Subject: Anthropology

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Paper No. : 03 Archaeological Anthropology
Module : 04 Ethnoarchaeology

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Description of Module	
Subject Name	Anthropology
Paper Name	03 Archaeological Anthropology
Module Name/Title	Ethnoarchaeology
Module Id	04

1. Ethnoarchaeology: Genesis and History of Development

Ethnoarchaeology, an amalgamation of two disciplines - archaeology and ethnography - gained its general acceptance since the latter part of the 1970s as a research framework of *new archaeology*. However, it has a long history of beginning. Though the term "ethnoarchaeology" itself first appears at the end of the 19th Century (Fewkes, 1900), its genesis is coincident with the growing interest of early ethnographers and archaeologists as well, in whose studies reflect interpretation of archaeological phenomena through ethnographic data, particularly the material culture. Jesse Walter Fewkes (1900: 578-79) who worked among the Hopi in the American Southwest investigating the organization of early twentieth century Native American societies, was the first person to designate himself as an 'ethnoarchaeologist'. Many earlier works (Cushing 1886, Holmes 1886, Kroeber 1916, Guthe 1925, Colton 1939, DiPeso 1950, to name a few), however, paved a firm foundation of developing ethnoarchaeology as an important sub-discipline of archaeology. And its first academic venture begins with the use of ethnographic data to interpret archaeological remains (Grayson, 1986; Heizer, 1962). Earlier works by Cushing and Fewkes on American Indians have seen use of ethnographic present to look back to the prehistoric past. The earliest concept of the use of ethnographic information in archaeology may traced back as early as the seventeenth century where ethnographic information was used as an evidence that *ceraunia* (*pierres de foudre* or *thunderstones*) were actually implements made by man. De Jussieu's (1723: 6) attempt to make comparison of prehistoric stone tools found in France with similar forms still in use at that time in the New World was one of the earliest works of the uses of the ethnographic analogy in interpreting and explaining the formers use. This was generally made on a general conception that contemporary societies with simple technologies (they usually referred as primitive society) have analogies with the past in many respects and thus the former are the valid models of the latter, particularly in interpreting the prehistoric objects' function against those of the living primitive ones having similar morphologies. With the development of ethnographic works in the latter part of the nineteenth century by professional ethnographers like Morgan, Tylor, Spencer and others, use of ethnographic parallelism by archaeologists increased to explain archaeological data. It can be recalled that the work among the Wik Mungkan Aborigines of northeast Queensland, Australia by D.F. Thompson (1939) is one of the pioneer systematic ethnoarchaeological work. His work was on ethnography from an archaeological perspective.

In the 1940's, Steward's (1942) concept of 'direct-historical approach' had able to inseminate yet another interest in ethnography by archaeologists in America and Australia. And also 1950's witnessed serious academic discussion of the use of ethnographic analogy in archaeology, and mention may be made of European prehistorians as Grahame Clark (1952) and V. Gordon Childe (1956) among others. The debate was with a strong contention that there may not be validity in the use of ethnographic analogies in archaeology because there could be no logical connexion between the behaviour of present

day people and the prehistoric past. The concept of 'action archaeology' (Kleindienst and Watson, 1956) is another facet of development of ethnoarchaeology, which proposes to study living communities in order to compile inventories of material of interest to archaeologists. During the *formative period* of ethnoarchaeology, Ascher's (1961) contribution on history and development of ethnographic analogy and some of the issues pertaining to theory and method concerning with its use are worth mentioning.

2. Defining Ethnoarchaeology:

Ethnoarchaeology is commonly defined as the study of relationships between human behavior and its archaeological consequences in the present. Here, one can see the basic use of ethnographic data as a basis for interpretation of archaeological data. And many also offered the use of the term ethnoarchaeology to the conditions of the actual field study. Thus, Richard Gould (1968) used the term 'living archaeology' in lieu of ethnoarchaeology '. . . not as a new kind of ethnoarchaeology, nor . . . as an alternative to ethnoarchaeology' but 'simply ethnoarchaeology in the active voice' (P. x). He later define ethnoarchaeology as -

". . . the actual effort made by an archaeologist or ethnographer to do fieldwork in living human societies, with special reference to the 'archaeological' patterning of the behaviour in those societies. Ethnoarchaeology, as I see it, refers to a much broader general framework for comparing ethnographic and archaeological patterning . . . Thus ethnoarchaeology may include studies of 'living archaeology' along with other approaches as well" (Gould, I974).

Daniel Stiles (1977), on the other hand, refers ethnoarchaeology as 'archaeological ethnography' which seeks to explain as the framework for comparing ethnographic and archaeological data. Oswalt (1974:3) define it as 'the study, from an archaeological perspective, of material culture based on verbal information about artifacts obtained from persons, or their direct descendants, who were involved with the production'. Stanislawski (1974: I8) sees ethnoarchaeology as 'the direct observation field study of the form, manufacture, distribution, meaning, and use of artifacts and their institutional setting and social unit correlates among living, non-industrial peoples for the purpose of constructing better explanatory models to aid archaeological analogy and inference.' P.V.Kirch (1978) refers ethnoarchaeology as 'the study of contemporary behaviour in order to draw inferences concerning patterns of extinct behaviour', whereas Tringham (1978) defines it as 'the structure of a series of observations on behavioural patterns of living societies which are designed to answer archaeologically oriented questions'. According to Orme (1981: 22-23) 'ethnoarchaeology is the study of living communities from the point of view of archaeological evidence that they will leave and the behaviour that it represented, in the living group, an attempt, in fact, to establish the link between behaviour and its material results . . .'

3. Goal and Objective:

Interpreting and explaining tangible residues from archaeological contexts in terms of the *authors'* behaviour through the lens of ethnographic information is the main task of ethnoarchaeology. Mainly three important goals of this subdiscipline may be identified, such as, a) to identify and explain patterns in relationships between human behavior and its archaeological consequences in the present (O'Connell 1995), b) to provide ethnographic data and explications of those data that are of direct relevance to the interpretation of archaeological materials and to model-building in archaeological practice (Donnan and Clewlow, 1974; Kramer, 1979, 1985; Schiffer, 1978; Schwartz, 1978, etc), and c) to document patterns in the ongoing society in order to reconstruct past behaviours from their extant material remnants (Rathje, 1978:49).

According to some archaeologists (Arnold 2000, Stark 2003, Stark *et.al.*2000) ethnoarchaeological studies aim to test analytical tools or to assess the different factors that can affect material culture (Bowser 2000, 2005; David *et al.,* 1988; Gosselain and Livingstone Smith 2005; Kramer 1997; Lemonnier 1993; Longacre 1991; Pétrequin and Pétrequin 1993).

The main objective of ethnoarchaeology lies with the fact that how the ethnographic data can be fruitfully used in understanding and interpreting insights of the past human behaviour. This has a significant reference to the application of knowledge of relationship between human behavior and its archaeological consequences in the present. One of the objectives of ethnoarchaeology, according to Carol Kramer (1979, 1982) is 'to improve understanding of the relationship between patterned behaviour and elements of materials that may be preserved in the archaeological record'. Ethnoarchaeology, in essence, aims at the 'acquisition of ethnographic data to assist archaeological interpretation' (Politis 2007: 58) and mainly endeavours to establish 'relationships between human behavior and its archaeological consequences in the present (O'Connell 1995). Obviously, ethnoarchaeologists are yet to expound their range of inferences drawn about the past behavior from towards making accuracy of archaeological interpretations.

4. Research Tool:

In general, ethnoarchaeology is viewed as a research strategy rather than a "self-contained discipline" (Krause, 1999:559) and as a tool for developing middle-range theory (Kosso, 1991; 625). Ethnoarchaeological study can be done either, a) 'by collecting ethnographic data from communities living near the archaeological sites under investigation, or b) from societies that, owing to their perceived "premodern" way of life, were deemed appropriate to be compared with archaeological contexts' (Hamilakis, 2011).

Since long back many have favoured the utilization of ethnographic data in archaeological interpretation on the conception that there exists continuity between the prehistoric past and the ethnographic present and that 'man in the past was not unlike primitive man studied by the anthropologists' (Orme, 1981:15). Hence, ethnographic information can be employed in interpreting archaeological data with the use of analogy (Spaulding, 1973; Stanislawski, 1978; Stiles, 1977; Gould, 1980; etc.). This ethnographic parallelism is the basic research tool of this subdiscipline which rests its foundation on the *principle of uniformitarianism* that is, 'the present is the key to the past' (Hester and Grady 1982:14) - a heraldic principle in stratigraphic geology. Ethnographic analogy, also called 'applied ethnoarchaeological principle' (Agorsah, 1990), is an important device within the ethnoarchaeological framework that can make the 'mute' archaeological finds speak (Peregrine 2001).

Ethnographic analogy or *parallelism* is thus based on this principle and on the presupposition that 'any attempt by archaeologists to understand past human adaptation from analogies of present -day adaptations, however, similar in appearance . . . are similar' (Gould, 1980:32). In essence, 'the use of analogy in interpreting archaeological evidence' is ethnoarchaeology (Lynton, 1984: 63). While describing the relationship of archaeology and ethnography, Kluckhohn (1975:46) states that 'archaeology is the ethnography and culture history of past peoples', and its cornerstone is analogy ' (*and*) . . . every archaeological reconstruction is analogy based upon a number of . . . presumptions and assumptions' (*ibid*.).

Analogy is the transportation of information from one subject to another on the basis of some relation of comparability between them (Umeov, 1970; Wylie, 1980). To the archaeological pertinence, K.C. Chang (1967:229) refers to analogy as 'the principal theoretical apparatus by which an archaeologists benefits from ethnological knowledge' which is opposed by Lewis Binford (1967:235). Ascher (1961:317) elucidates it as 'assaying any belief about non-observed behaviour by referral to observed behaviour which is thought to be relevant'. The development of more specialized approaches to archaeological interpretation through analogy started from the turn of the 20th century.

Different types of analogy are, however, known in the domain of ethnoarchaeology. They according to their proponents, can be grouped into *two* broad types, such as 'general comparative' and 'direct-historical' analogies (Paterson, 1971); 'discontinuous' and 'continuous' analogies (Gould, 1974); 'formal' and 'relational' analogies (Hodder, 1982). The 'new analogy' is the lone type of ethnographic analogy proposed by Ascher (1961). The 'general comparative' (Willey, 1953:229) analogy is based on the correlations between artifacts and behaviour associated with them on a cross-cultural basis. The 'direct historical' analogy is done through the procedure referred to as the 'direct historical approach' in the New world (Steward, 1942), and the 'folk culture approach 'in the Old world (Clark, 1951) which are 'based on a demonstrable continuity from the prehistoric to the ethnographic' (Paterson,

op.cit.). The *'discontinuous*' analogy furnishes 'models of cultural adaptation that arise in areas that are widely separated in time and/or space yet possess essentially similar ecological and environmental characteristics' (Gould, *op.cit.34*). Yellen (*1974*), however, referred to this type of analogy as 'buckshot' method if proper boundaries are not defined. Richard Gould's (*loc.cit.*) second type of analogy, the 'continuous', is akin to the 'direct historical' one which aims at the linking of ' the prehistoric adaptation being studied by the archaeologist, . . . stratigraphically and historically in the unbroken sequence to the historic cultural adaptations in the same area (and*)* Even if changes had occured during the cultural sequence in question, the idea was that these could be explained in relation to the environmental changes observed within the same sequence' *(ibid, 35)*. This approach, hence, 'is used to justify the assumption that the relation between form and function in the ethnographic situation was directly analogous to the relation between form and function in the archaeological situation' (Tringham, *1978: 187*). This kind of analogy is the most widespread and most confidently used method in ethnoarchaeological studies (*ibid.*). Ian Hodder's (1982:16) 'formal' analogy is based on the assumption that 'if two objects or situations have some common properties, they probably also have other similarities'. The 'relational' one 'seek(s) to determine some natural or cultural link between the different aspects in the analogy' (*ibid.*). The 'new analogy' refers to the analogies in cultures which manipulate similar environments in similar ways' (Ascher, 1961:319). It can be asserted that the 'general comparative' kind of analogy is comparable with Gould's (*op.cit.*) 'discontinuous' and Ian Hodder's (*op.cit.*) 'formal' ones. On the other hand, the 'direct historical' analogy is contextually similar to Gould's (*op.cit.*) 'continuous' analogy. An analogy should not be used simply to explain data, but, as felt by Binford (1972), to establish a series of inferences based upon the similarity of relations between the analogues. His basic guidelines for selecting analogues are that 'the more comprehensive the positive analogy and the less comprehensive the inferred properties, the more likely (that) the conclusion is true' (p.35). But, while making comparisons between the traits or attributes of traits which occur at different space and time, three distinct kinds of occurrences usually come up, phylogenetic relationship, diffusional continuum, or independent parallelism (Service, 1964:356).

Kinds of analogy used in ethnoarchaeology:

1.General Comparative approach (Willey 1953) – based on the correlations between artifacts and behaviour associated with them on a cross-cultural basis.	2. **Direct Historical** approach (Steward1942) - or, "**Folk Culture**" approach (Clark 1951) 'based on a demonstrable continuity from the prehistoric to the ethnographic' (Paterson, *op.cit.*).
OR, *'Discontinuous*' **analogy** (Gould 1974) - It furnishes 'models of cultural adaptation	OR, *'Continuous*' **analogy** (Gould 1974)

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that arise in areas that are widely separated in time and/or space yet possess essentially similar ecological and environmental characteristics' (Gould, *op.cit.34*).	- aims at the linking 'the prehistoric adaptation being studied by the archaeologist, . . . stratigraphically and historically in the unbroken sequence to the historic cultural adaptations in the same area.
OR, **'Formal' analogy** (Ian Hodder, 1982:16) - is based on the assumption that 'if two objects or situations have some common properties, they probably also have other similarities'.	**OR,** **'Relational' analogy** (Ian Hodder,1982:16) - 'seek(s) to determine some natural or cultural link between the different aspects in the analogy' (*ibid*.). The **'new analogy** 'refers to the analogies in cultures which manipulate similar environments in similar ways' (Ascher, 1961:319).

Most discussions of ethnographic analogy, in spirit, may be distinguished with *source-side* and *subject-side* aspects of these analogies (e.g., David and Kramer 2001; Stahl 1993a; Wylie 1985, 1988, 1989). Here, "Source-side issues concern how we select and establish the relevance of particular analogues (including actualistic and ethnoarchaeological research) (Stahl 1993), and Subject-side concerns focus on how we apply analogical models to archaeological contexts" (*ibid*.).

5. Research Design

One should be aware 'that ethnographic research by an archaeologist does not as a matter of course turn into ethnoarchaeology' (Agorsah 1990:193) and requires ethnoarchaeological research process being the only 'tool that can help obtain a better use of analogy linking the past and the present' (*ibid*.). Proper planning with appropriate research design besides addressing issues contended in the archaeological literature are the basic requirements of a successful ethnoarchaeological research. Besides, a key issue is with the duration of work with the community, where 'long-term fieldwork is preferable to brief visits, for only the former affords a researcher the possibility of observing variation within a particular community' (London 2000:6).

Proposing a seven-stage research design, Agorsah (1990) emphasized the applicability of the design cross-culturally also. The seven stages are: 1) Perception of research, 2) Hypothesis formulation, 3) Test implications, 4) Test of hypothesis, 5) Analysis of data, 6) Generalization, and 7) Alternative question-development and cross-cultural comparisons. Each of the stages of the proposed design is related directly or indirectly to other stages.

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6. Ethnoarchaeology and Archaeological Theory

Different ethnoarchaeological research perspectives are developed with the changing theoretical paradigms of archaeology. The broad theoretical trends of archaeological theories, such as, *processualism* of 60s and *postprocessualism* of 80s revealed two different perspectives of ethnoarchaeological research. It is seen that the development and expansion of ethnoarchaeology parallels the rise of processualism, beginning with the New Archaeology of the 1960's (Binford 1962; Binford and Binford 1968; Clarke 1968). New archaeologists' ethnoarchaeological work mainly concerns with the ecological and economic aspects of human behavior that are most amenable to scientific testing and thus its application to the archaeological record. Their research aim is to generate cross-cultural generalizations about human behavior, concerning more with explanation of the human past using controlled variables, quantitative methods and hypothesis testing. The use contemporary human societies as laboratories for the generation of hypotheses to be tested against the archaeological record are the main goal of processual ethnoarchaeological research.

With the development and application of middle-range theory to ethnoarchaeological research framework, Lewis Binford, the main proponent of new archaeology, aims at determining - a) how we get from contemporary facts to statements about the past, and b) how we convert the observationally static facts of the archaeological record to statements of dynamics. Thus, a fundamental challenge addressed by ethnoarchaeology is linking the dynamic behaviors of contemporary peoples to the static material products created by those behaviors. The goal of processual ethnoarchaeological research is to use contemporary human societies as laboratories for the generation of hypotheses to be tested against the archaeological record. Mention may be made of early processual ethnoarchaeological research work done by Gould (1971- the Australian Western Desert Aborigines), Yellen (1977- the Dobe !Kung), Binford (1978 - the Nunamiut Eskimo), Watson (1979 - Laki farmers in Western Iran).

Postprocessualists who view questions of human behavior from a perspective of social sciences or humanities than with the natural sciences (favored by processualism) are generally more interested in context-specific principles, symbols, and interpretations than with cross-cultural processes with scientific fundaments (Hodder, 1982, 1986, 1991). While undergoing ethnoarchaeological research within the postprocessual perspective a number theoretical variable arises, and it is stated that it is nearly impossible to briefly characterize postprocessual ethnoarchaeology beyond a shared emphasis on 'exploring the symbolic dimensions of material culture' (David and Kramer 2001:54). *Material culture studies*, however, try to explore 'how people construct their material worlds … Rather than an adaptive response, culture and material culture are understood in relation to meaning" (Cunningham 2003:398) and these approaches are more in line with the postprocessual core universals of cultural and historical processes (*ibid.*). Hodder's (1982) *Symbols in Action* is a monumental book of

postprocessual approach mainly dealing with the symbolism in material culture. His postprocessual ethnoarchaeological research works among the pastoralists in the Baringo region (north central Kenya), Dorobo hunter-gatherers and Samburu pastoralists (of the Leroghi Plateau, Kenya), Lozi farmers (Zambia) and Nuba farmers (Sudan) are the bold ventures in exploring the nature of material culture in living contexts.

One of Ian Hodder's (1982:160) arguments regarding the difficulty faced by postprocessualists in reconstructing appropriate meaning from archaeological evidence owes to the lack of frames of relevant models for interpretation, and is not a result of limited data. His strong contention is that material culture is not an adaptive response, or a passive reflection of economic aspects of life, but is 'meaningfully constituted one' in an ideological context. Some of the remarkable postprocessual ethnoarchaeological research works was that of Miller's ceramic ethnoarchaeology (Dangwara, India), David *et al.'s* (1988) material culture study of ceramics among Mafa and Bulahay horticulturalists (northern Cameroon).