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THE FUNCTION OF OBSERVATION IN THE ARCHEOLOGICAL PROCESS

Stanley South

Archeological sites are located through surface survey, aerial photography, resistivity and magnetometer survey, topographic mapping and historical documentation, as well as other survey techniques. Such activity can become so involved that a specialty in such techniques can be developed. However, once the archeologist begins excavation of a site the process of field observation and recording of data is of primary concern. The quality of the observation and recording process has a direct relationship to the problems the archeologist is attempting to solve, in that the sophistication of the hypothesis depends on equally sophisticated field observation for meaningful explanation to emerge.

Traditionally archeologists have dealt with features, postholes and burials, under an implied assumption that "a posthole is a posthole", when careful observation reveals a wide variety of attributes of value in recording and interpreting features for componential analysis. The more distinctions the archeologist draws between features at the observational level, the more sophisticated his hypotheses can become. The Accokeek Creek Site is an excellent example of posthole recording resulting in very limited interpretive data as a result of the lack of distinctions drawn between the various postholes (Stephenson-Ferguson 1963: Fig. 6) Here thousands upon thousands of postholes were recorded by Mrs. Ferguson, but no structures other than a series of palisades could be identified by Robert Stephenson who analyzed the data. If a variety of attributes had been used to draw distinctions between the postholes as they were observed during excavation a number of architectural structures may well have been identified and various components isolated. Many other reports could be cited revealing similar lack of posthole and feature recording based on a wide range of attributes observable in plan at the excavated level of the site. The features illustrated in the chart in Figure 1 reveal various attributes observable in the field that allow for separation of features into classes useful in architectural, componential, functional and cultural identification.

In observing features for multi-attribute recording a consistent recording technique must be utilized, which means that one group of postholes and features is not recorded in plan in one area when the ground is powder dry, and other features recorded when the ground is moist from a recent rain. In order to consistently observe features for recording the excavated level must be kept moist enough to allow for maximum observation. This means an ample source of water for wetting down areas to be observed must be at hand. Fire engines, water wagons, pumps and fire hoses have been used to dump thousands of gallons of water a day on sites I have excavated in order to insure this consistency of observation and recording of the data. The archeologist cannot hope to consistently record the archeological record if he cannot observe it, and yet sites are frequently examined under such dry, baked...
conditions that thorough or consistent data cannot possibly be recovered. Under such conditions the archeologist may well find that his data consists primarily of masonry ruins and other obviously observable features, and he may come to believe that because of this no postholes and other features requiring more sensitive observation are present. Under dry conditions delicate soil distinctions are always lost, and even features that show up dramatically under moist soil conditions will totally disappear when the sand or clay surface is allowed to dry out. Occasionally drying may reveal features through more rapid evaporation of moisture from disturbed areas, and some archeologists are coming to rely on this technique in lieu of moist earth observation. However, relying on this technique in lieu of moist earth observation is like preferring braille over visual observation. It can be used, but is definitely secondary to primary observation of features in moist soil. Certain areas, because of their unique soil conditions, may not lend themselves to moist soil observation, but I believe these would be more the exception than the rule.

Once the features are revealed through removal of the plowed soil zone or other overlying soil layer, the surface must be schnitten (cut clean) using trowels or shovels. Scraping or brushing of moist soil only obliterates the data to be observed. When this process of schnitten is completed over an area as large as possible, recording of each posthole and feature should be undertaken immediately by the data recording crew. Photographs, elevations, horizontal position, width and shape of feature outlines, and the attributes observable in the fill are recorded, with care being taken by them not to add confusion to the scene by footprints and disturbance of this cleaned level. While the recording process is under way it is often necessary to have men with spray cans of water going over the area constantly spraying a mist of water to keep the soil in good condition for observation and recording of the attributes of the features at this level. On the chart in Figure 1 it can be seen that of the 44 types of features listed, 35 can be observed and recorded before any excavation into the features themselves is undertaken, emphasizing the need for thorough observation and recording at this stage in the archeological process for maximum recovery of data.

A typical posthole visible at the subsoil level is a dark humus filled area from four to eight inches in diameter, with the edge of the original hole no longer a sharp line, but blended by the action of worms (Fig. 1: 1). This action of worms is often so extensive that it is difficult to observe just where the original edge of the posthole was located. Unfortunately archeological reports reveal that this type posthole is most often the only designation assigned, i.e., "humus filled posthole". However, some postholes can be seen to have a higher relationship of sandy fill than others, some have a high percentage of charcoal flecks in the fill than others, and some may contain fragments of daub visible at the excavated level, or perhaps red clay from a collapsed daub-plastered palisade (Fig. 1: 2-4). At the Indian ceremonial center at Charles Towne, South Carolina the subsoil matrix was
sandy loam, and a clear contrast could be seen between those humus filled postholes and those containing flecks of red clay (interpreted as coming from a clay-plastered palisade). By recording this observable attribute it was possible to locate ceremonial sheds, and to separate one of the palisades from the other two (Fig. 2).* Similar posthole attributes and feature attributes can be separated on almost any site on the basis of the relationship of the color and/or texture of the various soils comprising the fill. Another means of observation and recording of postholes for separating various components is to record the presence of an especially dark humus area within the posthole representing the post itself. Postmolds and burned posts are dramatic attributes for revealing architectural features distinguished from other posthole data (Fig. 1: 11-12). Posthole and feature shape, whether oval, round or irregular is important in determination of associated postholes or pit features.

Because of the recent age of historic postholes there are fewer worm holes to blend the edge of the feature with the subsoil matrix, and consequently the edges of more recent features are still relatively sharply defined. These features are also easily separated into groups based on the presence of postmolds or surviving posts in the hole (Fig. 1: 7-10). The observation that historic period features have less worm hole blending might be used to form an hypothesis regarding the use of worm hole concentration as a temporal index, similar to taking a blood count. The methodology might involve the use of a small grid for counting the worm holes, and from this a series of indices created for use in comparison with features for which radio-carbon or other dates were known. The technique might have only single site or area usefulness, but illustrates the fact that theory is born of observation.

Another attribute of the historic period features is the presence of square or rectangular postholes, footing holes and features (Fig. 1: 9-10, 13). Such features cannot simply be plotted by a central point with the diameter recorded, as one might do with circular features; rather, three points at least must be recorded to obtain the proper orientation of such angular features. This must be done even if (particularly if) the feature is a small one such as a square posthole only six inches on the side. The feature in Figure 1: 10, for instance, requires no less than six measured points for accurate recording. In recording such features for meaningful interpretation a roughly triangulated plotting from grid stakes is not sufficiently precise, and transit and tape, or alidade and tape recording of the most exacting nature should be employed. This caution would seem to be an obvious standard procedure, but careless horizontal plotting of features is often the rule rather than an exception. This is illustrated by the fact that a historic brick ruin measuring 40 by 87 feet on a side cannot be plotted to reveal a measurement of 40.1 by 86.9, and roughly triangulated points from grid stakes do not normally yield this accuracy unless the most exacting care is utilized in controlling the reference points and recording procedures.

*Figures 2 through 7 are in a jacket pocket accompanying this volume.
Using the square posthole attribute, and the sharply defined, non-worm-blended edge of the features at the site of the Charles Towne Indian ceremonial center we were able to identify a nineteenth century barn complex and associated fence lines through differential plotting of this type feature in plan (Fig. 2), thus isolating these features as a separate component from the Indian occupation of the site.

Archeology of the historic period also reveals characteristic features of masonry, such as wells, footings and foundation walls. These are accompanied by their construction ditches which must also be plotted and carefully excavated, though many historical archeology reports fail to mention these important features associated with the obvious masonry (Fig. 1: 14). Prehistoric masonry structures are also often characterized by an emphasis on the masonry, such as kivas where excavation is not carried beyond a foot beyond the masonry wall, thus successfully eliminating any chance of discovery of any associated features. Masonry features are accompanied by their construction ditches which must also be carefully recorded and excavated, though again many archeology reports fail to even mention these important features associated with the obvious masonry (Fig. 1: 14).

Sometimes the geology of a site is an aid to the classification of certain features, when the geology is known from previous excavation. For instance, at Town Creek Indian Mound in North Carolina there is an orange clay subsoil clay underlying by several feet the red clay subsoil just beneath the plowed soil zone. As a result of this phenomenon those pits that were excavated into this orange subsoil zone and then back-filled almost immediately (such as burials), contain flecks of orange clay in the fill (Fig. 1: 15). These pits are easily distinguished, from those dug into the orange subsoil zone and allowed to fill up with an accumulation of midden, by the absence of the orange clay flecks. At Town Creek then, burials can be tentatively identified on the basis of flecks of orange clay in the fill of pits before excavation into the feature is carried out.

Another type of feature that can often be identified before excavation is begun into the contents is the shaft and chamber burial with collapsed chamber (Fig. 1: 16). The collapse of the chamber produces a fault-line when the chamber drops, allowing the soil above it to sag into the depression. This produces what appears to be a later intrusive pit into an older pit, since the same type of soil is sometimes seen in the collapsed chamber area that appears in the plowed soil zone. However, this can be distinguished from an intrusive pit by the indistinct edge caused by the fault as opposed to an edge caused by digging the burial shaft. Once this type feature is observed it can be correctly interpreted in most cases before excavation is begun on the shaft and chamber. A non-collapsed shaft and chamber burial cannot be so easily identified, appearing as an oval or round pit, but its depth can sometimes be interpreted from the presence of deeply lying subsoil flecks, and thus its interpretation as likely a burial, prior to beginning of removal of the contents of the feature.
Linear features, such as lines of palisade posts, palisade trenches with or without the postmolds, and fortification ditches are particularly interesting in that they provide linearity and architectural identity, drawing a distinction between areas of the site (Fig. 1: 17-19). The width of from two to fifteen feet for fortification ditches clearly distinguishes them from palisade trenches, that may be from eight to eighteen inches in width. Fortification ditches when excavated reveal in profile, and often in plan before excavation, the evidence needed to determine on which side of the ditch the accompanying parapet was located by the position of the subsoil-like fill (on the parapet side) in contrast with the darker humus fill (on the side opposite the parapet). This is a characteristic of most fortification ditches, though particular cases may reveal exceptions to this pattern.

Another class of postholes are those with tapering ramp trenches leading toward the bottom of the hole, resulting from installation of the post. These are usually major posts such as the ball ground poles excavated at Town Creek Indian Mound. These often have stones placed against the post when it was slid into the hole and raised upright to hold it in position (Fig. 1: 20). One of these at Town Creek had no stone wedges, but instead was furnished with a trench at right angle alignment to the installation trench, which I interpreted as representing a seat for a log wedge to support the pole once it was raised into position. This proved to be a functionally valid interpretation in that the same technique was used to advantage when a 45 foot pole was replaced in the original five and one-half foot deep hole (Fig. 1: 21).

An interesting variation of the posthole with an installation trench was found by Leland Ferguson at Earth Lodge No. 2 at the Garden Creek Site in Haywood County, North Carolina (Dickens 1970: Fig. 20). Wall posts for the earth lodge had tapering trenches toward the inside of the lodge, and Ferguson has interpreted these as having been the result of replacing wall posts while the structure was still standing (Fig. 1: 22). If wall posts needed to be replaced in an earth lodge a trench would have to be dug to remove the old post or to insert a new post beneath the wall plate. When similar postholes are seen in excavations of other structures, the likely function can be interpreted before excavation of the postholes themselves is undertaken. Such postholes are also valuable in defining the structure through drawing a distinction with other postholes not a part of the structure.

There are times when a visual examination of the subsoil level of excavation reveals no features, but when the same area is photographed using infrared photography, disturbed humus-bearing features can be observed (Fig. 1: 23). Other features can be located on occasion by using the texture of the soil as a clue for separating disturbed from subsoil areas. The moisture content variation, as has been mentioned, is another clue to observation of disturbances in the subsoil matrix when the direct visual observation is not sufficient. Chemical treatment of the surface of an excavated level is being used to react with...
humus or residual chemicals in wood or bone to reveal features and burials. This method is also being used to identify rodent holes (Van Der Merwe and Stein 1972: 245). Enriched vegetation over wells and midden deposits is also being used as a survey technique in locating sub-surface features. Any of these, or other methods of observation of attributes can be used to draw a distinction between groups of features for componential analysis (Fig. 1: 24).

Some features through their association are immediately identified as a single component representing a single moment in time. Such features are postholes from non-intruded architectural features representing a single structure (Fig. 1: 25). Seldom is the archaeologist presented with such clear, straight-forward situations to interpret. A classic means of separating components on a site is through intrusion of one feature on another, with the intrusive feature being later (Fig. 1: 26).

At the Dodd Site in South Dakota, Donald Lehmer (1954) was aided in his interpretation of the components by the fact that rectangular houses were intruded on by later round houses, and though his house floors were stratigraphically one above the other, he could still have isolated the components on the basis of structural classification had the features been on the same level (Fig. 1: 27).

Spatial separation of features, along with similar diameters often allow a number of features to be associated as elements of a single structure (Fig. 1: 28). Geometric alignment is a frequently used means for separating architectural components related in time and space. A palisade is a primary example of a geometric alignment of postholes that even the most cavalier observer can recognize immediately. Other more widely spaced postholes are not so easily distinguished and associated. During the historic period square footings, fence postholes and even landscaping bushes are, through their alignment, associated with property lines and other features of similar period (Fig. 1: 29-30, 34).

Linear features such as fortification ditches, palisade trenches and geometrically aligned footings and fence postholes provide excellent componential separation through sequential intrusion (Fig. 1: 30). The site of Williamson's Fort, Holmes' Fort and the town of Cambridge at the Ninety Six Site in South Carolina, is a classic illustration of this type of componential separation (Figs. 3-6). Williamson's Fort was the site of a three day engagement in 1775 between Whigs and Tories, with the fort being thrown up quickly around John Savage's barns. It was said to have been made of "beeve's hides", straw and fence rails. It wasn't until excavation was carried out that it was known that the rails had been placed in a palisade trench connecting the several barns, the footings of which were also found (Fig. 4). This 1775 component was intruded on by the construction of Holmes' Fort in 1780, and again through archeology it was found that Savage's barns were again used as blockhouses within a hornwork shaped fortification thrown up around
them. A burned retaining wall ditch with small postmolds was found to parallel this major fortification ditch, thus associating the features geometrically, and temporally (Fig. 5).

Intruding on the 1780 Holmes' Fort features were footings from the town of Cambridge which was begun in 1783 and continued until the 1850's (Fig. 6). By geometric alignment these Cambridge postholes, footings and cellars were associated and separated from the earlier components. The entire group of features revealed at the level just below the plow zone can be seen in Figure 3, with each component being separated through sequential intrusion and illustrated in the Figures 4 through 6. In this instance these components were separated by only a few years in time, from 1775, 1780, and 1783 and later. Similar separation can be accomplished on the basis of observation of features at the excavated level, before the removal of the contents of the features themselves is undertaken with any site where features are carefully observed and recorded according to their distinguishing attributes, then plotted on plan on this basis. If, however, features are recorded only as "postholes, pits and burials", we can hardly hope for more than a limited separation of components for analysis and interpretation.

Analysis of features on the basis of magnetic-astronomical orientation was reported by Binford at the Hatchery West Site (1970), producing some impressive cultural interpretation (Fig. 1: 31). Trees, bushes, plow scars and rodent holes are all features on a site with which the archeologist must deal and interpret (Fig. 1: 32-35). These features can be non-cultural or they can act as recipients of artifacts that may have fallen into them when they were open. Plow scars reveal clues to the erosional history of the site, and the direction of plowing, often providing for clarification of features disturbed by plowing. Some bushes and trees, particularly on historic sites, are cultural in that they were part of a landscaping plan, and for these reasons they are observed and recorded and interpreted along with other observable data on the site. Non-cultural features such as geological changes in subsoil characteristics, and veining, often appear as misleading pseudo-features that must also be interpreted by the archeologist, if for no other reason than to recognize their non-cultural aspect.

So far we have discussed the attributes observable in features in plan at the excavated level. Additional feature attributes can be determined from the excavated features that can be used to classify and associate certain features. At Town Creek Indian Mound Joffre Coe has used the aerial mosaic technique in recording each ten foot square photographically and joining these to make a master mosaic of every feature on the site. From this exacting record, plus the square sheet data from the square ground area in front of the mound no structures could be interpreted from the galaxy of postholes in the square ground area. However, in 1956, I used the depth of each excavated posthole as an attribute for recording with a color-code the various postholes and features, and was able to isolate a rectangular square ground shed
from the mass of postholes in one area of the square ground (Fig. 1: 36).

Bennie Keel (1972: 120-122) used another attribute to accomplish a similar result at the Garden Creek Mound No. 2, in Haywood County, North Carolina. He noticed that some of the excavated postholes contained a sandy fill near the bottom, and by plotting these in plan with a different key than other postholes he was able to define a house (Fig. 1: 37).

Stratified structures represented by postholes at different elevations can be separated on the basis of the top of the postholes, a classic means of temporal separation of components (Fig. 1: 38). Excavated postholes can also be classified on the basis of the angle of the postmold or posthole (Fig. 1: 39), such as the leaner wall posts forming the outer ring of an earthlodge (Stephenson 1971: 29). From the angle of the leaner postmold in relation to the position of the main wall postholes, the height of the main wall can also be determined. Posthole and postmold shape can be used to classify posthole features, with the straight-cut farmer's post contrasting markedly with the more tapered Indian postmold impressions in profile. Also, a posthole digger dug hole is recognized in some cases by its higher center (Fig. 1: 43).

After considering these forty observable feature attributes, plus any other known to the archeologist, he can then turn his attention to classification of features distinguished on the basis of artifact association with features (Fig. 1: 40-42). Unfortunately, the tendency has been, and still remains in many instances, to view features primarily as recipients of artifacts from which data can be recovered. As the chart in Figure 1 indicates there are a multitude of attributes constituting data that must be recorded before the cultural items are recovered and analyzed. Postholes, pits, burials, ditches, trenches and construction ditches for foundation walls are all valuable recipients of cultural items from which analyses and interpretations are made. A series of postholes can be classified into different cultural components on the basis of the artifacts recovered from them. The basic principle of terminus post quem is used to determine temporal periods represented by the artifacts recovered from these features (Fig. 1: 40). Sometimes the presence or absence of particular items can be used as a classificatory device, such as the use of bone or stone wedges in postholes. A series of postholes with bone wedges might well form an architectural pattern allowing for the isolation of a house, or temporal, or cultural interpretations might be demonstrated (Fig. 1: 41).

Cross-mending of artifacts is an important means of associating features at one moment in time, such as the recovery of fragments of a white salt-glazed stoneware teapot from a number of features. The gluing of these fragments together joins the features as well, an observation adding valuable information for the interpretation of the features. The same applies to cross-mending of fragments from various stratigraphic layers which bonds the stratigraphy into a single temporal unit (Fig. 1: 42).
The Function of Observation in the Archeological Process

FIELD OBSERVATION

FIELD OBSERVATION

FIELD OBSERVATION

THEORY

HYPOTHESIS

Recording and Interpretation of Features for Componential Analysis

ANALYSIS

FEATURE

ARTIFACT

INTEGRATIVE DATA

HISTORIOGRAPHY

HISTORICAL ANALYSIS

STATISTICAL ANALYSIS

CULTURAL-HISTORICAL INTEGRATION AND INTERPRETATION

PROCESSUAL EXPLANATION

in Terms of the Hypothesis and Theory

NEW HYPOTHESIS FORMATION

FIELD OBSERVATION

Paradigm

Corollaries

1. 
2. 
3. 
4. 
5. 

FIGURE 1
The classification of features on the basis of functional interpretation and designation by culturally functional oriented nomenclature is based on a group of attributes characteristic of particular features. Earth ovens, smudge pits, burials, cooking pits, storage pits, rock hearths, house floors, living floors, and use areas are observable data assigned cultural designations for analysis and interpretation (Fig. 1: 44). Binford at the Hatchery West Site conducted an analysis of rock hearths, earth ovens, pits, houses, and burials through cluster and attribute analysis in order to define the cultural components represented by these features (Binford 1970). This type of multi-attribute feature analysis combining a galaxy of attributes; width, depth, shape, texture, color, associated artifacts, orientation, ethno-botanical objects, and use area debris results in a most sophisticated componential and cultural analysis.

The purpose of this paper has been to point out some of the observations of feature attributes made by the archeologist allowing for making distinctions between features for componential and cultural analysis. To some archeologists this presentation has only stated the obvious, a standard archeological procedure used for decades. However, archeological reports still appear with the classic "pits, postholes, foundations, and profiles" level of observation and recording, suggesting a definite need for more rigorous observation and recording of data. For instance, there are many historical archeology reports revealing structural foundations, and large expanses of supposedly observed and recorded excavated areas adjacent, but no sign of a posthole is seen. Scaffolding holes, postholes, and other subsoil disturbances almost always accompany historic structures, so a drawing showing only foundations is a highly selective type of data recording.

Other indications that a more rigorous observation and recording of feature data is needed are seen in the following: postholes recorded as stylized symbols instead of as they actually are observed in the field; straight interpolated lines for fortification ditch edges instead of actually plotted edges as observed in the ground, making for a neater drawing, but hardly accurate; failure to record trees and bush features; failure to record postmold as well as the posthole, the hole being a general representation of the position of a structure, with the postmold representing an exact position; inconsistent recording of posthole and feature data, postholes being recorded only as incidental to some other problem of interest, or as they fortuitously are seen on wet days, with little effort being made to systematically record every posthole on the site; palisades shown as stylized, schematic representations with no details and specific post positions shown; entire site reports presented primarily through profiles, with little recording of plan data; disregarding stratified data in features, and emphasizing primarily the artifacts recovered from the feature, thus missing possible data of value in the interpretation of seasonal activity, or temporal-functional relationships within the feature; entire site reports presented on the basis of a series of five-foot squares, with emphasis on stratigraphic data at the expense of features in plan, resulting in a lacunae in our
knowledge of structures and settlement patterns compared with our problem oriented studies emphasizing temporal sequences. Problems such as these can be overcome through more careful observation and recording of features and other data on a broader base, emphasizing a multi-attribute approach in drawing distinctions between archeological features.

Besides emphasizing the need for more rigorous field observation, the purpose of this paper has also been to emphasize the function of observation in the archeological process. The primary, basic and central function of observation is seen illustrated in the paradigm in the chart in Figure 1. Theory with hypothesis makes fertile the observation of the data. When the archeological process of observation and analysis is sufficiently developed an explanation emerges to account for the culture process responsible for the observed patterned phenomena. The explanation is a genetic offspring of the parent theory and hypothesis, but was gestated in the fertile environment of field observation. This descendent tests the parent concepts and is the source for new hypothesis and theory, leading to more refined field observation. This paradigm of the archeological process clearly reveals the central function of observation, and is followed by several corollaries. Theory and hypothesis do not produce explanation without observation. Thorough observation allows for more sophisticated analysis and problem solving, resulting in new and refined theory. Inadequate, inconsistent, incomplete and careless observation will not develop into a reliable interpretation or explanation regardless of the sophistication of the theory and hypothesis. Observation, regardless of how sophisticated, without the parent theory is sterile, and will not produce explanation. Theory is born of observation, thus observation is basic in the archeological process.

An important by-product of this archeological process is the preservation and interpretive explanation of the archeological document through exhibits of ruins, fortification ditches, parapets, burial houses, reconstructed earth lodges, structures and palisades. It is emphasized, however, that this by-product is not the goal of the archeological process, merely a shell produced from the gestation of cultural-historical interpretation and processual explanation. This paradigm is visually illustrated in Figure 1.

The archeologist should guard against allowing the problems dictated by sponsors interested in structural detail for purposes of reconstruction for public interpretation to become his archeological goal at the expense of integrative analysis and cultural interpretation based on broad and in-depth observation. However, if the archeologist accepts the responsibility of executing the archeological process to achieve his own scientific as well as his sponsor's developmental goals, he also has a responsibility to produce a product of some real use to the sponsor. An archeological report strictly limited to explanation of the archeologist's goals might still leave the sponsor wondering what to do next toward development of the historic site. Therefore, the archeologist should provide some suggestions toward a master plan for the preservation of the archeological document, and toward the development of the site within the framework of
the archeological data. The stabilization map in Figure 7 is an example of the type of assistance the archeologist can offer to the sponsor and the contractor whose responsibility it is to actually execute the work of transforming the archeological data into an explanatory, interpretive exhibit on the site. Without such help in the form of plan and profile drawings and suggestions in a report to the sponsor, the archeologist has no reason to complain when the explanatory exhibits in the form of exposed ruins, rebuilt parapets and palisades do not conform to the archeological evidence. He does have a responsibility toward insuring that the explanatory exhibits do not violate the archeological document.

Historical archeology is particularly encumbered with problem oriented studies of narrow scope, wherein the problem consists of locating the foundation of a structure, or a fort site. Indian site archeologists also have their albatrosses in problem oriented studies centered on a narrow goal; the skeletal material from a site, sometimes recovered at the neglect of other types of data; the number of structures to be found in a stratigraphic cut of a temple mound, with no data recovered as to what the floor plan looked like; or the temporal sequence represented by the ceramics from a site through five foot test squares, with no information as to structural form or village plan that could emerge if the paradigm only called for the one hundred yard square instead of the traditional five-foot or one meter albatross. Our problem in such cases has been not so much a lack of problem, but a concentrated focusing of our observation on specific problems rather than detailed observation of attributes of value for studies of broader scope. Some advocates of the "New Archeology", in their enthusiasm for specific, problem oriented studies, are encumbered with this same albatross in that their explanations cannot scientifically be broader than the scope of observed data on which they are constructed.

Another basic traditional approach to the archeological process has emphasized the responsibility of the archeologist to observe intensively and carefully as many attributes of the data as possible so that a broad base for interpretation can emerge from the observation and recording process. This basic attitude has come under criticism for its frequent "lack" of problem orientation, and its sometimes apparent concern with observation and recording of data as an end in itself, resulting in challenges arising as to the value of site reports (Zubrow 1971: 482). It is obvious that no archeologist can possibly observe and record all the data that might be needed to answer all problems, but it does not follow that problem oriented studies in the new idiom are the only type problems justified (as pointed out above the difficulty has often been a too refined and narrow problem rather that a question of no problem at all). There is a basic corpus of data that must be observed and recorded in addition to any unique data requirements for specific problem solving, and it appears patently obvious that what we need is not more narrowly focused observation for specific problem solving, but a broader base of exacting multi-attribute data recording from which our hypotheses relating to culture process can be formulated. It is also apparent that with a greater concentration on observation and data recording that the
scientific archeologist has an obligation to abstract pattern and offer explanation in terms of hypothesis and theory in the evolutionary framework basic to the archeological process (South 1955).

Our problem solving is limited by our observation, and our questions can only be as sophisticated as our field observation and data recovery methods. The trend now is to construct specific problems and collect specific data to provide the answers, in spite of the fact that an anthropologically or historically based discipline would imply a broader focal angle. Students of the "New Archeology" emphasize theory and problem, science and processual explanation, but some are remarkably naive when it comes to relating observation of archeological data to anthropological theory, to the explanation of culture process, or to the recording of data other than that specifically applying to their problem. They appear to be "New" in the sense of a new puppy, unfamiliar with the fundamental, competent, data recording methods dictated by the traditional "Old Archeology". Not having mastered the techniques of observation and data recording, they are often seen to be caught with their methods down, an awkward position from which to explain why their nomothetic paradigms were not adequately supported.

I see the archeological process diagramed as a pyramid with a broad data base of competent observation and data recovery, leading through evolutionary theory to explanation of the culture process, represented in the diagram by the capstone tip of the pyramid. From some of the misguided "New Archeologists", however, I get the impression of an up-side down pyramid, poised precariously on its narrow point of selective data observation, on which unsure base a mass of nomothetic paradigms are uncertainly balanced, enveloped in a camouflaging cloud of verbosity promenading as processual explanation. This is certainly not the scientific archeology Binford has urged us to undertake, yet "New Archeology" is burdened by misguided disciples whose approach is likened unto a pyramid with its point buried in loose sand.

The following questions have emerged from having watched the misguided efforts by disciples attempting to "do New Archeology". The same disciples vociferously in concord, frequently criticized the "Old Archeology" as an ever-present whipping boy in contrast to their "New" approach. Are we justified in throwing Archaic Period hearths out in our back dirt because our paradigm calls for plotting profile information relating to the pottery making period of occupation on the site? Are we really being scientific when we record postholes according to only three attributes, width, depth, and horizontal location, and then run this through a computer to determine the relationships that might be obtained in a sample of fifty postholes? Are we "doing science" when our problem calls for plotting each sherd, chip, bone, and shell fragment, in an effort to determine clustering or scatter pattern, when the thirty foot square excavated area being so treated is an occupation surface of a Mississippian midden? What possible valid postulates could support an hypothesis justifying this examination of a mixed village midden deposit surface in such a restricted area? When the primary data we have on shell rings are profile sections, with no architecturally related features in plan, how can we justify a research design centered around obtaining another profile section to add to the collection? The error here
is in microscopic vision of data at the expense of the broader view, which view is seen as the antiquated pursuit of the "Old Archeology". The depth of scientific archeology demands rigorous, controlled, consistent observation, with a broad base to support specific research designs. Theoretically-weighty research designs and microscopic observation of data at the expense of the broad archeological record, are not compatible within the paradigm of scientific archeology!

In conclusion I would like to emphasize two points, the first being that observation and competent data recovery is prelude to any theory, and forms the body from which analysis proceeds and new hypotheses and theory are created. The second point is that I, along with a number of my colleagues, are committed to the development of archeological science, and are disturbed by those who parade under the banner of the "New Archeology" but besmirth that brave standard through narrowly focused pseudo-science or sweeping generalizations and nomothetic paradigms based on a minuscule quantity of selected data. Such an approach demonstrates a lack of concern for the basic element in the traditional as well as the scientific archeology paradigm: competent observation and data recovery.

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