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Hunter-Gatherers and the Use of Ethnographic Analogy: Theoretical Perspectives

by Holly Martelle Hayter

In the past twenty years or so there has been a strong emphasis in archaeology on the study of modern hunting and gathering societies in an attempt to gain information about similar groups which existed in prehistoric times. This focus has developed from a shift in archaeological objectives away from the typical post-1960 description and classification schemes toward more informative schemes which look at the interpretation of past cultural behaviour in more specific terms. Because of the very limited and ambiguous nature of archaeological data, these types of cultural interpretations were generally avoided in earlier works. It has now come to the forefront that the study of modern day peoples, hunter-gatherers in particular, can, if used correctly and carefully, shed some light on conditions in prehistoric days.

This uniformitarianist notion stems from the idea that in the present lies the key to the past. It is viewed that processes observed today also took place in the past, thus, geological, biological and cultural processes are constant and somewhat unchanging. This is the proposed premise, borrowed from the various scientific fields from which it may apply. This uniformitarian's notion of the past is now applied to culture and, in particular, to hunting-gathering peoples. It is this application of the underlying uniformitarian principle which I wish to explicitly challenge in the remainder of this paper.

The principle of uniformitarianism has been so easily applied to the hunter-gatherer peoples, in such a carefree manner, because it is accepted that humans have for the majority of their existence lived in this particular mode of production. Richard Lee credits some 99 percent of all of the two million years that cultural humans have existed on earth to a hunting and gathering mode of subsistence. It is from this basis that he acknowledges the hunting (and I will include gathering) way of life as having been the most successful and persistent adaptation of humans (Lee 1968:3).

Coupled with and stemming from this "fact" then, is the belief that modern hunting and gathering groups must then be very similar to those of the past since their generalized subsistence activities are assumed to be congruent. Thus,

modern hunter-gatherer groups are viewed in ignorance by many as "living fossils." Since the hunting and gathering way of life appeared very early in the history of humans, it is placed then, at the bottom of the evolutionary scheme of things. Thus, the study of hunter-gatherer groups has been heightened by the notion that these groups are survivors from the primitive condition of humankind (Isaac 1968:253).

The main analytical tool used by archaeologists to project modern behaviour into the past is the ethnographic analogy. This involves studying modern populations, including their material residues and behavioural patterns, and comparing this data to archaeologically derived data from sites. There are many types and variants of ethnographic analogy: these will be discussed later in the paper. It is important to note that there are some very crucial concerns when using analogic schemes of this type since they are based on very false or misleading assumptions. One must first examine the structuring and underlying assumptions on which this type of analogy is based and then study each individual case to predict how the analogy may apply to the situation and then attempt to estimate any validity interpretations based on this type of inference may have.

This paper will first look at modern hunter-gatherer groups to attempt to define the cultural characteristics and limitations of these groups. The types of ethnographic analogy and their use in archaeological research will be examined as well as the nature of archaeological data and the necessity of ethnography in interpretation. I aim to present valid arguments for the use and also the abandonment of certain types of analogy based on the cultural, temporal and spatial uniqueness of hunter-gatherer groups.

The Hunter-Gatherer Categorization

The term "hunter-gatherer" is a very broad, generalized term used to describe a vast amount of different types of people, existing in numerous and varied environments, possessing diverse levels and types of skills, sharing a variety of religious, cosmological, ideological and ethical beliefs, and exhibiting various forms of social and political

organization. Yet, anthropologists and scholars alike continually link these groups together under the category of hunter-gatherers since, it has been argued, that all of these groups possess very broad generalized characteristics. The traditional idealized view of hunter-gatherers holds them to be mobile or semi-sedentary groups of related people living along the lines of the patrilocal band level of organization. These people have flexible band membership, loose social organization and have no centralized leadership. This is basically known as the patrilocal egalitarian band. Hunter-gatherers also share the same generalized type of subsistence patterns, with a focus on the hunting of animals and the gathering of plant species. Most hunting-gathering groups are assumed to possess low levels of technological, religious and artistic expression since they are seen to represent primitive lifeways.

It can be argued however, that for every one of these unifying characteristics there are a number of exceptions. Not all bands are strictly egalitarian -the Northwest Coast native peoples for example. Although most of these groups rely on plant and animal species for survival, these resources are in fact, gathered and collected in numerous different ways, using a variety of technological, spiritual and sociological means. Not all groups are mobile, since the Ainu and Northwest Coast native groups both remain in fairly permanent settlements for most of the year. Technological sophistication is exhibited quite evidently by the Inuit groups of the Canadian Arctic. Rich artistic expression is characteristic of several Australian Aboriginal groups, in terms of their painting and rock art. The elaborate ritual associations of the Ainu with the cave bear also tend to sway the notion of ritual simplicity.

With such vast incongruities in this grouping of people can we really say that a homogeneous group called hunter-gatherers really exists? I would argue that the term "hunter-gatherer" is more or less a very broad, structured, generalized, arbitrarily distinguished categorization. How does one decide which groups are and which groups are not hunter-gatherers? Can we base our judgment on subsistence strategies alone without being environmentally and technologically deterministic? What about the groups which possess certain characteristic traits but contrast markedly with others? These are some questions we must ask when examining hunter-gatherers especially when using ethnographic analogy which refers to prehistoric hunter-gatherers as a fairly homogeneous group.

Those groups which have generally been accepted as hunter-gatherers today generally reside in marginal areas as a result of European encroachment on their traditional lands. These areas include a wide variety of ecological situations ranging from the Arctic tundra, the tropical rainforest, open grass and parklands to the arid deserts. Thus very specific adaptations to specific environments have taken place over time. Environment plays a significant factor in the lives and adaptations of these people. Hunter-gatherers generally exhibit a fairly strong degree of interaction and association with their environment (Winterhalder 1981:ix). This is one of the reasons that archaeologists are particularly interested in hunter-gatherer studies. It is assumed that the environment also played a key role in the lives of prehistoric peoples; thus it is hoped that comparisons and parallels can be made between modern and prehistoric peoples in this way. Yet, it must be noted that it cannot be assumed that all present behaviours have identical analogs in the past, nor do past behaviours have reflections in the present (Kramer 1979:2).

It becomes clear through this very long preamble, that hunter-gatherers cannot realistically be viewed as a homogeneous group of people. We can no longer view the hunting-gathering way of life in normative terms as a single "way of life" (Bailey 1983:2). It is certain that a group of individuals, termed hunter-gatherers by western or European scholars, from a variety of areas and backgrounds would surely result in a very strange and diverse collection of unique personalities.

It must also be noted that the majority of hunting and gathering peoples today are no longer pristine individuals living in total isolation from the rest of the world. Very few groups have escaped contacts and certain degrees of acculturation by the westerners or Europeans. Thus, primary, isolated examples of hunter-gatherer groups no longer exist. Many groups are being forced into extinction or acculturation at astronomical rates.

The Nature Of Archaeological Inference

The very nature of archaeological data lends support to the use of ethnographic study of modern humans. This is the strongest argument for the use of ethnographic analogy in archaeological interpretation.

The archaeological record is a very biased sample of material remains which have survived selective natural processes of preservation, erosion, disturbance and other human forces of destruction and removal. The data is limited and at best very fragmentary and by no means is representative of the full range of activities and behavioural patterns undertaken by the people who once occupied any site. All of the data is never obtainable. The archaeological record hence, does not consist of behaviours or activities but consists of the products or evidences of these behaviours or activities (Wobst 1978:303).

These material traces of past behaviour are

often ambiguous as to what they signify or give evidence of. Thus archaeological inferences based on ambiguous and fragmentary data are in most cases no more than educated guesses. We look to models, analogies and other aids to help explain patterning in archaeological materials in an attempt to derive some sort of information about the cultural, social and political aspects of the people living on a site. With the main scientific focus of archaeology, it is now emphasized that one, when making inferences, should go beyond the visible data and attempt to make speculations and cultural reconstructions. People would rather read a story book than a laundry list.

Yellen points out that all archaeological reasoning includes the use of some type of analogy or model, applying knowledge learned in the present to the past, whether explicitly or implicitly (Yellen 1976:50). Archaeologists have few alternatives, and drawing on all types of data is imperative in cultural reconstruction. Gould notes:

> "As archaeologists we are dependent upon all sorts of ethnographic observations, and the problem stated in its simplest terms is one of seeking out the best ways for making use of ethnographic evidence for archaeological purposes." (Gould 1971:143)

Yellen also supports the use of ethnographic data:

> "The archaeologist is in the position of trying to make the most of limited and intractable data....to be sure, attempts to relate ethnographic and archaeological evidence must always be made with caution, but they must be made." (1977:360)

Lewis Binford rests the importance of the use of ethnographic data in archaeology on its use in the formulation of hypotheses about ancient lifeways in regards to explanations of variability in form, structure and the functioning of cultural systems (Binford 1968:269). These explanations will, for New Archaeologists, hopefully lead to predictions of behaviour and the generation of universal laws (which I personally feel are impossible and incomprehensible).

Glynn Isaac is very unaccepting of this type of use of ethnographic data in archaeological interpretation. Isaac accounts these inferences to be uncontrolled speculation and states that "the archaeologist should firmly omit aspects of culture for which s/he can find no prospect of material evidence to use as a test of validity" (1968:260).

Archaeological materials are remnants of a specific group living in a particular locale, over a specific time period. Thus, a synchronic view of things results. Archaeologists further depend on ethnographic studies to study more diachronic

perspectives, to look at transformation, change, and process. Ethnographic data may be especially useful for very old sites where little material remains are preserved. It is generally accepted that as archaeological material and human behaviour become farther removed in time, the chances of incorrect interpretation increase (Ebert 1979:60). Thus, archaeological inference based on these materials may be merely fanciful speculation no matter if ethnographic data were employed or not.

Ethnographic data may be employed in several different ways in archaeology; these will be discussed in the section to follow.

The Types And Uses Of Ethnographic Analogy

A) Types Of Ethnographic Analogy

There are two main types of ethnographic analogy used by archaeologists today in an attempt to explain the past. The first of these involves the demonstration of cultural and temporal continuity between the past and present groups being studied. This approach is most commonly coined "the direct historical approach" (Peterson 1971:240), but has also been termed "the continuous model" (Gould 1977:372), and the "folk-culture approach" (Ascher 1961:318). This type of analogy is used primarily where history grades into archaeology, and a continuity from the prehistoric to the ethnographic can be demonstrated (such as the American Southwest, Australia). The archaeological reconstruction of the prehistoric sites in these areas often involves the use of ethnological knowledge (Chang 1967:229). The more strongly one can demonstrate both cultural continuity and conservatism between the prehistoric and ethnographic cultures in an area, the greater the probability that the analogy made in the present will be applicable to the past (Gould 1977:372).

This type of ethnographic analogy has limited applicability since there are only a few areas in the world today in which present groups are culturally continuous with past groups. There are other problems with this type of approach as well. It does not account for temporal or spatial differences or cultural change. Just because one group may be an ancestral form of another does not mean that behaviour will be exactly the same. Different factors will affect decision making, cultural practices and the like during different time situations. The last criticism I have of the direct historical approach is that archaeologists digging in these areas generally tend to take in with them preconceived notions as to what they will find on a site from the study of ethnographic data. Any hypotheses or inferences generated from these sites then will unconsciously reiterate present conditions. Often, one will look for comparisons to

present groups and will tend to overlook differences.

Peterson divides the direct historical analogy into two subtypes: the area ethnographic model and the area historic model. The former is based upon recent field work among living populations, where re-study always remains possible (Peterson 1971:240). The area historical model is based solely on written historical records and ethnographic accounts. These types of studies must be done carefully since there is ample and proven bias and incongruities in these types of records.

The second type of approach to ethnographic analogy has been termed "the general comparative analogy" by Peterson (1971:240), "the discontinuous model" by Gould (1977:371) ad the "general model" by Yellen (1977:6). This type of analogy differs from the direct historical approach in that it is carried out in areas where cultural continuity is not present and the ethnographic literature is not complete (Gould 1977:371). It is generally used to study broad models of behaviour. The model may be derived from ethnographic studies in areas in which the basic ecology, resources and technology are similar to those of the area of excavation, although there may be great temporal and spatial differences between them (Gould 1977:371). It basically comes down to the premise behind the idea of culture areas, an almost environmental deterministic notion that certain cultures living in similar environments will exploit their environments in similar ways. Anthropologists may study cultures who manipulate their environment in similar ways to make inferences about prehistoric populations. I do not feel that similarity in subsistence practices is enough to base cultural similarity on.

John Yellen also makes reference to two other uses of analogy which lay in the realm of testing archaeological inferences. The "spoiler approach" is used to judge an archaeologist's conclusions against two criteria: 1) are there other important variables that have not been taken into account? 2) are there other equally reasonable, perhaps more reasonable, models that demand attention? (Yellen 1977:8). This type of outlook in analogy can be used to challenge some of the underlying principles in the archaeological literature which are often unconsciously accepted (Yellen 1977:10).

The second further type of analogy that Yellen makes reference to is that of the "laboratory approach". This involves studying ethnographic peoples in a controlled situation so that the archaeologist may test his/her techniques (Yellen 1977:11). One can correlate activities and behaviour with material remains and in doing so can test analytical methods.

Thus it is evident that ethnographic analogy can be used in many ways by the archaeologist,

whether determining artifact function, site activities, social patterns or the like. It is also quite evident that those analogies based on some form of cultural and environmental continuity will be the most effective. However, it can only be constantly restated that analogy does not provide answers, only models, hypotheses, and ideas.

B) The Use Of Ethnographic Analogy And Ethnographic Data

If we are to study the use of ethnographic data in archaeology we must also examine the ethnographic data on its own in terms of how it is gathered and what it tells us. Most scholars believe that the study of modern populations is very direct and straightforward. Anthropological theories are based upon collected ethnographic "facts". Yet it is not without bias and oversight that ethnographic data, like any kind of data, is collected. Martin Wobst clearly states that ethnographers, like archaeologists, are restricted to certain behaviour (1978:303). He states,

> "If populations behave in certain ways to avoid or minimize, exposure to major stresses, hazards, and catastrophes, the shorter the observation period and less likely it is that ethnographers will observe the major driving variables behind the behaviours they observe." (Wobst 1978:304)

It should also be mentioned that much of ethnographic data is gathered through the use of informants. Their knowledge of human behaviour is acquired through observation and hearsay and is thus distorted to some degree. We can then say that the information field of individuals is also bounded and patterned (Wobst 1978:305). Data collection is often bias and ambiguous, as in any discipline, yet this data is used consistently to order archaeological materials. Thus, any hypotheses born out of ethnographic data will not necessarily predict what has happened in prehistoric times but will more or less regurgitate what the ethnographers have stated (Wobst 1978:303).

There is one other major problem with the ethnographic record as it stands today. Generally, anthropologists have been concerned with the social, political aspects of culture. There has been little emphasis placed on the collection of information about material goods, discard and reuse. Thus when the archaeologist turns to the ethnographic reports to attempt to learn about the material goods of a society s/he will find little information of use in interpreting archaeological sites. Archaeologists who today use ethnographic analogy clearly express their frustration with the ethnographic data in this concern and have often turned to conducting their own studies of living

peoples directed at use, discard and manufacture of material items (Gould 1971:144). These types of studies are encompassed within the wider fields of ethnoarchaeology and living archaeology.

Ethnoarchaeology can provide some valuable information since it involves the study of material culture in context, the study of an actual situation as opposed to a fabrication or simulation (Schiffer 1978:230). The behavioural gap found in archaeological materials can be filled, in a general sense, by ethnographic information. Data gathered from observing living peoples can help shape ideas about process, variability in form and function, and specific interrelationships between non-tangible aspects of culture and their material counterparts. These studies aid the archaeologist in understanding how the archaeological record is formed, and from this allows him or her to make more probable conclusions. Another important use of ethnographic studies in archaeology is the determination of the cultural significance of a particular material item. One cannot make value judgments based on empirical notions or aesthetic qualities of artifacts. It is their incorporation in socio-cultural patterns that deems them to be significant or insignificant. Peterson's study of the pestle and mortar in Arnhemland looks at the distribution of these artifacts on sites of the region. Yet he is the first to note that the critical problem in the study is "to assign to it (the mortar and pestle or artifact in general) the correct relative significance in the daily life of the past" (Peterson 1968:568).

The use of ethnographic data is also helpful to an archaeologist in making him or her aware of alternative modes of behaviour that would have been difficult to arrive at by logic alone (Gould 1978:254). Thus ethnographic information may inform on a wide range of behaviours which may result in the same material traces. Different people have different ways of doing similar things. Thus, it is accepted that a main use of ethnographic data is the formulation of hypotheses about past human behaviour. Yet if these hypotheses are arrived at through the use of ethnographic data will they not then only predict the ethnographic present? Binford notes the importance of not only formulating hypotheses from ethnographic data, but also rigorously testing them against further ethnographic and archaeological data (Binford 1968:269).

Direct ethnographic analogy can only be used in relatively few areas in the world. Certain parts of North America, Australia, and New Guinea, where traditional cultures still exist, are the best areas for these studies. However, more generalized studies can be carried out in other areas. Gould notes that "in the majority of archaeological instances a discontinuity separates the past and present—then, the best source for analogy is societies whose environmental settings are most

similar" (Gould 1977:360). Willey, on the other hand, would select cultures "on the same general level of technological development," while V. Gordon Childe advised that an analog be "drawn from the same region or ecological province" (Ascher 1961:319). The problem in many of these cases is, however, the reconstruction of the past environment, including accurate assessment of exploitation patterns, and available plant and animal species, as well as taking account of environmental changes (Yesner 1981:152).

In summary then, ethnographic knowledge may be used in certain situations if used carefully. Gould demonstrates that ethnographic knowledge can be brought to bear on at leas three different levels of archaeological research: 1) the practical level—informants may be used to locate sites, 2) on the level of specific interpretation—used to indicate function of an item, and to solve specific archaeological problems, and 3) on the level of general interpretation—in which broad interpretations of culture history are attempted (Gould 1971:177). He also notes that ethnography works best when it is site oriented (Gould 1971:177).

Support For The Use Of Ethnographic Analogy

Despite the theoretical opposition to ethnographic analogy and the limitations in its use it is still very actively being employed in archaeological inference today. There are many reasons for this continued support in the use of ethnographic data and analogy in particular.

The first and foremost reason for the use of ethnographic analogy in archaeology is the very nature of the archaeological data. As I have previously stated, the archaeological record consists of the material traces of behaviour and not the behaviour itself. Ethnographic data is used in archaeology to fill these behavioural voids in the record. Some kind of model or perspective is necessary in any archaeological interpretation if we ever plan on extending our views of the past beyond large laundry lists and empirical facts.

The second argument in the use of ethnographic analogy is that we have no other favourable or more favourable alternatives. Since Yellen and others argue that in a broad sense archaeological reconstruction is analogy with or without explicitly ethnological resource (Chang 1967:230) ethnographic analogy continues to be used. Yellen has this to say on the subject:

"It must be noted that different approaches are few and without recourse to analogy - either implicitly or explicitly—it would be difficult to make any statements about the lifeways of prehistoric hunters and gatherers." (1976:51)

Archaeologists and anthropologists also argue for the use of ethnographic data in the sense that there are many identifications and comparisons that could not be made by archaeologists without the use of informants (Yellen 1977:319). The researcher can then look at this information and make some conclusions as to where one might make incorrect inferences based on archaeological data alone (Yellen 1977:319).

Many also argue that the hunter-gatherer groups existing today offer considerable subjects for the application of ethnographic analogy.   By studying socio-cultural behaviour and correlating it with material residues one may make broad statements about the formation of the archaeological record, the interrelationships between such behaviour and material residues and in some sense the nature of early humans. There are those people who still believe that the isolated groups of hunter-gatherers today are very representative of paleolithic hunter-gatherers. Yesner, in his study of optimal foraging strategies in the Aleutian Islands states:

> "In unusual circumstances, where natural regions are set apart by physiographic barriers, and where   hunter-gatherer populations that exploited those regions prehistorically survive in situ to the ethnographic present, it may well be possible to reconstruct catchment areas with a fair degree of confidence...these conditions are met in the Aleutian Islands." (1981:149)

Ethnographic data and analogy are also adamantly employed in the formulation of hypotheses. Since this type of data includes information on behavioural realms lacking in archaeological refuse then, it seems only likely that these are to be used in building models about past lifeways. Patty Jo Watson argues that "it does not matter where these interpretive hypotheses come from; what matters is how they stand up when tested against the archaeological record" (Watson 1979:277). This statement is indeed correct since almost all models and theoretical explanations used in archaeology have been borrowed from the scientific disciplines (biology, geology, geography etc.) and other areas of study. We must then challenge the applicability of almost any type of theory in archaeology.

The ethnographic analogy is also supported for its role in testing archaeological inferences and deductive practices, as I have previously mentioned. By studying living peoples in a controlled situation, the archaeologist can determine which techniques are best suited for reconstructing non-tangible behaviour from tangible items.

Most supporters of the ethnographic analogy claim that they do not hope to get at the truth, nor will they do so, when using this technique. They are merely trying to get at ideas, possibilities of behaviour of the past (Ascher 1961:320).

Criticisms Of The Ethnographic Data

Some of the most basic criticisms of the use of ethnographic analogy stem from the fact that the method involves the use of ethnographic data. Many archaeologists argue that this type of data is inadequate to explain archaeological phenomena because of the way it is collected and presented. It has already been mentioned that the majority of ethnographic data seems to ignore material aspects of culture, their utilization and discard. Just because data is collected from living informants does not mean it is not biased, structured or idealized. Ascher also points out that there is another problem with the ethnographic data in many cases.   This problem results from the idealization of forms and the lack of description of range in variation - information which becomes very valuable to the archaeologist in interpretation. Ascher states:

> "...it is argued that ethnography is inadequate for archaeological purposes because the literature describes either "ideal types without description of range of variation" or detailed material items without behavioural correlates, or because it describes no material items i.e. no results of behaviour." (1962:360)

The fact that many ethnographic studies today are often salvage works has also brought into question the validity and incompleteness of some ethnographic works. Salvage ethnographers often, in an attempt to capture as much indigenous behaviour as possible, may inadvertently document mainly those behaviours that still differentiate the group under study from surrounding groups or western populations (Wobst 1978:304). In these types of studies there is little time to focus on broader cultural aspects such as inter-regional and regional processes. Thus, according to Wobst, ethnographic literature tends to perpetuate a "worm's eye view" of reality (1978:304).

Smith also points out, as outline in Ascher's article, that ethnographic studies have only proved that there are an incredible amount of different codes of behaviour practiced by many different groups throughout the world (Ascher 1961:322). There are insurmountable factors involved in structuring human behaviour; no one practice can be narrowed down to environmental, social, or biological factors. Thus there are not such things as cultural laws or in fact to extend this principle

further, universal hunter-gatherer characteristics. Thus there can be no direct behavioural linkages between present groups and prehistoric groups of unknown characteristics.

Two main arguments against the use of ethnographic analogy deal with disagreement with the very principles and notions upon which it is based. One of these principles, uniformitarianism, assumes that "processes which structure the ethnographic record have also structured the archaeological record" (Gould 1978:250). These types of arguments tend to rule out the role played by the individual and by free will. Gould notes that "causality in human affairs is a product of both external events and final cause, on the one hand, and free will and efficient causes on the other" (Gould 1978:250). There is no room for unique events in history within this type of theoretical framework. We must also not assume that all prehistoric patterns are the same as modern ones. Ethnographic analogy cannot inform us about prehistoric behaviour patterns that have no modern counterpart or analog (Gould 1978:254).

The second underlying assumption behind ethnographic analogy is the premise that like environmental stimuli produce like cultural responses. Although this may be true in some circumstances in a general way, it cannot account for the variability existing among all groups today. Each society has control over its actions and has some degree of control over aspects of its environment. This results in the fact that the differences in the manipulation of the same resource base by two distinct cultures is often very great (Freeman 1968:263). The biological, psychological and physiological conditions of the people involved must also be taken into account, especially when making analogies which describe prehistoric and early hominid populations, because these factors may vary greatly and also affect resource exploitation, social and cultural practices.

One of the most vocalized criticisms against the use of ethnographic analogy is the fact that it demands that prehistorians adopt the frames of reference of anthropologists who study modern populations. Archaeological data is forced into these frames of reference (Freeman 1968:262). Thus socio-cultural groups referred to ethnographically, such as tribe, band etc., are attempted to be defined archaeologically. This, however, is very difficult if not impossible to do with any surety. This method of analogy assumes then, that it is possible to derive, from the study of modern groups, elements of socio-cultural structure which are homologous with those of the prehistoric period (Freeman 1968:263). I am not at all sure that this is possible. Freeman sums this idea up very well.

"If we utilize models which are only sensitive to the elucidation of parallels with modern groups, the discovery of parameters of socio-cultural structure unique to prehistoric time periods is impossible. Unless we can discover those parameters where they exist, evidence from prehistory will contribute very little to the understanding of ranges of variation in cultural system..." (1968:262).

If we are attempting to formulate universal principles entirely from contemporary societies, then basically prehistory becomes irrelevant (Bailey 1983:3). When we insist that patterns of behaviour of the past should look like present ones, we impose a commitment on the archaeologist to reconstruct the past with the same kind of detail and accuracy as the present (Bailey 1983:3). Social anthropologists and other scholars tend to study these groups within a synchronic perspective, without allowing for the cumulative effects of change (Peterson 1971:242). Thus history is duped almost irrelevant. The past cultural processes and change have played a key role in the development of the present. Archaeology is especially concerned with the temporal aspect of its data, and thus history, largely ignored by ethnologists, plays a key role in site and artifact interpretation. Thus, as archaeology takes on a mainly diachronic perspective, how can we then apply ethnographic data from only one point in time?

When looking at criticisms of the use of ethnographic analogy we must also look at the issue of archaeological visibility. Much of what remains in the ground to be found by archaeologists is fragmentary and by no means represents a sufficient sample of the past behaviour of the group which occupied the site. It is however the only sample we have. Yet, because of this ambiguity in data, a site occupied for a short period may be interpreted as a site containing the remains of a small group. Different activity areas may be interpreted as different cultural groups. The second problem in terms of archaeological visibility is the fact that numerous sites are not preserved. Many hunter-gatherer sites for example are very small and little debitage remains. Thus any patterning in the debris from the sites may be incorrectly interpreted when the archaeologist wishes to make an analogy with modern locales. There is as well any number of analogies which can be used on any site. Depending on what initial recovered data looks like one must select from the range of analogies which offers the best solution (Ascher 1961:322). How do you go about doing this? Not all aspects, technology, subsistence, socio-cultural etc., will inform or infer one congruent group (e.g. hunter-gatherer, agriculturalist, herder). On which criteria then, do you make your analogy? Since technological aspects are those most commonly found on sites, can you merely deduce cultural

similarities from these concrete items? Once you have an aspect of technology, how do you go about assigning its proper significance in the life of the prehistoric people? I would question any analogies based on technology alone which attempt to infer complex cultural behaviour.

Obviously there are some problems with analogy when used to make some broad cultural interpretations. There are other problems with analogy which will be best explained and identified in association with hunter-gatherer studies.

Hunter-Gatherers And The Ethnographic Analogy

There has been a tendency in archaeological investigations using ethnographic analogy to focus on modern hunting and gathering groups. The majority of ethnographic analogies focus on comparing modern socio-cultural factors with prehistoric ones.

There are many reasons for this focus on hunting and gathering groups. The first reason for the emphasis on foraging groups has been the notion that modern hunter-gatherers are survivors of a prehistoric way of life. This notion stems from the general Darwinian evolutionary theory. Thus contemporary groups were viewed as "living fossils" surviving from remote periods in time. These rather Eurocentric notions assume that a simplicity in subsistence and technology represent a lower, less developed cultural form. Because hunter-gatherer technologies, for the most part, are very simple, unsophisticated and easily applied, one has a tendency to view this as a measure of cultural complexity. I would argue however, that this technology does not represent a lower form, but is supplemented by the vast amount of knowledge a people have of their environment and their close association with it. The Bushmen of the Kalahari, for example, have a relatively simple tool kit used for hunting, composed mainly of hafted spears and arrows. I would argue that these tools are all that is required for the actual killing of the animals that they hunt. Because of their constant mobility, more sophisticated, cumbersome tools are less appropriate, and unnecessary. The vast knowledge of animal behaviour these people have accumulated over thousands of years serves to be their most effective and important "tool" in hunting. Thus, although unreliable at certain times, this type of subsistence and technological adaptation to their environment has proved highly successful. I believe that even though technological forms may be less sophisticated than Western ones, this does not reflect cultural primitiveness.

Anthropologists are the first to argue that culture, technology and knowledge are all in fact cumulative over time. Yet, ethnographic analogy seems to disregard this fact. The knowledge these people hold today is the result of a long history of adaptation to one specific environmental setting. New adaptations have resulted from competition for resources, increased specialization, and utilization of specific resources (Freeman 1968:264). Change may not have occurred in great bounds and leaps but more in terms of adaptive efficiency. Therefore, we cannot say that modern hunter-gatherers are identical in form to primitive, prehistoric humans. They exist today as a cultural group developed over a long period of change, and history.

Another reason why archaeologists tend to focus on hunter-gatherer groups when using ethnographic analogy is that these groups interact very closely with their environment, as prehistoric peoples did also. The subsistence base of modern hunter-gatherers is reduced to wild plant and animal species. This type of situation resembles that of prehistoric populations. However, we cannot claim that the subsistence base, in terms of specific species, was the same for all hunting-gathering groups, nor can we say that the subsistence base for a single groups did not change over time. Techniques for exploitation of these species varied through time and from group to group.

Hunter-gatherer groups of today cannot be viewed as occupying similar environments as prehistoric groups. Today, with the encroachment of agriculturists and Westerners onto traditional lands, hunter-gatherers have been forced to occupy marginal environmental zones. Prehistoric peoples tended to focus on more lush areas; those which contained ample amounts of desired plant and animal species. The hunting and wandering range of more prehistoric peoples would then be much larger than that of modern hunter-gatherer groups who are restricted by governmental boundaries, European settlements and agricultural lands. Although it is true that prehistoric populations did hunt and gather, we have not sufficiently proved archaeologically that the complex seasonality, central place foraging and food-sharing systems evident in modern hunting ad gathering groups existed prehistorically. We cannot assume that prehistoric foraging behaviour was of the same level of organization as modern hunter-gatherers in terms of planning depth, scheduling, subsistence activity and foraging flexibility (Foley 1988:215). Also, where hunter-gatherers exist in or near agricultural areas, they have had to specialize in the extraction of kinds of resources least affected by food production. Thus, they must be unrepresentative of the sorts of hunting-gathering adaptations that existed before the advent of food production (Freeman 1968:246).

Since the population of traditional hunter-gatherer lands by Westerners, Europeans and agriculturists, modern groups have come into contact with groups other than their own.

Acculturation has taken place in varying degrees in almost all hunter-gatherer groups throughout the world. Since the use of ethnographic analogy has become popular in archaeological research, pristine aboriginal societies have ceased to exist (Peterson 1971:242). Therefore, most modern groups can no longer by considered as "typical" hunter-gatherers. Clark states that:

> "Most of the hunter-gatherer groups existing today are living in some of the least favourable habitats and have for long been in contact with more complex societies and technologies. They can, therefore, no longer be considered typical or useful for any direct comparison with prehistoric populations of optimal and favourable, or even of the marginal, ecological zones."
> (1968:280)

Geoff Bailey adds to this in saying that the patterns of behaviour that one might observe ethnographically today may have been influenced by contact with colonizing cultures (Bailey 1983:4). Schrire even goes to the extent that the !Kung may have been farmers who switched to hunting and gathering when they were forced into marginal environments by the encroaching agriculturists (Bailey 1983:4). Thus environmental exploitative zones have been delineated by agricultural boundaries and species have been limited to those not consumed by colonizing groups. Hunter-gatherer groups might also alter their regional migratory patterns in order to make contacts with village settlements to participate in trade relations. More acculturated groups may actually live on colonized settlements for certain periods of time. Permanent water holes, in the case of the Bushmen, located on these settlements, sometimes influence a band's decision to travel there.

One cannot assume, when using ethnographic analogy, that even though subsistence systems and environmental conditions may appear to be archaeologically similar to present ones, that modern and prehistoric groups were culturally similar. Even in cases where biological similarity between past and present groups has been demonstrated, as in the case of the San of South Africa, cultural similarities may not apply. Yellen notes some interesting research which has lent support to the notion that present day San inhabitants of South Africa are direct descendants of Late Stone Age hunter-gatherers in the region (Yellen 1977:5). It is very striking however, that when one attempts a cultural comparison of the same groups, through archaeological evidence and the like, results show a great deal of disparity between the two groups.

"Evidence from rock paintings in Rhodesia and in South Africa reveal aspects of prehistoric San culture—communal game drives and the use of masks and animal disguises for example, which have no modern counterparts. In fact, this style of painting is unknown today. (Yellen 1977:5)

Thus, there are many aspects of the archaeological record that have no modern counterpart.

We must also look at, once again, the problem of the archaeological visibility of hunter-gatherer sites. If we are to correlate modern behaviour with past archaeological sites we need a representative sample of all types of activities and behaviours. We do not get this from the archaeological record of hunter-gatherers simply due to the preservation of these sites. Perishable materials are swept away, decomposed or later consumed by predators and scavengers. The mobility of hunter-gatherers lends to numerous amounts of small sites which would be difficult to find, if they are preserved at all. Thus the sample of sites is very skewed and any inferences using only this sample are dangerously biased. Without the whole range of sites, variation in seasonality and movement, one cannot make any accurate statements about past behaviour systems.

Ethnographic analogy has been in utilized in basic studies of hunter-gatherer economies. This is the factor that prehistoric and modern groups have in common: both hunted wild animals and gathered locally available plant species. Yet, although this broad generalization may be true, we can by no means equate the two types of economies. There are too many factors involved, most of which we do not have concrete evidence of. Thus, any analogy based on modern hunter-gatherer populations is at most questionable and unprovable.

Summary And Conclusions

Scholars have been interested in the study of modern hunter-gatherers as it is assumed that they are survivors of a prehistoric way of life and are thus, "living fossils." Archaeologists particularly study these groups in an attempt to derive the behavioural realms of the culture of prehistoric peoples, which is indeed lacking because of the nature of their data. Archaeologists are dependent upon some type of model or analogy to discuss behavioural realms since only tangible aspects, mainly technological, remain on prehistoric sites. A fairly commonly used method of deriving cultural information is the ethnographic analogy.

There are many problems involved in the use of ethnographic analogy. Basically, these problems lie in the various underlying uniformitarian, environmental-deterministic notions upon which the notion of analogy is based.

These types of analogies may prove successful in only limited circumstances where cultural continuity is demonstrated. The most valid types of analogy are those that use the direct historical approach to determine artifact function.

Thus, it appears that there is no solution found in the ethnographic analogy that solves the archaeologists problems of insufficient behavioural data. So it appears that we are:

"..confronted with a paradox or conundrum in that the only way we can comprehend the past is via our knowledge of the present, but the past is, of course, not necessarily isomorphic with the present and in fact, probably differs in many significant ways from the present." (Watson 1979:286)

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