory" of the aesthetics. It is one we can all understand or at least appreciate. From this point on, explanations become harder to comprehend.

One of the fathers of Maya archaeology is John Lloyd Stephens (1805-1852). After he first entered Copan in present day Honduras, he wrote:

> Architecture, sculpture, and painting, all of the arts which embellish life, had flourished in this overgrown forest; orators, warriors, and statesmen, beauty, ambition, and glory, had lived and passed away, and none knew that such things had been, or could tell of their past existence. Books, the records of such knowledge, are silent on this theme. The city was desolate. No remnant of this race hangs round the ruins, with traditions handed down from father to son, and from generation to generation. It lay before us like a shattered bark in the midst of the ocean, her masts gone, her name effaced, her crew perished, and none to tell whence she came, to whom she belonged, how long on her voyage, or what caused her destruction; her lost people to be traced only by some fancied resemblance in the construction of the vessel, and, perhaps, never to be known at all. The place where we sat, was it a citadel from which an unknown people had sounded the trumpet of war? or a temple for the worship of the God of peace? or did the inhabitants worship the idols made with their own hands, and offer sacrifices on the stone before them? All was mystery, dark, impenetrable mystery, and every circumstance increased it (Stephens 1993:39-40).

This short passage is found in *Incidents of Travel in Central America, Chiapas, and Yucatan* (the original work was a best seller in 1840, with 12 printings and selling 20,000 copies in three months). It is revealing in several respects. One can see that Stephens had an "emotional" reaction through which was evidenced an initial interpretation of the scene before him

(Stephens 1993:60). He envisioned that at one time "architecture, sculpture and paintings," had flourished in Copan, that its society consisted, in part, of "orators, warriors, and statesmen." It was apparent to him that this culture had seen both ambition and glory. This is one method of interpretation, though perhaps somewhat simplistic, that cannot be measured in an empirical scientific manner Yet, it is a type of theoretical approach as one of a theory of cognition (Egenter 1990:57). The "value," emotional or otherwise for Stephens may have been only that the ruins "existed." Perhaps, he viewed such architecture and other material artifacts primarily as a form of art. However, even for Stephens the emotional reaction and value in this scene apparently wasn't enough. Prophetically, he seeks more even as the paragraph develops.

Therefore, Stephens comment that, ..." her lost people to be traced only by some fancied resemblance in the construction of the vessel, and, perhaps, never to be known at all," is prescient in the sense that, archaeologists have subsequently attempted to "(re)construct" this vessel in various theoretical images. The end of the phrase ..."perhaps, never to be known at all," certainly foretells some of the theoretical problems we are currently dealing with. However, an emotional and aesthetic interpretation doesn't quite suffice to satisfy the archaeologist's need to know.

There is another factor that is interesting to note (ie., given the history of the continuous flux of interpretations of material remains). One hundred years after Stephens' death, the leading Mayanists of the day, including J Eric Thompson and Sylvanus Morley, though praising Stephens, rejected certain of his emotionally based observational explanations. Subsequently, these

same observations of Stephens were determined to be true after all (Stephens 1993:7). This small fact either portends either (a) the problems to come with many of the fluctuating, superfluous, ill-conceived theoretical paradigms that exist today, or (b) is an example of the self-correcting nature (scrutiny and eventual falsification) of science.

Part II - The Intellectual - Rational Approach to Interpretation

(A.) Problematic Aspects of Archaeological Inquiry - the Fast Past

This section builds the case for the emphasis and development of a revised and renewed methodology for archaeological explanation. Though one might expect to see some unified community of ideas and approaches in the study of prehistoric cultures, that hasn't been the case. Typically, competing "theoretical schools" or stances have arisen and claimed to have a privileged status in determining what constitutes valid explanation in archaeological research (Yoffee and Sheratt 1993:1).

> With prehistory we enter a world of few facts and much guesswork, a world moreover which is ruled by archaeologists. This is worrying; while field-work has become an exact and exacting craft, archaeological discussion is often as much an indulgence as a discipline; where they might exchange hypotheses archaeologists are apt to demand adherence to polemics or charges of corruption (Colin McEvedy, cited in Yoffee and Sheratt 1993:119).

With few facts and much guesswork, there will always be a degree of ambiguity in the research product of prehistoric material data (Sabloff 1994:57). If you add to the equation, that (1) notions of pure scientific objectivity in the study of the past have been untenable, and will no doubt remain that way, (2) large amounts of data have been coming in over the past 100 years which have yet to be fully digested, and (3) there are data that will be, or may never be discovered, then, you end up with huge "gaps" in the

archaeological record. Thus, the theoretical schools have become grounded in partial bodies of empirical material, and in addition, react to proceeding theoretical positions that are themselves likely to be superseded eg., the preceding Thompson and Morley illustration (Yoffee and Sheratt 1993:1). Given these factors, what role (directly and indirectly) can theory play in the process of explicating, defending, or attacking ways of "doing archaeology?" The theoretical structure and purpose of the discipline appears to have become somewhat obscured.

At the core of the present state of theory in archaeology, is the inherent complexity of human behavior, as well as the generally unsettled nature of the material record. Also, this state is likely to continue if there is past human behavior without modern referents. This would be a disturbing prospect to those who practice "ethnoarchaeology" as a part of their theoretical methodology. This raises the issue of "limits" in archaeology and the possibility of an unintelligible past (ie., oblivion), at a time when the prevalent attitude is that oblivion or unintelligibility is unacceptable in our "age of progress" (Murray 1993:177-179). You end up with problems resulting from general theoretical efforts to create a "fast past" ie., an explanation with foundational weaknesses.

There is a compelling need for truth and/or fiction, because of the fact that the "ultimate explanations" are likely to be irretrievable. These so-called truths or fictions are dependent on one's own perceptions and preconceptions. As a result, we end up with data generated by us in our "terms," whereby our knowledge of the record is shaped by the cultural constructions of the observer (Binford 1989a:57). With a lack of recognition or

appreciation of the limits of our ability to explain human behavior and the associated material record, we have ended up with unsatisfactory, essentially deductively produced general or macro theory. This has all contributed to the rise of the post-processual or post-modernist movements. There is the significant likelihood that these issues will continue to obfuscate the practice of archaeology for the foreseeable future.

Another picture of the "problem with explaining data" as described by Norman Yoffee and Andrew Sheratt, is that interpretations from the collection and analysis of data have

> ... relied on assumptions and analogies - theories or parts of theories - that have been drawn from other disciplines. These theories have been used to model extant archaeological data by specifying the logically entailed, but non-existent data required by the overarching assumptions and analogies (Yoffee and Sheratt 1993:8).

For the purpose of analysis, the general theoretical schools described here, are only a portion of the larger more generalized analytical structure. These types are more of the "macro," rather than the "microtheories" (ie., the container and the contents) (Egenter 1990:23). Many of the problematic "theory" types being discussed here, are those of a primarily syllogistic or more deductive, macro-type assumptions, rather than inductively produced "covering" type of generalizations used to explain empirical data (Bamforth and Spaulding 1982:191). (This does not mean to imply that "micro" deductive theories are not used along with the inductive at the lower theoretical and/or methodological levels.)

(B.) The Subjectivity of Theory Making - The Theory Miner's Menu

An example of the forbidding territory of examining the meaning of a theory

and inherent risks of miscommunication and misunderstanding that lie therein (see Aristotle's quote, page 5) comes into play in the readability of that theory. The following quote is but a small example.

> Building on the postempiricist pole of Middle Range Theory (MRT) Binford now has explicitly acknowledged paradigm relativism [but not irrational paradigm shifts (Binford and Sabloff, 1982)] and stresses the importance of conceptual growth to the development of science of archaeology (Binford, cited in Tschauner 1996:21).

This quote is "plucked" from an article by Hartmut Tschauner of Harvard. It is not specifically quoted for its substantive content for this thesis, only as being a sample of a fairly typical dialogue. However, upon analysis it demonstrates some key elements that are evident in the theoretical dialogue. Of course, there is the need for an understanding of all the terminology as the author and the proponents intended (even words such as science and archaeology). Naturally, you must have a background in the field as these articles are written only for academics. It also compels a personal viewpoint, or perhaps bias with respect to Binford (and/or Schiffer), Sabloff, and Tschauner

What perspectives do each of them bring; does the reader respect Tschauner's opinion; what is Tschauner's agenda; what is behind the term "irrational paradigm shifts;" what exactly did Binford and Sabloff say in their 1982, and 1986 articles; how important are the time frames of the articles; and what does this all mean for practicing archaeology? This is only a very small sample of the dialectic dialogues that archaeology is overly consumed with. That is, there is a continuous discussion of others conceptions as well as personalities; what do they mean, in whose context, and most importantly to what end? How much help are these exchanges in developing, guiding or directing

"appropriate" inquiry to provide "explanations?"

The "Schools :" To get a sense of the range of subjectivity or the untested assertions of theoretical insight, a quick look at some of the more popular theoretical or conceptual frameworks provide additional hints of the problematical status of general theory. Individually these theories demonstrate, that theory in archaeology is not only abstract, but has perhaps a greater diversity than in other "scientific" disciplines. Of the general problems with theory-making, there is not only this lack of clarity, but the attempt to propose unobservable structures and mechanisms, often with some historical orientations, with a partial data base, and with problematic "laws" of human behavior. Tim Murray even goes so far as to state, that "The data of prehistoric archaeology remains over-theorized and radically unstable" (Murray 1993:183, Emphasis added). There appears to be little question that in the end, archaeological theory matches in complexity, the complexity of human behavior (Spaulding 1988:269). Many of the following examples of differing theories or models of explanation are used to examine differing issues eg., specific conditions, patterns of events, classes of events, or enduring processes at work in society. The objective here is to merely give one a sense of the dazzling number of approaches that we are faced to sort through and "apply" today.

One might start with the perspective of the conceptual frameworks of traditional, more systematic, classificatory approaches. Then, (assuming you can effectively decipher the differences) we have including, but not limited to, the following: archaeology that is idealist, materialist, normative, interpretive; the conjunctive, social interpretive, cultural-historical, and

cultural ecology approaches; processualism, behavioralism, antiprocessualism, structuralism, post-structuralism, post-processualism, cognitive-processualism synthesis, neo-evolutionism, processual-functionalism, positivists, mechanical-positivists, emanationist, refutationist, empiricism, post-empiricism, modernism, amodernism, post-modernism, anti-post-processual, critical (skeptical) post-modernism, moderate (affirmative) post-modernism, contextualism, archaeological archaeology, Marxism and other radical archaeologies.

With any of these approaches, obstacles may arise with too broad an application, and unjustified hypotheses which may be too constraining (Renfrew and Bahn 1991:406-411). The quandary is that you can find anything you want to support your line of argument (Schiffer 1981:900). What happens is that these theoretical utterances, for the most part, end up being "imposed" on the past (Hodder 1991a:8). The danger is that practitioners might,

> consciously or unconsciously, and even in the face of disconfirming data,"retain frameworks of interpretation or explanation because they cannot think their way to new frameworks, or because the impact of such changes on the cognitive map by everyone else would be to great (Murray 1993:183).

There is additional confusion when theoretical models from other disciplines suddenly show up with all of their own history Does archaeology really need many of these models of inquiry that have been appropriated from science, philosophy or that otherwise originated through the older physical sciences? Which theories and variations thereof and for what explanations are being sought? Unfortunately, there is no ultimate arbitrator nor methodology of "grounding" that can sort these perspectives out. At this point in time, one individual's view of the past is as good as another, at least as viewed by the

critical theorist (Renfrew and Bahn 1991:430). Perhaps now is a good time to refer to Irene Peter Thomas' quote, "Today if you are not confused, you are just not thinking clearly" (Thomas 1989:57). What this seems to point to is a need for new focus on what should be the normative guidelines for archaeology.

Ancillary Theory and Distractions: Its not over, because we must also deal with the various adjunct and/or tautological theories of these "schools." For example, in the case of the post-modernists, one might be referring to the writings of Jean Baudrillard and Umberto Eco, and particularly their work on copies and originals in America (Bruner 1994:397). Then, there are not only these strains, strands and variations of all of the above, but a multitude of interpretations and misunderstandings with respect thereto.

> Yet it is surprising how difficult it is to define and understand what is happening. The more I try to tie down post-modernism, the less coherent it seems ... the growth of style seems bigger than the individual's attempt to characterize it (Ian Hodder, cited in Knapp 1996:132).

A possible result of the problem of miscommunication is the development or "growth" of some of these ancillary theories.

How do we get around the fact that the results of other archaeologists' research is dependent on a host of theories (Tschauner 1996:14)? The question is not only which theoretical viewpoints should we use, but whose definitions or interpretations and out of what texts? Brian Fagan summarizes this particular dilemma well.

> Since the meaning of any one term is seldom independent of the meaning of many, if not all other terms in theory, changes in the meaning of one term will usually have the consequences for the meaning of all other terms (Fagan 1996:711).

Also, what do we do about those consuming "intra" questions eg., will there be "rapprochement" between the radical Marxists and processual archaeology (Saitta 1992:01)? Will Binford and Schiffer come to terms? Is the methodology of Lewis Binford's MRT and the hermeneutic archaeology of Ian Hodder really very similar (Kosso 1991:621)? Does it matter?

Finally, there are the problematic assumptions by some, who believe that they are (1) writing objective, apolitical, ideology-free archaeology, and (2) they know what the world of culture is like and therefore, they are ordering the world of archaeological experience in those *a priori* terms (Binford 1989b:52-56). What purpose do the current dialogs serve, other than to clog or obfuscate the study and goals of explanation?

Intradisciplinary Diversions: After even a cursory review of the literature, one questions the productivity of deciphering the arguments among the various theoreticians. Along with the misunderstandings and incomprehension of most general theory, time and resources are taken up with arguments of comprehension and about (a) what they have seen, (b) what they say about what they have seen, (c) what is implied by about what they see, and (d) what are worthwhile ideas (Sabloff, Binford and McAnany 1987:203).

The most annoying distractions and obstructions are the efforts of some to "personalize" the dialogue of the discipline. These "efforts" interfere with respective theory analysis and raise questions of credibility. It may reach the point that it greatly colors the proposition, for example: (1) New Archaeologists are "overly credulous simpletons" (Watson 1990:165). (2) Paul

Courbins' statement "Quotations are strung together with devastating effect, quotation marks trivialize key words, and proofs that New Archaeologists have fallen flat on their faces time and again are wonderful" (cited in Watson 1990:164). (3) Ian Hodder has concluded that, "North Americans often pronounce words <u>wrongly</u>" (Hodder 1991:7, Emphasis added). It is very likely, that recognized and unrecognized personal biases become converted over time into unquestioned assumptions which in turn influence the kinds of data collected, and the ways they are interpreted.

(C.) <u>Attempting to Make Theory Work - Pushing the Rock Up the Hill</u>

Today, American archaeologists are mostly "processual," and one which sees archaeology as a scientific study that works with generalizing principles of cultural processes, and with the formation of deposits of archaeological remains, with attempts to explain the genesis of the archaeological record and to discover its relevant attributes (Tschauner 1996:1-4). The central issue is in seeking patterns in the formal and spatial properties of artifacts. It postulates that there is a high degree of regularity in human behavior (Trigger 1986:2).

In connection with processualism's goals of cultural reconstruction, some so-called theoretical middle range generalizations (hereinafter, "MRT") have been developed which see ... "archaeology as a scientific study that works with generalizing principles of cultural processes" (Tschauner 1996:1). The effort has been led by Lewis Binford, and to some extent Michael Schiffer.

Binford deals with the step from the material record to the dynamics of the past societies by "generalizing analogies with what we observe in the present" (Tschauner 1996:1-2). Binford believes that inferences about the past

understanding can be determined by understanding how living, contemporary cultural systems work (ie., a deduction of consequences).

Schiffer's behavioral "methodological transformation theory" approach (which splits up cultural systems into individual processes) uses MRT to bridge the gap between systemic context and archaeological context by a transformation theory that uses law-like generalizations on the relationships between human behavior, material culture and formation processes of the material record. When these transformations are modeled then explanations can follow. The basic direction of MRT, is to relate theory to data as part of the interpretive process. Middle range theory needs to be mentioned herein, as it is a significant part of the theoretical debate in archaeology

The problem is, that there is also much confusion with MRT. It is not very well defined. Some of the confusion results from the fact that the term came from sociology (Raab and Goodyear 1984:256). This "confusion" factor is a major failing, and illustrates the requirement for more precise definitions of terminology.

> The objective of MRT was to develop a strategy for integrating research problems and data, into cumulative bodies of scientific knowledge in which theories of a more limited scope, arrayed at different levels of generality, could be subsumed under domains of increasingly general principles (Raab and Goodyear 1984:255, Emphasis added).

Therein, lies the problem. It is appropriate and desirable to attempt to "ground" inferences about past human behaviors, by developing a reliable methodology for differentiating the effects of the behavior from other causes of the material record. However, when that step is undertaken, the MRT's are more likely than not, to either be principles of site formation processes, or in some cases actual deductive macrotheories ie., "more or less generally valid

assumptions, with axioms that are evident to everyone, and which from logic, it comes to particular, individual conclusions." The interpretation of an individual case comes from the top down (Egenter 1992:54).

If in fact, MRT theory is synonymous with processes of site formation, then for our purposes, there isn't much of a problem (only with the nomenclature). If MRT remains a part of a basic scientific, methodological approach for the ultimate detection of patterning in human behavior, rather than a more upper level type of theory, then okay. Formation process analysis is a valuable part of the hierarchy of the science regarding the archaeological record. In other words, it has value if it contributes towards providing a footing for ... "explanations offered for the variability of the subject matter of interest" (Raab and Goodyear 1984:263).

However, when MRT's appear to be of a more general (macro) type, then they are of little more value than that of tacit knowledge or logic, that has been described herein. When these MRTs are found to be generalizing, ethnographic analogies (as used in the "bridging" process), they become problematic because there is the basic problem of what "guides" these analogies. Are the same principles in effect in the past, which justify the use of ethnographic formation processes? Doesn't one create analogies and theories by imposing their own assumptions on another's beliefs about the world (Hodder 1991b:385)? The confusion results when questions of human behavior leave the realm of formation processes and assume the role of culture theory (Raab and Goodyear 1984:263). In regard to these viewpoints, Brian Fagan makes the point rather succinctly. He states that:

> Since laws, strict axiomatic structures, subsidiary assumptions,
> correspondence rules, and many other theories (MRTs?) have proven

difficult, if not impossible, to formulate in a satisfactory manner, <u>explicit</u> theory building in archaeology has largely been avoided. (Fagan 1996:711, Emphasis added)

Are we then left with ambiguous theory and its consequences?

(D.) Post-modernism/Post-processualism - Welcome to the Dark Side

Realization of the theoretical, as well as the obstacles regarding data, has more than likely help create post-modernism (ie., post-processualism in archaeology). The subjective nature of observations has resulted in the fact that the investigation of the material record has become relatively unimportant to some. The "circumstances" of the failure of these described efforts, has created "a contemporary cultural phenomena" known as post-modernism (Knapp 1996:129). To some, it is more of a "phenomena," than a theory.

This "condition" strikes at the basic tenets of the discipline and its "threat" has evoked strong, negative, personalized reactions by some.

> The proliferation of such twaddle is perhaps comprehensible in the narcissistic appreciation of self - a strong component of all that passes for post modern. One can only hope that such inane, post-modernist, reflexive, critical, post-structuralist abscesses do not affect archaeology (Lamberg-Karlovsky, cited in Knapp 1996:127-128).

Too late, it has affected archaeology, and appears to be a logical result of the theoretical discourses that have resulted from the inability to deal with explanation and the material "gaps" in the archaeological record. On the other side, A. Bernard Knapp points out on a positive note, that post-modernism has taught us that there are alternative ways of knowing, conceiving of, and writing about the past, and that some (re)constructions of the past though perhaps erroneous, or limited is only an acknowledgement of

gaps in the archaeological record, our <u>mishandling or misinterpretation of</u> <u>archaeological data,</u> or the effect of our views and bias regarding what is significant about the data (Knapp 1996:151). This comment by Knapp underlines the necessity for a renewed effort in creating a strong scientific foundation in archaeology.

The skeptical post-modernists challenge modern archaeological theory and nearly all of the key foundational assumptions that underlie research programs in archaeology The good news is that this "condition" may help create a renewed emphasis on the initiation of a well crafted, scientific, investigatory methodology, but the bad news is that it does not attempt to formulate a constructive archaeological agenda. Post-modernism ..." launches no coherent body of theory and method for interpreting the past, and sets out deliberately to obfuscate the genuine gains made in over a century of systematic archaeological research" (Yoffee and Sherratt 1993:8). In brief, the claims for eliminating theory (ie., more macro-theory) are as follows:

> (1) the idea of a theory implies an absolute truth that does not exist,
> (2) they assume an epistemological reality that does not exist,
> (3) no grounds exist for their defensible validation or substantiation,
> (4) the data and truthful propositions on which they depend are at best contextually relative,
> (5) they emphasize the unity of wholes over the uniqueness of parts,
> (6) they deny paradoxical situations where it is never possible to choose one model or interpretation over the other, and
> (7) they are rarely the basis for action, because they are ad hoc justifications (Fagan 1996:712).

A suggested benefit of these issues or claims, is that they may translate into a condition or "ethic" whereby:

(1) post-modernism forces archaeologists to examine critically their social, moral, and emotional involvement with the study of the past in the present and, thus, to <u>consider how the general public interacts with the past;</u>

(2) post-modernism calls into question the validity of reading all archaeological publications as "fact sheets" and, instead, implies that such "fact sheets" should be regarded as "<u>expressions" of the specific culture-historic attitudes to the past;</u> and

(3) post-modernism <u>encourages multiple views of the past</u> and promotes greater awareness of the experiences of women, nonelites, and ethnic minorities in the past (Bintliff 1991:275-276).

Whatever one may think of these latter statements, in whole or in part, they may also provide an impetus for reflection on archaeological direction. At the present, ..."archaeology stands alone in its failure to insist on and build a contextually appropriate range of social theory" (Yoffee and Sheratt 1993:8). That is, there is a need for theories to create linkages with respect to data collection and primary analysis of data, and the process of explanation. These issues and considerations, may help generate meaning by an understanding or explanation of the record that perhaps could not be anticipated even by archaeologists themselves. It may temper and focus archaeology somewhat, so as not to be viewed as merely playing with time frames, encountering the record, consuming nostalgia for bygone eras, or just viewing progress (Bruner 1994:398).

<u>The Next Step</u>: The concern has been raised, that these matters of ..."experience, predilections, prejudices" and so on, are formidable and subjective properties that influence the discipline in a negative manner (Renfrew and Bahn 1991:14). With this "plight" of, and the influence of these

theoretical discourses, how can we then be expected to obtain the objective empirical data? As indicated, the answer may be found by developing and emphasizing more independently verifiable research on the basis of generally accepted archaeologically relevant and objective scientific principles. These objectives will most likely be achieved by those individuals who are "close to the field." That is, those who see the need for these new guidelines and understand that in the present economies the luxury of the more abstract theorists, ie., those ridiculed as the "theory heads," do not lead the discipline to irrelevance. The more verifiable and credible the research is constructed, the more the answers are not predetermined by these observers, theoreticians, scholars, archaeologists, or whomever, the more relevant archaeology may become. Hopefully, we can do so without creating rigid archaeological "dogma."

It would be a significant step, if archaeological energies were directed towards having archaeologists of a wide variety of persuasions, develop these methodological systems necessary to interpret finds in similar terms of beliefs that they find secure (Cowgill 1993:554). This does not mean that archaeology shouldn't look (ie., explanations) at the past from multiple perspectives (ie., pursuing multivocality): it should (Knapp 1996:127). The priority that is sought after, is with respect to the progression of an "agreed upon" scientifically based procedures (no manner how problematic it sounds). At a minimum, the development of acceptable definitions would be desirable, after all this is a discipline where the participants can't seem to agree on when to use a "hyphen."

Part III - A Return to an Emphasis on a Scientific Methodology - Back to the Future

(A.) The Text

The limits of archaeological knowledge is one of the degree and quality of of predictability of past cultural behavior, this is a matter for archaeological research, not a priori declarations. The explanations we seek,

> ... must be pursued by an objective investigation of the observable data of archaeology; objective investigation of observable data is simply scientific research; and the desired outcome of archaeological research is scientific explanation of the archaeological data (Bamforth and Spaulding 1982:184).

It always come back to the "data" in context. The data are all we have, and at a minimum provides us the opportunity to identify and give more or less adequate descriptions of culture types and at least their placement in time (Spaulding 1988:267). The archaeologist collects the data by exploratory research, formulates hypothesis (a proposition or explanation to account for the data) tests the hypothesis against more data, then may ..."use theoretical models to identify relevant variables" (eg., confirmation methods) to best summarize the pattern observed in the data and then evaluate the significance of the findings. Once confirmatory or falsifying results are obtained the process begins again (Kuznar 1997:46-48).

The observable data is gathered perhaps in order to attempt to recognize patterns, that might eventually serve as a foundation for theoretical explanations. The researcher is guided by his or her own expectations during this process, thus making choices in what data to prioritize. Different researchers may differ in the readings of the same data, and different historical and cultural conditions may allow for different interpretations of

this material "text" (a metaphor of the material record-as-text) (Fagan 1996:578). The proposed design of archaeological methodology, is to provide the circumstances or the "techniques," whereby the record of the material data can be developed scientifically and "uniformly." For what purpose(s) the text is established (as we may end up with multiple meanings) is not the initial goal.

On one level, archaeology is a theoretical discipline concerned with rather abstract assumptions, abstract in the sense that they cannot be demonstrated to be true or false. For example, ..." since all human behavior is social behavior, the primary task of archaeology must be the interpretive understanding of past understandings" (Fagan 1996:711). At this level it is more about the development of research programs and their fundamental assumptions. The level of theory that is the focus here is how to shift an emphasis to the more narrower theories of explanation of archaeological facts, one which is explicitly scientific. Therefore, the challenge facing archaeology today is methodological, not theoretical, because without productive methodologies it will be difficult at best to build a body of archaeological theory (Sabloff, Binford and McAnany 1987:208).

Ideally, the theoretical part of the discipline would first come to terms with the fact, that because there is as yet not a sufficient foundation (ie., "suspect" empirical data), what we can use to validate (at least relatively speaking) our views of the past? Even though we have roughly a hundred years or so of data, these "data" were most likely, and in many cases, gathered with the influences and biases referred to hereinbefore. Are the archaeologists of today who are working in the field satisfied that the acquisition of data over the past

century meets their scientific standards and their generally accepted standards?

Since all we have are data, the emphasis on the theoretical dialogue would need to shift towards the appropriate uniform methodological efforts that will be necessary to obtain the elusive "text" of the data. Optimistically, the "validation" would come from a broader based acceptance of agreed upon procedures of empirical research. As general, macro-theoretical schools are de-emphasized and play less of a directional role, the concentration would ideally be more on approaching projects with specific problems (with or without hypotheses in mind), and not "agenda" riddled dialogues. While seeking explanations without agendas, there is a greater possibility that one may be more <u>receptive</u> to those initially inductively derived explanations. Again, that is not to say that in reality the explanatory research process is never purely inductive or deductive, just as it is not purely confirmatory or refutational, a cycle of these processes is involved (Kuznar 1997:45). However, in a general directional sense, inductivity is the desired initial scientific emphasis that is being proposed.

Methodology that is not rooted in more "abstract" macro-theoretical paradigms, but instead in the level of scientific theory and the explanation of facts, and in (1) as precise, defined, objective, universally understood, and accepted empirical data, as is realistically possible, and (2) becomes more systematic, using uncompromising logic and more sophisticated, quantitative techniques, will result in more pragmatic and responsible (in validating) work in the field (Thomas 1990:54).

This framework is suggested as the primary means by which the data collecting requirements of the practicing archaeologist are to be directed. This criteria is necessary for establishing and defining cultural and/or physical "components," and explaining components based on relationships and context with other phenomena. Then, ranges of variation and the interrelationship of causal variables will be sought that determined its (the "components") present form (Watson, Le Blanc and Redman 1984:68-69). The core motive remains relatively basic ie., to provide a means or method of distinguishing between more and less evidence for the validity of some hypothesis (Spaulding 1988:264).

In support of these proposals, most theorists including the processualists, seem to agree with the statement of Ian Hodder when he says that ..."the major stumbling block" in current archaeology is methodological (Hodder 1991:94). Responsible archaeology demands observational evidence as tests for theories about the past (Kosso 1991:626). Unless the methods of data discovery and analysis are coherent and uniform, how can one hope to contemplate its meaning.

Additional justifications for the accentuation of basic research are fairly obvious: (a) the "history" of humankind is over three million years old, and (b) for more than ninety-nine percent of that tremendous span of time, archaeology is the only significant source of cultural information (Renfrew 1991:10). Though it is understandable (ie., the "need to know"), it seems presumptuous that theory making has played such a huge role in such a relatively recent discipline. When one considers the vastness of both the known and certainly the potential record, it becomes even harder to

understand. The lesson is, that there should be more of an engagement with scientific procedures, instead of using assumptions, made from unsupported analogies as explanations (Sabloff 1994:62).

(B.) <u>A Scientific Inductive Approach</u>

The successful introduction of propositions into an overall inductive approach requires that two features be sustainable: (a) the propositions are accurate, and (b) they are relevant to the materials being interpreted (even if done deductively on a lower theoretical scale). Evaluations are made with regard to the above possibilities before the strength of the inductive argument can be judged. It is the strength of such arguments that determines the accuracy of the past we "infer" from our observations (Binford 1989b:58). The result is that there is the possibility of objective confirmations (to a greater or lesser degree, of course) of hypotheses (Spaulding 1988:269). One could view these forgoing statements as a call for establishing "micro-theories" of explanation. Though these present objectives may be looked upon as rudimentary, even boring to some, eventually this structure may result in even more interesting concepts of substantive theory .

The American Heritage Dictionary defines an hypothesis as, "A <u>tentative</u> explanation that accounts for a set of facts and can be tested by further investigation; a (type of) theory." These are unconfirmed, but testable propositions (ie., suggested for acceptance). The product of the explanation is a covering law model (confirmation method) that attempts to analyze and describe. When invoked for explanatory purposes, the hypothesis must be capable of test by reference to publicly ascertainable evidence. Acceptance is always subject to the proviso, that the hypotheses may have to be abandoned,

if adverse evidence or more adequate hypotheses should be found. What is the nature of the explanations empirical science can provide? What understanding of the empirical phenomena do they convey (Bamforth and Spaulding 1982:185)? It is a continual processes ie., to keep working the hypothesis over

With a return to a concentration or emphasis on scientific archaeology, we can first define past entities with generally acceptable certainties, as inferred from material remains. The form of hypotheses about such past entities would be more or less,

> ... in terms of the interrelationships of explicitly and carefully defined variables, draw(ing) out the material implications of these interrelationships, and examin(ing) the data in an objective and systematic manner to discover to what degree the hypothesized interrelationships are confirmed or refuted by objective examination (Bamforth and Spaulding 1982:194).

Of course, an "objective examination" is an ideal to work for, not an absolute. "Postmodernists and critical theorists allege that neither the experience nor the interpretive activity of the scientific researcher can be considered innocent" That is, all facts of the past are theory laden, thus if there is no value free science, objectivity is impossible (Kuznar 1997:17&163). However,

> ... despite influences from personal and cultural biases upon theories, methods , and actual work, these influences are never so all consuming that archaeologists find exactly what they theorize ... The scientific method does not predetermine what archaeologists discover; the scientific method can be used to challenge existing knowledge; the scientific method systematically leads to change and is therefore a method of change, not a method of stasis (Kuznar 1997:170).

Archaeological hypotheses, like those of any other discipline, are the results of attempts to explain particular observations or classes of observations, and possibly lead to descriptions of potentially law-like relationships, or patterns

(see Renfrew 1991.10 and Watson, Le Blanc and Redman 1984:45). The techniques and procedures that are implicit and make up the focus of this discussion include, but are not limited to items such as: radiocarbon dating, formation or transformation processes, computer modeling and simulation, problem oriented artifact typologies, explicit sampling designs for survey and excavation, advances in sampling techniques in order to recognize patterns (eg., quantitative, statistical sampling techniques to control "bias"), palynology, flotation analysis, and more. Though perhaps identified as more "middle range," taphonomy, ethnoarchaeology and experimental archaeology would also fall into this technique category (Fagan 1996:581). These techniques are an identifiable part of the science of archaeology that may lead to more credible explanations.

In the end, the objective is not to seek "ultimate" explanations or the so-called "fast past," but rather a sound and accepted "array of interpretive" approaches that provide better understandings of these past scientifically grounded environments, social processes, cognition and human agency (Knapp 1996:129). The more deductive types of higher level general theory making, would end up with a lessor role in directing these approaches of explanation.

Part IV - Anthropological Studies of Architecture

(A.) Explaining the Architectural Material Record - The Scope of the Data

The relationship of anthropology and architecture has never been made very explicit. If it is called "Architectural Anthropology," then it suggests that it is an anthropological look at architecture, and in reverse, architectural theorists intend to carry out research into anthropology from the view point of

architecture (Egenter 1992:21).

The American Heritage Dictionary defines architecture, in part as ..."The art and science of designing and erecting buildings." However, for our specific purposes, the definition that architecture ..."is typically defined to encompass the built forms [hereinafter, the "Built Form(s)"], often monumental, characteristic of civilizations and self-consciously designed and built by specialists," is somewhat more useful (Lawrence and Low 1990:454).

However, it is necessary to define this concept a bit further. In its broadest sense it is "constructive human behavior," which is reconstructed systematically, not historically, and therefore includes anthropology (Egenter 1992:11). Therefore, in any archaeological analysis, architecture should include not only the Built Forms and parts thereof, but the artifacts and ecology associated therewith. In addition, Built Forms are also more than dwellings, temples or meeting houses. They are spaces that are defined and bounded eg., plazas, streets, and courtyards (Lawrence and Low 1990:454). Even in large complex sites such as that of the Maya, the Built Form necessarily includes vernacular or traditional structures as a part of the general human phenomena being examined. It is also appropriate to include them, because of the interconnected aspects of these differing types of Built Forms. Factors dictating the design of the vernacular have application to the climate, topography, available materials, level of technology, economic resources, functions and cultural conventions (Kalogirou 1992:764). Those same considerations apply to varying degrees to monumental architecture. Monumental architecture is associated with all complex societies around the world. It includes large houses, public buildings, and special purpose

structures.

> Its principal defining feature is that its scale and elaboration exceed the requirements of any practical functions that a building is intended to perform (Trigger 1990:119).

The relationships of the Built Forms are found to vary in extent, as a result of their connection to concepts of accommodation, adaptation, expression, representation, production, and reproduction (Lawrence and Low 1990:454). These interactive relationships, also reveal how people create and are influenced by the built environment. As a result, the architectural complexities of the Built Forms are not looked at in isolation, but in the context of the entire site (the "text," as are particularly defined). This is due to the fact, that the architecture, culture, and environment are interrelated, interwoven, and integrated. As a result, each element invariably complements the other. This research has to take all these factors into account (Turan 1996:355).

The issues of various relationships may be evidenced by differing data. These variations suggest a justification for the scientifically based, inductive methodologies. It is not appropriate to even begin to derive macro-theory at this stage, but instead to develop explanatory "hypotheses" (as hereinbefore defined). The objective is to lead to more well founded explanations of the nature or structure of relationships of the Maya from multiple perspectives. This process may even lead to higher level theories eg., the ideologies of society, collective ritual and symbolic meanings (Turan 1996:356). Question whether for the purposes of a scientific methodology, it is preferable to first fully develop the material record or arrive on the scene with a theory you are attempting to prove or disprove with incomplete data. Of course, one has

assumptions or a direction about what he or she hopes to find or a focus of inquiry, but this is different from using macrotheory which may "prescribe" expected results. Keeping in mind the goal is to create <u>objective</u> results from the data. There are examples in research where the evidence is interpreted in a certain "light," which is exactly what the post-modernist protest.

Therefore, the "inductive-type" objective is to scientifically summarize the objective data (eliminating alternative versions of the past) <u>before</u> attempting to explain the subject phenomena. The point is to define your "text from context," and then derive your explanations. That is, to (1) systematically set forth data in proper order by <u>agreed upon standards</u> in the discipline, and then to do the same, when appropriate, with relevant (2) micro, and (3) if possible, macrotheories (Fagan 1996:581). By first establishing rigorous methodologies within a scientific epistemology, and then if desirable to critically select and derive theories for explanation eg., structures of organization and trajectories of change (Yoffee and Sheratt 1993:8).

One concern that underlies these suggestions is that it may help alleviate the desire for a "fast past" with the accompanying acrimony that results from incomplete and/or inconclusive data. In comparison with the unknown potential of the archaeological record, the amount of scientific archaeological research that has been done to date, that would meet whatever "standards" of the discipline presently exist, would most likely be, but a "dot" on the horizon.

The fact, that human activities are in some sense unpredictable and complex, and therefore data interpretation and/or theory becomes more problematical,

does not mean that we shouldn't attempt to develop this suggested structure of investigation. "The aim is to confront the question of meaning, not meaning in a passive, structural sense, but <u>meaning in an active, experiential sense</u>" (Beaudry 1991:241, Emphasis added). That is, structured, experienced field work, not intuitively.

(B.) <u>Architectural Theory</u>

The term architectural theory might suggest to some,

> ... a scientific domain which deals concisely and theoretically with architecture ... that it approaches this field of objects scientifically, and that its main purpose would consist in providing reliable theoretical foundations for architecture ... Far from it (Egenter 1992:37).

Architectural theory has been narrowed into a microtheoretical angle with an emphasis on modern periods of architecture and limited to a conventional written history of architecture.

As a result, existing architectural theories are not particularly useful for anthropological purposes, and they are also generally much older than modern analytical epistemologies. Architects tend to view these theories as normative, compositional design knowledge in terms such as, the "theory of art" (Egenter 1992:37,39,43). In this context, theory consists of contextual marginal knowledge for architectural production processes, which are mostly historic in nature with particular artistic, ideological and philosophical values. "In essence, they contain scarcely any analytical, but rather form integrating components" (Gleichmann 1992:27-28). However, architectural theory is interdisciplinary in nature. Research has been integrated from various fields including economics, anthropology, environmental psychology, prehistoric and classical archaeology.

(C.) <u>Problematic Interpretive Approaches of the Built Form</u>

Investigations into anthropological architectural explanations differ depending on what type of researcher (social anthropologist, architect, archaeologists etc.) is doing the investigation. That is, some might research the Built Form primarily by design and construction technology adapted to climatic conditions, and others might emphasize how Built Forms accommodated social groups, and are integrated into the cultural whole or a myriad of other directions (Lawrence and Low 1990:458). These differences become evident in the following descriptions which are primarily taken from an article by Denise L. Lawrence and Setha M. Low (Lawrence and Low 1990). The descriptions help in providing additional justification for placing an emphasis on a uniform, scientific methodology.

(i.) <u>Early Culture Theory</u>: With the earlier theoretical approaches, the built environment was seen as a manifestation of culture. The Built Form was integrated into a complex of traits that allowed a group to adapt and maintain itself within the natural environment, and mirrored those same cultures. (Built Forms and human behavior accommodated, expressed and reinforced each other.)

Amos Rapoport, a professor of architecture and anthropology, building somewhat on the work of the broadly functionalist's school of thought (ie., integration of ecology, social organization, and symbolic factors) theorized that, ..."built forms are primarily influenced by sociocultural factors modified by architectural responses both to climatic conditions and to limitations of materials and methods" (Lawrence and Low 1990:456-458). So what is it that we learn from these early research efforts? Perhaps no more than there are

multiple social, cultural, as well as ecological factors affecting the Built Form.

(ii.) <u>Social Organization</u>: Further research relating to interactions of the built environment with social organizations and spatial behavior have also contributed at least to the theoretical aspects of the Built Form. An example of this approach regarding relations of the social "fit," is expressed in the model of what is called "ecological psychology, " that is ... "human groups seek to adapt their buildings to their behavioral needs or functional requirements; when the built environment ceases to accommodate behavioral requirements, people seek to correct the problem through construction, renovation, or moving to a different building. Conversely, people also change their behavior to fit the physical environment, especially when it presents limitations" (Lawrence and Low 1990:460). (Therefore, we learn that if a person's behavior is that of being accustom to sitting in a chair, he/she will tend to look for a chair big enough to sit in, and if they can't construct or renovate one to fit, then they might move to sit in another one.) For the most part this area is distinguished by the lack of concrete data.

Ethnoarchaeologists have looked at the physical attributes of dwelling plans, construction materials, technology, and activity areas as reflective patterns of social behavior to spatial organization. Again, it is an attempt to understand a concept of "fit" between built forms and social organization. Therefore, the use of space, as a matter of cultural organization, determines architectural form. Generally stated the design of Built Forms are the product of social processes. Is this a theory where society makes rationale choices for that particular society? How valuable is that? Are they meaningful, explanatory theories, or are they merely general notions of cognition?

(iii.) <u>Symbolic</u>: More symbolic type approaches interpret the built

environment as an expression of culturally shared mental structures and

processes. What do Built Forms mean and how do they express meaning?

(Expressions of social and political structures in the built environment) An

example, would be the use of metaphor to explore the built environment as

having a "symbolically encoded cultural meaning system" ie., cultural

expression. Thus, the Built Form is a vehicle for expressing and

communicating cultural meaning. This may be similar to saying that,

> ... buildings essentially structure human environmental space ... <u>man
> not only perceives, but integrates the spatial structure defined by
> buildings and reproduces this structure in other contexts (thinks with
> it, and works with it</u>) (Egenter 1990:81, Emphasis added).

If this is the case the spatial structure influences society and lives within our

language, our thoughts, keeps the arts living and even supports our

metaphysical ideas, then we can reconstruct our cultural history on the basis

of the objects of architecture. Thus, the Built Forms would likely be an

"expression of culturally shared mental structures and process." In any event,

the use of metaphor, appears to be one of the more popular interpretive

approaches to date.

(iv.) <u>Psychological</u>: In addition, there are the psychological approaches of

integrating the concept of culture into explorations of the spatial dimensions

of human behavior and human interaction with the built environment.

These approaches are individual mental processes and mechanisms, that

provide explanations of behavior and meaning, and which focus on concepts

of self and the "spatial" dimensions of human non-verbal behavior,

cognition and language aspect of human interactions with the environment

(Lawrence and Low 1990:476). This process is difficult for historic explanation,

and exceedingly complex for explanation of the prehistoric Built Forms. That is, the past is not directly accessible and ..."the dead cannot come back and tell archaeologists that they are wrong" (Kuznar 1997:162). These approaches could be critically viewed as attempts to create the past, rather than understand the past as this approach appears likely to be more theory laden. This would probably be an approach that Ian Hodder might see as ripe for creating the past subjectively in the present.

(v.) Social Production: When we review theories of social production of the Built Form, there is an apparent concentration on the social, political, and economic forces that produce the built environment and conversely, the impact of the socially produced built environment on social action. Anthony D. King's social history theory states, that

> Buildings result from social needs and accommodate a variety of functions - economic, social, political, religious and cultural. Their size, appearance, location and forms are governed not simply by physical factors (climate, materials or topography), but by societies ideas, its forms of economic and social organization, its distribution of resources and authority, its activities and the beliefs and values which prevail at any one period of time (Lawrence and Low 1990:483).

Though this social production theory is quite logical, query as to how helpful, or valuable this or any of these theories are in pursuing explanation from the empirical data. How do they give practical guidelines and direction to field work? If we are to proceed in a scientifically inductive manner by necessity we look first towards a precise definition of the object field to be theoretically researched.

> No *a prioris* are imported from the outside, there is no longer any deduction from aesthetic *a prioris*; symbolic or cosmological findings are no longer explained from the standpoints of the history of religions. Instead the defined objects, described empirically are documented by criteria immanent to architecture, such as the materials

used, types of construction, resulting form, spatial and
temporal conditions, social relations etc (Egenter 1990:81).

An "objective" analysis will therefore form the basis of such theoretical

procedures eg., assumptions, generalizations, and working hypotheses.

(vi.) <u>Additional Propositions</u>: Further examples of problematic approaches are

also illustrated in an article by Randall McGuire and Michael Schiffer, who

attempt to create a framework for the examination of cross-cultural

regularities in social organization and Built Forms.

> (1) A particular design is viewed as the outcome of a process of
> compromise among conflicting goals, influenced by factors of
> adaptation and social organization.
> (2) Of course, availability of materials and technology constrain
> architectural designs.
> (3) Architectural design, we suggest, involves the give and take of
> social interaction that occurs against a backdrop of environmental and
> social processes.
> (4) The design process can be viewed as a series of compromises
> between goals, the result of which is necessarily the achievement of
> some goals at less than a maximum level (McGuire and Schiffer
> 1983:277-297).

The premise of the McGuire and Schiffer article which incorporates these

statements, is that of offering clarification to middle range theory, a linking

up of large-scale adaptive processes to the characteristics of specific artifacts,

and in this instance "architecture." In the same breath, they say it may

contribute to high-level theory Their goal is to explain in behavioral terms,

variability and change in material culture. How are these more generalized

theories specifically archaeologically testable?

After reviewing these "additional propositions" and those that preceded, a

critic might be tempted to dismiss these propositions as a form of ...

"universal laws about human behavior that are very either trivial, or untrue" (Renfrew and Bahn 1991:416). In any event, (and in fairness) it is important to remember that the Built Form is but <u>one</u> focal point of the personal and social identities in the cultures being studied, and cannot be understood apart from keeping these social and economic forces in mind.

(D.) Anthropological Architectural Methodology

Generalizations and deductive testing against the material record is not the only, nor in the larger sense are they necessarily the most productive ways to ensure the objectivity and the "validity" of explanations about the past. What is being proposed however, is a move from what is seen as a primarily deductive to a more "inductive" type of methodology, in what is seen as a more realistic step to gain uniformly obtained hypotheses. Inductive procedure implies precise definition of the object fields which are to be researched.

One begins with scientific observations of the material phenomena, using well defined terms (the precise language of observation) as an essential part of the verification process, and then moves to the explanatory framework eg., the assumptions, and formulation of working hypotheses that are to be confirmed or rejected in the field ("falsification" being a goal). The process begins inductively with exploratory research, then with a proposed scientific problem a theory is proposed that is logical, empirical, and causal. At some point, no matter what methodological principles the researcher favors, at some point after inductively creating new theories (ie., not starting deductively with macrotheory) follows a deducing of testable hypotheses, testing, and falsification/corroboration and then the cycle continues. It has to

continue, since it has been pointed out that scientists make no claim to ultimate truths (Kuznar:1997:48).

This is a repetitive, self-critical and endless process. It would continue until a reasonable judgment is made that the data base is exhausted. The technique consists of a "give and take" from inferring implications, and from the empirical data creating the questions, assumptions or tentative explanations.

Part V - The Methodology Using Classic Maya Architecture

The spatial dimensions of human behavior, we are concerned with in this case are the remnants or tangible remains of the monumental architecture of the lowland Maya. The Maya created one of the most complex cultural systems in the Americas. During the first and second millennia A.D., Mayan-speaking people occupied the southern states of Mexico (Chiapas, Campeche, Yucatan, and Quintana Roo) and also the countries of Belize, Guatemala, El Salvador, and the western portion of Honduras. During the Late Formative Period (400 B.C. to A.D. 250) the building of monumental structures (pyramids, ball courts, and large building platforms) as well as sprawling residential compounds commenced. (Fagan 1996:406).

Naturally the architecture of the Maya was the early focus of observations and interpretations.

> From the onset of the 'discovery' of the Maya centers, architecture was the most immediate and conspicuous form of evidence of the complexity, power, and splendor of the Maya civilization (Abrams 1994:2).

The fact that these ruins were set in a tropical environment added to the sense of accomplishment of the Maya. The interpretations of the architecture

were often based upon the subjective assessment of its scale and quality. Assertions that they had achieved a level of complexity which has been associated with "civilization," has been attributed to the measure and size of their architecture (Abrams 1994:4). Because the interpretations of the Maya have been traditionally (or historically) based on more subjective assessments, it is now appropriate to consider the empirical, quantitative studies of the architectural scale of the Maya structures.

Why study the Maya at all? Because we have a need to know what came before ie., to satisfy the craving of our understanding of the past. Why do we have this need? Perhaps that is best answered by psychologists or philosophers. Carl Hempel believes that explanations of the past enable successful predictions and, ultimately, the establishment of laws about the subject matter in question. Richard Watson points out, that

> General laws in archaeology that concern cultural processes can be used to describe, explain, and predict cultural differences and similarities represented in the archaeological record, and thus to further the ultimate goal of anthropology, which is the description, explanation, and prediction of cultural differences and similarities in the present (Richard Watson, cited in Kuznar 1997:31).

Before the research into explanation begins, there needs to be questions. Questions from the general to the more specific can arise not only from theory, but from observations. For example, and in no particular order, format or categorization, are the following:

(1) Why do these forms differ?

(2) What is the nature of the differences and what kind of social and cultural features are responsible?

(3) Do the formal aspects of the built form reflect the variable ways the structures may have been used?

(4) Is the use of the form exclusive to its purported purpose(s) (Smyth, Dove,

and Dunning 1995:321)?

(5) Is one able to understand variations of behavior by studying built forms?

(6) Does it constitute a part of that societies' cultural reality?

(7) Is one able to study the long term effect of these monuments and/or the active role of this aspect of material culture in providing explanations of a broader nature (Adams and Jones 1981:302)?

(8) Do buildings essentially structure human environmental space (Egenter 1990:81)?

The function of questions is to hopefully give some direction, without the imposition of prior interpretation or prejudicial direction. The problematic nature of any investigation into architectural artifacts is apparent from a review of these lists. They illustrate the difficulty of working with "premature" macro theoretical constructions. At the same time, the questions on this list seem to "blend" into each other, and for the most part all seem to highlight the concerns over the use, change or evolution of the Built Form. These inquiries make one realize the complexities of the possible answers, that one cannot even begin to address with any degree of certainty, until the tangible remains of the Built Forms are coherently and systematically described and defined (Adams and Jones 1981:302).

(A.) Specific Maya Architectural Inquiry

There have been few tropical forest cultures in the world that have produced monumental architecture.

> Among those that have, the civilizations of the Khmer in Southeast
> Asia between about AD 850 and 1300, and the Classic Maya in Central
> America between AD 250 and 900 are the most remarked and
> remarkable (Hammond and Gerhardt 1990:461).

The Classic Maya monumental architecture has roots in the Formative (Preclassic) period of the tropical lowlands. Monumental constructions appear

by the second century BC at the latest, and perhaps two or three centuries
earlier.

Though they were likely aware of nucleated urban organization in highland
Mexico and therefore the greater advantages of population centralization for
social control, they opted for a more dispersed settlement design. It is
believed, that somehow

> The Maya developed a dispersed pattern of civic and household
> clusters which allowed the control and regulation of state institutions
> (Scarborough and Robertson 1986:174).

Though some previously argued that because the Maya lacked true cities and
permanent urban populations, that therefore they were without true
bureaucratic state organization. However, the mass of data indicates a high
order of urban-level activities in Maya centers, as derived from Maya texts
setting forth dynastic histories, social and marriage alliances, conquests and
tributary relationships. Thus, such control and regulation is very probable.
Perhaps, one needs to distinguish between urban and state organizations
(Adams and Jones 1981:301).

In the case of the Maya, the Built Forms change during the course of their
civilization as they appear to have changed their ritual orientation, their
protective or symbolic functions, and their use of public vs. private space at
various in time, (Scarborough and Robertson 1986:174 and Gleichmann
1992:29). Unlike Chartres which remained a single purpose structure
throughout its existence, Built Forms with these more substantive changes of
use, and add considerably to the difficulties encountered by the researcher.

Traditionally, scholars have been somewhat loose in their labeling of

monumental Built Forms. The Maya centers have been defined by a limited number of of functional classes of major architecture. Palace structures and temples are two classes of the Built Form, that are highly variable in style from region to region.

> The two together probably make up 90% or more of the total public architectural mass of any given city. The rest of large-scale Maya construction is made up of a multitude of functional classes, including ball game courts, reservoirs, fortifications, and internal road nets. These classes all exclude the vast acreages of paved surfaces which served as bases for superstructures (Adams and Jones 1981:303).

The palace structures have been found to generally be multiple-use buildings which contain anywhere from 4 to over 50 rooms. Uses encompass elite-class residences, administrative offices, places of religious retreat, storage areas for valuables and commodities, and as locations for aristocratic court protocol. Temples are often erected on tall platforms, have three rooms or less, and are frequently the locations of burials of distinguished members of Classic Maya society, who are often times rulers (Adams 1981:303). However, though these individual buildings may be planned, "The overall direction of architectural development or of urbanization has not been 'planned' by anyone" (Gleichmann 1992:27).

(B.) Examples of Systematic Methodology - Hypothesis Testing:

It is inefficient to excavate with no plan or problem in mind to which data might contribute as a solution. You must have some direction or purpose. We usually know enough from observations and the gathering of data (pattern-recognition or exploratory research to pose hypotheses,

> ... for which digging can in principle provide tests, but are open to altering hypotheses, problems, and procedures if the explanation does not provide data for the precise testing of just these hypotheses with which we have begun (Watson, Le Blanc and Redman 1984:53).

We therefore move from an objective section of the real world, to objective or the precise language of observation, which translates the basic field of objects into a clearly represented basic part of lower empirical theory, and then these hypotheses lead to higher level theory (Egenter 1990:69).

Analysis of monumental architecture has been done traditionally in several ways;

(1) stylistically, to reflect morphological discontinuities of design elements and changing cultural conditions
(2) energetically, to reconstruct labor inputs, elite power structures, and status and wealth differentials
(3) behaviorally, to link specific architectural features to adjacent activity areas (Smyth, Dove, and Dunning 1995:322).

There is the basic problem of architectural variation and how it relates to site organization. These problems seem to be largely the result of (a.) inadequate field sampling (sampling must be undertaken at all settings within settlements, not just those of architectural material typically found in Mayan centers, as 60% to 80% of settlement areas have no architecture), and (b.) a lack of community dynamics (which follows if there is poor or inadequate field work being done). The specific problem and the point is, that the "formal characteristics of the architecture" are not always good indications of their function" (Smyth, Dove, and Dunning 1995:322). That is, form and function is complex, and subject to considerable variation.

The following research projects are examples of the more positive aspects of scientific procedures. They demonstrate the creation of "hypotheses" in order to meet that researcher's particular goal. This is the level of effort that

archaeology should be concerned with in light of the vast and incomplete nature of the data. At the same time, the techniques that are employed will also help direct our attention to the problems and results of those procedures that may be somewhat more "shaky." These field examples are in a sense randomly chosen, as they are not necessarily all "connected" in their specific subject manner

Example One - Sayil: There was a large scale, intensive surface survey at Terminal Classic Sayil in the Yucatan, Mexico. The techniques at this project emphasized the dynamic properties of past Maya settlement systems, and how they relate to architectural interpretations (Smyth, Dove, and Dunning 1995:321).

The site work, which involved surface and soil patterns, revealed certain intangibles of the site.

> In assessing aspects of prehispanic Maya community organization, this study shows that settlement pattern studies must be conducted at a larger scale and with greater intensity than has commonly been practiced in Lowland Maya settlement archaeology (Smyth, Dove, and Dunning 1995:321).

These conclusions were drawn by the researchers by building upon a large architectural database, all site settings independent of architectural feature location were systematically sampled. The survey data were used to assess the concentric zonation model (CZM) which describes Maya community organization as having elite residences decline proportionately from the center of the site.

The studies started with (a.) intensive mapping of the monumental architecture (eg., ground plans, room numbers, wall construction, roof types etc.), and (b.) a systematic surface survey. A systematic interval strategy was

employed to intensively sample nearly 3.5 sq. km. of Sayil's urban settlement zone that had been previously mapped.) Most of the 3.5 sq. km. were surface collected, each with 16 individual 3m by 3m collection units at regular 25m intervals, and soil testing (Smyth, Dove, and Dunning 1995:328). Two principle approaches employed in inferring agricultural practices from soil studies have been mapping and the analysis of soil phosphates. (Phosphate analysis has value, due to the fact that many human activities, including the production and processing of food, result in significant depletions or concentrations of soil phosphates.) All surface materials were analyzed using typological classifications and counted and weighed as added controls. This analysis focused on the frequencies, percentages, and distributions of major ceramic wares, vessel form assemblages, and soils and their architectural associations across the site (Smyth, Dove, and Dunning 1995:324-331).

The Sayil project demonstrated problems regarding the data base. If you are looking only at the architectural remains themselves, you have limited yourself right off the bat. For example, the associated feature clusters around the zone(s) of monumental architecture relate the rest of the story. This project also illustrated the basics of intensive, systematic collection and analysis of artifacts (eg., high-status, and utilitarian artifacts) and ecofacts. Their efforts included the creation of accurate contour density plots by total frequency which showed spatial distribution (of these wares into broad functional categories), and architectural features (with distribution plotted against the architecture) across the site. This project illustrates a direction towards the establishment of appropriate scientific procedures that are required for complete data production.

The larger spatial context of architectural remains (groups of building types and other architectural features) and their artifact/ecofact associations provided a key for reconstructing social status and activity differentiation at Sayil. However, it is only a part of the system of analysis. Questions of behavioral variation require total site approaches; representative sampling strategies, and new classes of information. Interestingly, the researchers at Sayil conclude that,

> Contrary to archaeological assumption, there appears to be no direct correlation between large monumental architecture and residential patterns indicative of elites (Smyth, Dove, and Dunning 1995:341).

This thesis would require, the relativist addition of the words ..."at Sayil," at the end of that sentence. [However, the authors do say later on that ..."there is considerable variability in site organization at Sayil, and presumably at many other Maya centers" (Smyth, Dove, and Dunning 1995: 342).] In order to better understand the social correlates of central, monumental architecture requires a change in research perspective (other than CZM) to include more in-depth examination of all settlement contexts, especially peripheral areas of settlement that played such a key role in the dynamics of Maya urbanism.

The researchers make the point in closing, that the additional challenge facing archeology is the systematic linkage of tangibles to intangibles, the establishment of bridging arguments (Smyth, Dove, and Dunning 1995:342). They suggest that in reconstructing the range of activities in Mayan centers may be a key to these bridging arguments which can be used to help explain prehistoric settlement patterns.

At Sayil there was a use of ceramic data to demonstrate, that Built Forms are not necessarily a direct expression of building function or the social status of

may then count the courtyards of major architecture (as the basic measure of center importance) in order to obtain quantitative assessments of paved areas and associated architectural masses. (The resulting patterns seem to reflect political, economic, and demographic hierarchies.) It is then possible to come up with numerical assessments and hierarchical rankings (rank-ordering) of Maya cities. Adams and Jones point out that due to known sampling defects it is hazardous to rank order-data, it is important thus to keep in mind that one should not accept these assessments as conclusive (Adams and Jones 1981:315). They believe that what is important is the demonstration of the validity of the analytical process in generating patterns and hypotheses, even if the explanations are later proven too be in error.

The reason this research is mentioned, is due to the observations that: (1) a long standing problem in Maya archaeology had been the definition of the nature of Maya Lowland sites. "No current assessment of Maya Lowland urbanism is based on direct and objective methodology," and (2) the concern, that scholars had somewhat casually viewed the large aggregates of monumental architecture of the Maya Lowlands, and that this ambivalence was reflected in the labels they attached to these aggregate ceremonial centers, civic centers, centers (Adams and Jones 1981:301-303). These failings, and the fact that spatial patterning is less conclusive, underlined the concern for uniform procedures by those in the field. The authors point out in their conclusion that there is a need for more and better data.

Example Three - Uaxactun and Tikal: During a detailed excavation at Uaxactun of Structure A-V (the "Palace"), led by Ledyard Smith, he uncovered a complex and very informative stratigraphic sequence of

the building's occupants (Smyth, Dove, and Dunning 1995:334). Did the prehistoric inhabitants of Sayil use different kinds of artifacts in different ways, and differing contexts? If you have low percentages of of cooking vessels at Sayil's central district of monumental architecture, can one "assume" that the large central Built Forms were not indicators of high status elite residences? (Perhaps, the elites used some early form of "take out.") Here are the ..."tentative explanations that account for a set of facts and can be tested by further investigation." This is the process of scientifically establishing hypotheses, or micro-theories. Questions for further description and/or definition of the "context" remain.

Example Two - Peten and the Central Yucatan: In 1981, R. E. W. Adams and Richard C. Jones of the University of Texas at San Antonio, also used a "grounded" or more objective methodology of scientific procedure in assessing the rank ordering and spatial patterning of Maya centers of the central Peten and Yucatan Zones in the Maya lowland. This was done for the purpose of inferring developmental sequencing in the Maya lowlands (Adams and Jones 1981:301). They used their rank - ordered set of Maya cities as a basis for other analytical techniques, and they used four regional areas defined by architectural styles and spatial contiguity for testing (Adams and Jones 1981:315). Their purpose is to provide a means for systematic description and assessment of Maya cities. Maya cities were organized in a highly distinctive pattern.

> Major and minor   inward upon a courtyard or plaza. Thus, the various classes of Maya buildings come together in a physical and functional association which can be termed the *courtyard group* (Adams and Jones 1981:315).

Therefore, if Maya cities are defined as aggregates of courtyard groups, you

architecture. It turned out that the Palace, was actually a complex of buildings, built during twenty principal phases of construction and covering the whole Classic period. It was recognized, that Structure A-V had likely changed from a primarily religious complex to an elite residential/ office complex (Sabloff 1994:45). At this project, personal assessments of the architecture did not enter into the analysis as it had for other investigations, such as for the architecture at Mayapan, where an "elitist" initial assessment of the architecture had previously colored the Carnegie reports and interpretations of the center (Sabloff 1994:48). The fact that the Carnegie reports are somewhat dated does change the fact that preceding methodologies, that are poorly structured, obfuscate subsequent research efforts. It also reminds us that the variety of previous research efforts over the past century are suspect without agreed upon standards of objective, scientifically based methodologies. How does one build from those who have gone before?

The problem of a lack of objectivity (ie., the misleading Carnegie reports) arises when the aesthetics, or earlier theoretical assumptions distort the data. For example, the concentric zone model (CZM) for Classic period Maya centers, assumes that the most important and wealthy Maya resided near the central districts with the largest and most elaborate architecture of major sites. Therefore, elaborate buildings and elitism declined proportionately with the distance from the site center (Arnold and Ford 1980:713). In other words,

> ... the distribution of elaborate in relation to ordinary architecture, is assumed to be a direct reflection of the spatial organization of social differentiation at Maya settlements (Smyth, Dove, and Dunning 1995:329).

Jeanne Arnold and Anabel Ford came up with similar questions regarding the spatial structure of high status residential architecture at the Maya center

of Tikal. They too did not look beyond the architectural remains in "explaining" community organization. To their credit, they point out their research limitations, while at the same time attacking the CZM.

> Furthermore, interpretations of Classic Maya settlement patterning are based heavily on assumption rather than on the analysis of measurable archaeological evidence (Arnold and Ford 1980:713-714).

They had used the same cartographic data that had been used before. Therefore, when the data base is not expanded, the door may open for a sort of ..."is so, is not" dialogue among researchers.

Even more intriguing, is the criticism of Arnold's and Ford's work on this subject by William A. Haviland. Haviland points out that essentially Arnold and Ford mis- read the data (the maps). He says they did not include the houses of the wealthy members of Tikal society "Thus, it is premature to write the obituary of the concentric zonation model for the Classic period Maya centers" (Haviland 1982:427). He mentions, that they were led astray by his own early work and definitions of residential structures. He points out the pitfalls of relying only on cartographic data. This is a helpful, though somewhat ironic argument for the coherent, systematic, precise development of archaeological data.

Example Four - Uxmal, Chichen Itza, and Palenque: The application of systematic scientific principles in explaining the architecture, was also demonstrated by Anthony Aveni and Horst Hartung in an article, wherein they attack the interpretation of the layout and specific orientation of certain components of Maya cities and ceremonial centers ie., Uxmal, Chichen Itza, and Palenque (Aveni and Hartung 1982:63-64).

> Because we cannot use extant archaeological maps to solve our problem (they are not accurate enough), we are <u>forced</u> to go to the field, employing a surveyor's transit with an astronomical fix to derive the absolute orientations of the walls of the Maya buildings (Aveni and Hartung 1980: 64, Emphasis added).

Though their findings (considered by them as detailed hypotheses) are interesting, the methodological value to us is found in their final commentaries.

> We believe that a further study of the precision and geometry in Maya architecture, subject to all the caveats listed in our introduction, now seems warranted. Their qualified interpretation was, that ..." architecture was another medium employed in the American tropics for the storage and transmission of precise knowledge" (Aveni and Hartung 1982:77).

Therefore, they have contributed to the data base, presented their hypothesis and then motivated others to look further. They did not create theory or confusing "bridging/macro type" theories that create confusion in the analysis of these sites.

Example Five - Copan: In 1988-1989, Wendy Ashmore excavated buildings in Copan, located in Western Honduras (Ashmore 1991:199). Ashmore was there to examine a particular model of ancient Maya site planning and spatial organization, in which the principles of architectural arrangement and their directional associations derive from Maya cosmology (Ashmore 1991:199). Studies of "symbolic expression" of prehistoric cultures are among the most challenging and interpretively ambiguous areas of archaeological research. Though she does discuss interpretive implications of her results, she carefully qualifies the entire research project. "With respect to the ancient Maya, the model of spatial conceptualization considered in this paper remains a hypothesis."

She also necessarily summarizes the status of her project for other interested

scholars:

> Nevertheless, the Copan North Group research has <u>begun</u> a needed
> explanation and refinement of the original derived hypotheses,
> systematically applying archaeological data along with those from
> epigraphy, linguistics, iconography, and ethnology, <u>in a collaborative or</u>
> <u>conjunctive approach gaining renewed momentum in Mesoamerica</u>
> <u>research</u> (Ashmore 1991:217-218, Emphasis added).

With her described "techniques," and succinct statement of the desired

procedure for this and related projects, Ashmore has made a meaningful

contribution towards the development of a uniform, coherent methodology,

as well as towards the goal of explanation.

Part VI - Discussion

Archaeology is currently built on systems of theories and methodologies.

Basic methodologies yield basic assumptions, or for example the hypothesis at

Sayil, that high-status elites "apparently" had greater access to high quality

and decorative ceramic wares. As a result, the researchers at Sayil then further

hypothesized, using ceramic data and correlating it with soil phosphates, that

building form "may" not necessarily be a direct expression of building

function or the social status of the building's occupants at least at Sayil.

Sayil and these other examples vary in sophistication, and all are not

necessarily projects of note. What is significant about them, is that they

provide illustrations of both the sound and problematical archaeological

techniques, as well as an essential order of investigation. These same

empirically, research grounded explanatory procedures seem to be absent

from the higher level theoretical dialogues.

In these examples, we have seen the instruments of observation or measurement being developed, and once procedures such as these are recognized as valid observational techniques, then they will be taken for granted, accepted and treated more as direct scientific observational techniques. Hopefully, there will then be a stronger possibility for the sound development of explanations and meanings from the record. The desire is for the possibility of observing the past dynamics in the archaeological record, as a scientist "directly" observes phenomena invisible to the human eyes, using all kinds of specialized equipment (Tschauner 1996:4-5). We have been stressing the "efforts" towards identifying the relative individual aspects of anamorphosis material from which these explanatory concepts can then be derived. This effort comes at the expense of general (fictional) theory making and the dialogue that accompanies it. That is, it was an additional intent of this study, aside from the obvious emphasis on archaeological techniques, to caution against, or be wary of, the limitations of using broad assumptions and theory created from partial or incomplete data.

It is somewhat popular today to use analogies from ethnoarchaeological studies of architecture (social, behavioral, and, material correlates of different forms) for theory building and so-called bridging theories. There is some reluctance in putting much faith in these methods, there are too many caveats associated with them. "It takes extreme discipline to be objective about any issues, let alone one about which a person is emotionally engaged" (Kuznar 1997:218). That is, the "human interest" of the scientist exerts an influence on scientific inquiry to which he/she must guard against. Instead, it is suggested, to literally exhaust the development of better methods of for interpreting the material aspects of whatever society is the subject matter The

desired "theme" of archaeology thus becomes the quest for human understanding using scientific principles (once they are defined). Then, we will have the justifications to move research to the next step eg., bridging theories or otherwise, whatever one wishes that to be.

> If they understand what is meant by the concepts of empirical observation, hypothesis, test, law, theory and explanation, they will be able to evaluate their own work and that of others with respect to the possible goals of archaeological research (Watson, Le Blanc and Redman 1984:46).

The problematic nature of the crucial links between archaeological facts and past events and behavior isn't going to disappear, however the theoretical rhetoric is making the task even more complex than it need be at this stage of data recovery. A comprehensive anthropological architectural study should cover every aspect of the phenomena which contributes to the materialization of the final form. It should show how architecture, its components, and related artifacts work, and how they function in the context of their environment and culture (Turan 1996:356-358). The point is to acknowledge and understand the essential role of empirical observation and measurement in this scientific enterprise (Bamforth and Spaulding 1982:183).

This is not to say that a scientific method can provide full understanding of the data of archaeology, however, having as "accepted" as information as possible obviously leads to better argument and explanation. Even the critics of scientific archaeology would most likely benefit by these efforts. Who knows, with this emphasis on reconstructing the discipline around scientific tenets, someday explanation may, in a sense, be more likely to "spring forth" from the material record. In any event, it is timely to take a step back (ie., forward), reexamine and reclaim the core purposes or tenets of archaeology

and scientific archaeological inquiry.

BIBLIOGRAPHY

Abrams, E. M.
 1989 Architecture & Energy In *Archaeological Method and Theory.*
  Vol. 1, University of Arizona Press, Tucson, pp. 47-88.

 1994 *How the Maya Built Their World: Energetics and Ancient*
  Architecture, University of Texas Press, Texas.

Adams, R. E. W., and Jones, R. C.
 1981 Spatial Patterns And Regional Growth Among Classic Maya
  Cities. *American Antiquity* 46(2):301-322.

American Heritage Dictionary of the English Language, Third Edition.
 1992 Houghton Mifflin Company, New York.

Arnold, J. E., and Ford, A.
 1980 A Statistical Examination of Settlement Patterns at Tikal,
  Guatemala. *American Antiquity* 45:713-726.

Ashmore, W.
 1991 Site-Planning Principles And Concepts Of Directionality Among
  The Ancient Maya. *Latin American Antiquity* 2(3):199-226.

Aveni, A. F., and Hartung, H.
 1982 Precision in the layout of Maya architecture. *Annals of the New*
  York Academy of Science 385:63-80.

Baker, R. G.
 1962 The Recarving and Alteration Of Maya Monuments. *American*
  Antiquity 27(3):281-302.

Bamforth, D. B., Spaulding, A. C.
 1982 Human Behavior, Explanation, Archaeology, History, and Science.
  Journal of Anthropological Archaeology 1:170-195.

Beaudry, M. C.
 1991 Review of *The Meaning of Things, Material Culture and Symbolic*
  Expression, edited by Ian Hodder *Journal of Field Archaeology*
  18:239-241

Binford, L.
 1962 Archaeology As Anthropology *American Antiquity* 28(2):217-225.

 1968 Some comments on historical versus processual archaeology
  Southwestern Journal of Anthropology 24(3):267-275.

1972 *An Archaeological Perspectives*, Seminar Press, New York.

1982 Objectivity - explanation - archaeology 1981 In Renfrew, C.R., Rowlands, M.J., and Seagraves, C. (eds..), *Theory and Explanation in Archaeology*. Academic Press, New York pp. 125-138.

1983 *In Pursuit of the Past: Decoding the Archaeological Record*, Thames and Hudson, London.

1989a *Debating Archaeology*, Academic Press, New York.

1989b The "New Archaeology," then and now In Lamberg-Karlovsky, C. C. (ed.), *Archaeological Thought in America,* Cambridge University Press, Cambridge, pp. 50-62.

Binford, L. R., and Sabloff, J. A.
    1982 Paradigms, Systematics, And Archaeology *Journal of Anthropological Research* 38(2):137-152.

Bintliff, J. L.
    1991 Post-modernism, rhetoric and scholasticism at TAG: the current state of British archaeological theory *Antiquity* 65(247):274-278.

    1993 Why Indiana Jones is smarter than the post-processualists. *Norwegian Archaeological Review* 26:91-100.

Bowersock, G. W.
    1991 Review of *The Collapse of Complex Societies,* by Joseph A.Tainter. *Journal of Field Archaeology* 18:119-121

Bradley, R.
    1993 An Interview with Colin Renfrew *Current Anthropology* 34(1):71-82.

Brown, H. I.
    1972 Perception and Meaning. In Rescher, N. (eds.), Studies in the philosophy of the mind. *American Philosophical Quarterly, Monograph No. 6,* Basil Blackwell, Oxford, pp. 1-9.

Bruner, E. M.
    1994 Abraham Lincoln as Authentic Reproduction: A Critique of Postmodernism. *American Anthropologist* 96(2):397-415.

Byers, M. A.
    1992 The Action-Constitultive Theory of Monuments: A strong

Pragmatist Version. *Journal for the Theory of Social Behavior* 22:402-446.

Clancy, F. S.
1982 Meaning in Maya Monumental Sculpture. *American Journal of Archaeology* 86(2):259.

Coe, M. D.
1995 *The Maya*, Thames and Hudson, New York.

Cowgill, G. L.
1993 Distinguished lecture in archaeology· Beyond criticizing the New Archaeology. *American Anthropologist* 95:551-573.

Doran, J.
1986 Formal methods and archaeological theory· a perspective. *World Archaeology* 18(1):21-37

Dunnell, R. C.
1982 Science, Social Science, and Common Sense: The Agonizing Dilemma of Modern Archaeology. Journal of Anthropological Research 38:1-25.

Dyson, S. L.
1993 From New to New Age Archaeology· Archaeological Theory and Classical Archaeology - A 1990s Perspective. *American Journal of Archaeology* 97(2)·195-206.

Egenter, N.
1992 *Architectural Anthropology - Research Series*, Structura Mundi, Presse Centrales SA, Switzerland.

Elia, R. J.
1991 Review of *Rescue Archaeology: Proceedings Of The Second New World Conference On Rescue Archaeology. American Journal of Archaeology* 95(3):539-540.

Fagan, B.
1992 Review of *Archaeology· Theories, Methods, and Practice*, Colin Renfrew, Paul Bahn. *Journal of Field Archaeology* 19:77-80.

1996 *The Oxford Companion to Archaeology*, Oxford University Press, New York.

Forte, M., and Siliotti, A. (eds.)
1997 *Virtual Archaeology: Re-Creating Ancient Worlds*, Harry N.

Abrams, New York.

Fotiadis, M.
    1995 Review of *Theory and Practice in Archaeology*, by Ian Hodder, *American Journal of Archaeology* 99(1):151

Gleichmann, P R.
    1992 Architecture and Civilization: A Sketch. *Theory, Culture & Society* 9:22-44.

Gitlin, C.
    1992 Postmodernism: Roots and politics. In Angus, I., and Jhally, S. (eds.),*Cultural Politics in Contemporary America*, Routledge and Kegan Paul, London, pp. 347-360.

Graves, M. W.
    1994 New Directions In Americanist Archaeology *American Antiquity* 59(1):5-8.

Hammond, N. and Gerhardt, J. C.
    1990 Early Maya architectural innovation at Cuello, Belize. *World Archaeology* 21(3):461-481

Haviland, W. A.
    1982 Where the Rich Folks Lived: Deranging Factors in the Statistical Analysis of Tikal Settlement. *American Antiquity* 47:427-429.

    1994 Anthropology, seventh edition, Harcourt Brace College Publishers, Texas.

Hodder, I.
    1982 *Symbolic and Structural Archaeology*, Ian Hodder (ed.) Cambridge University Press, Cambridge, pp. 1-16.

    1985 Postprocessual archaeology In Schiffer, M. B. (ed.), *Advances in Archaeological Method and Theory*, Vol. 8, Academic Press, Orlando, Fl. pp. 1-26.

    1987 *The archaeology of contextual meanings*, Cambridge University Press, Cambridge.

    1991a *Reading the Past: Current Approaches to Interpretation in Archaeology*, Second Edition, Cambridge University Press, Cambridge.

    1991b Review of *Debating Archaeology*, by Lewis R. Binford. *Journal of*

Field Archaeology 18:383-387

1991c *Archaeological Theory in Europe*, Routledge, London.

1991d Post processual archaeology and the current debate. In Preucel, R. W. (ed.), *Processual and Postprocessual Archaeologies: Multiple Ways of Knowing the Past*, Center for Archaeological Investigations, Occasional Paper 10, Southern Illinois University, Carbondale, pp. 30-41

1991e Interpretive Archaeology And Its Role. *American Antiquity* 56(1):7-18.

1992 *Theory and Practice in Archaeology*, Routledge, London, England.

Ingold, T
1993 An Archaeology of Symbolism. *Semiotica* 96(3-4):309-314.

Irwin-Zarecka, I.
1993 Review of *Experiencing the Past: On the Character of Archaeology*, Michael Shanks. *Society* 30, 4(204):89-90.

James, J.
1990 *The Master Masons of Chartres*, West Grinstead Publishing, Australia.

Kalogirou, A.
1992 Review of *Domestic Architecture and the Use of Space: An Interdisciplinary Cross Cultural Study, edited by* Susan Kent. *American Journal of Archaeology* 96(4):764-765.

Kaplan, D.
1963 Men, Monuments, And Political Systems. *Southwestern Journal of Anthropology* 19: 397-410.

Kardulias, P. N.
1995 Review of *Reconstructing Prehistory: Scientific Method In Archaeology*, James A. Bell, *American Journal of Archaeology* 99(4):736-737

Kennedy, D.
1979 Michel Foucault: The Archaeology and Sociology of Knowledge. *Theory and Society* 8(2):269-290.

Knapp, A. B.
1996 Archaeology Without Gravity: Postmodernism and the Past.

Journal of Archaeological Method and Theory 3(2):127-158.

Kosso, P
    1989 Science And Objectivity. *Journal of Philosophy* 86:245-257

    1991 Method In Archaeology: Middle-Range Theory As Hermeneutics. *American Antiquity* 56(4):621-627.

Kuznar, L. A.
    1997 *Reclaiming a Scientific Anthropology*, AltaMira Press, California.

Latour, B.
    1990 Postmodern? No, Simply Amodern! Steps Towards an Anthropology of Science. *Studies in History and Philosophy of Science* 21(1):145-171

Lawrence, D. L., and Low, S. M.
    1990 The Built Environment And Spatial Form. *Annual Review of Anthropology* 19:453-505.

Lewis-Williams, J. D. and Dowson T A.
    1993 On Vision and Power in the Neolithic: Evidence from the Decorated Monuments. *Current Anthropology* 34(1):55-65.

Loten, S.
    1990 Monumentality: Power and Dwellings in the Maya Lowlands. Paper Presented at the Eighty-ninth Annual Meeting of the American Anthropological Association, New Orleans.

Mahon, M.
    1993 Michael Foucalt's archaeology, enlightenment, and critique. *Human Studies* 16:129-141.

McGuire, R. H., and Schiffer, M. B.
    1983 A Theory of Architectural Design. *Journal of Anthropological Archaeology* 2:277-303.

Murray, T
    1993 Archaeology and the threat of the past: Sir Henry Rider Haggard and the acquisition of time. *World Archaeology* 25(2):175-186.

Pan American Union.
    1926 Maya Architecture. *Bulletin of the Pan American Union* 60:770-778.

Peters, E.
1975 Notes Toward an Archaeology of Boredom. *Social-Research* 42(3):493-511

Rabb, L. M., and Goodyear, A. C.
1984 Middle-Range Theory In Archaeology: A Critical Review Of Origins And Applications. *American Antiquity* 49(2):255-268.

Rapoport, A.
1977 *Human Aspects of the Urban Form*, Pergamon Press, New York.

Renfrew, A. C., and Bahn P
1991 *Archaeology: Theories, Methods & Practice*, Thames & Hudson, London.

Renfrew, A. C., Rowlands, M. J., and Seagraves, B. A. (eds.)
1982 *Theory & Explanation in Archaeology,* Academic Press, New York.

Richards, C.
1996 Monuments as landscape: creating the centre of the world in late Neolithic Orkney.*World Archaeology* 28(2):190-208.

Rowlands, M.
1993 The role of memory in the transmission of culture. *World Archaeology* 25(2)·141-151

Sabloff, J. A.
1994 *The New Archaeology and the Ancient Maya*, Scientific American Library, New York.

Sabloff, J. A., Binford, L. R., and McAnany, P A.
1987 Understanding the archaeological record. *Antiquity* 61:203-209.

Saitta, D. J.
1992 Radical archaeology and middle-range theory *Antiquity* 66(253):886-897

Salmon, M. H.
1982 *Philosophy and Archaeology*, Academic Press, New York.

Saundersreed, J.
1992 From Stability to Silence: The Dilemma of the Modern, Postmodern, and the Nonmodern. *American Sociological Association*, U. of California San Diego.

Scarborough, V L., and Robertson, R. A.
1986 Civic and Residential Settlement at a Late Preclassic Center *Journal of Field Archaeology* 13:155-175.

Schiffer, M. B.
1980 Review of *For Theory Building in Archaeology Essays on Faunal Remains, Aquatic Resources, Spatial Analysis, and Systemic Modeling*, L. R. Binford (ed.). *American Antiquity* 45(2):377-378.

1981 Some Issues In The Philosophy Of Archaeology *American Antiquity* 46(4):899-908.

1985 *Advances in Archaeological Method and Theory.* Academic Press, Inc., London. 8:1-26.

1988 The Structure Of Archaeological Theory. *American Antiquity* 53:461-485.

Shanks, M., and McGuire, R. H.
1996 The Craft Of Archaeology *American Antiquity* 61(1):75-88.

Shanks, M., and Tilley, C.
1987 *Re-Constructing Archaeology Theory and Practice*, Cambridge University Press, Cambridge.

Sharer, R., Miller, J., and Taxler, L.
1992 Evolution of Classic Period Architecture in the Eastern Acropolis, Copan Honduras: A Progress Report. *Ancient Mesoamerica* 3:145-160.

Smyth, M. P., Dove, C. D., and Dunning, N. P.
1995 Interpreting Prehistoric Settlement Patterns: Lessons from the Maya Center of Sayil, Yucatan. *Journal of Field Archaeology* 22:321-347.

Snodgrass, A.M.
1985 The New Archaeology and The Classical Archaeology *American Journal of Archaeology* 89:31-37

Spaulding, A. C.
1988 Distinguished Lecture: Archaeology and Anthropology *American Anthropologist* 90(2):263-271

Soja, R. W.
1989 *Postmodern Geographies*, Verso, London.

Stephens, J. L.
  1993 *Incidents of Travel in Central America, Chiapas, and Yucatan,* Smithsonian institution Press, Washington D.C.

Stierlin, H.
  1964 *Living Architecture: Mayan,* Grosset and Dunlap, New York.

Stuart, G. S., and Stuart, G. E.
  1993 *Lost Kingdoms of the Maya,* The National Geographic Society, Washington D.C.

Thomas, D. H.
  1990 *Archaeology, second edition,* Holt, Rinehart and Winston, Inc., Texas.

Thomas, J., and Tilley, C.
  1992 TAG and "post modernism:" A reply to John Bintliff. *Antiquity* 66(250):106-114.

Thompson, E. H.
  1911 Genesis Of The Maya Arch. *American Anthropologist* 13:501-516.

Thompson, E. S.
  1970 *Maya History & Religion,* University of Oklahoma Press, Norman.

Totten, G. O.
  1973 *Maya Architecture,* Burt Franklin, New York.

Trigger, B. G.
  1986 Prospects for a world archaeology *World Archaeology* 18(1):1-20.

  1990 Monumental architecture: a thermodynamic explanation of symbolic behavior *World Archaeology* 22(2):119-132.

Tschauner, H.
  1996 Middle-Range Theory, Behavioral Archaeology, and Postempiricist Philosophy of Science in Archaeology. *Journal of Archaeological Method and Theory* 3(1):1-30.

Turan, M.
  1996 Anthropology And Architecture. *Journal of Anthropological Research* 52:355-359.

VanKirk, J., and Bassett-VanKirk, P.
  1996 *Remarkable Remains of the Ancient Peoples of Guatemala,*

University of Oklahoma Press, Norman, Oklahoma.

Watson, P J.
    1990 Review of *Archaeology And The Methodology of Science*, by Jane
          Kelly and Marsha P. Hanen, University of New Mexico Press,
          Albuquerque. *American Journal of Archaeology* 94(1):153.

Watson, P J., and Fotiadis, M.
    1990 The Razor's Edge: Symbolic-Structuralist Archaeology and the
          Expansion of Archaeological Inference. *American Anthropologist*
          92:613-29.

Watson, P. J., Le Blanc, S. A., and Redman, C. L.
    1984 *Archaeological Explanation: The Scientific Method in
          Archaeology*, Columbia University Press, New York.

Watson, R. A.
    1992 Review of *What is Archaeology? An Essay on the Nature of
          Archaeological Research*, by Paul Corbin, University of
          Chicago Press, Chicago, *American Journal of Archaeology* 96 (1):
          164-166.

Welch, T. L., and Gutierrez, R. L.
    1991 The Mayas -A Bibliography of Books and Periodical Articles -
          Organization of American States, Washington D.C.

Willey, G. R.
    1982 Maya Archaeology *Science* 215(4530):260-267

Yoffee, N., and Sheratt, A.
    1993 *Archaeological theory: who sets the agenda*. Cambridge
          University Press, Cambridge.

Zucker, P.
    1951 The Paradox of Architectural Theories at the beginning of the
          Modern Movement. *Journal of Architectural Historians* 10(3):8-14.