Between the Visible and the Invisible: Decoding Material Culture

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I have divided this paper into three sections: first I would discuss what constitutes material culture as a discipline; then I would elaborate materiality and the process of objectification; and in the third and the last section I would discuss different theories and methods of interpreting material culture in archaeology and anthropology.

Ι

Fixing the boundaries of material culture studies has been a difficult task because the term - 'Material' is capable of a range of definitions, some of them are very broad like 'Object', 'thing' and 'artefact'. Material culture studies constitute a developing field of enquiry, which are not bound by established disciplinary boundaries. Material objects have rarely been in focus of attention in and for themselves. They have been primarily studied for the insights they may provide into human social and cultural worlds. The field of material culture studies is concerned with the relationship between artefacts and social relations irrespective of time and space. It aims to explore systematically the linkage between the constitution of social reality, material culture production, and use. James Deetz probably has given the best definition of material culture, "Material culture is that segment of man's physical environment which is purposely shaped by him according to a culturally dictated plan" (Deetz 7).

Personal, social and cultural identity is embodied in our persons and objectified in our things. Through the things we can understand ourselves and others because these things are the very medium through which we make and know ourselves. The meanings and significance of things for people are part and parcel of their lives. To use a phenomenological description of this process: we touch the things and the things simultaneously touch us. The relationship is reciprocal. Object and subject are

indelibly conjoined in a dialectical relationship. In our study of material culture we have to be sensitive and be cautious enough to look for the full range of qualities that are there in a single thing, so that we could understand and find a deeper meaning when we put it in its context. All material culture conveys social meanings and the production of meanings is a process that depends as much on the reader and reader's context as on producers. Material culture plays a fundamentally different constitutive role than texts and language. Things do far more than just speak and express meanings (Joerges 224). A recent trend in anthropological studies of material culture is how artefacts, primarily consumer goods, are playing a role in social and individual self creation. This and related approaches to modern material culture within anthropology, cultural studies, sociology and other disciplines have produced a wealth of knowledge.

Π

'Object' is a category that in its fullest scope is abstract and far-reaching than the word is ordinarily understood in a material sense. Material things retain an unpredictable range of latent possibilities. Objectification, considered in the most common way, is a concept that provides a particular way of understanding the relationship between subjects and objects, which is the central concern of material culture studies. It attempts to overcome the dualism in modern empiricist thought in which subjects and objects are regarded as utterly different and opposed entities, respectively human and non-human, living and inert, active and passive, and so on. Through making, using, exchanging, consuming, interacting and living with things people make themselves in the process. The object world is thus absolutely central to an understanding of the identities

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of individual persons and societies. To quote from *Pratyabhijanahridayam* of *Kshemraja*, (Sutra 3) where he describes 'perception' he writes:

Tann n' anurk pa gr hya gr hakabhed ta // 3//

That (i.e. the universe) is manifold because of the differentiation of reciprocally adapted (anurūpa) object (grāhya) and subjects (grāhaka).

Without the things - material culture - we could neither be ourselves nor know ourselves. Material culture is thus inseparable from culture and human society. Culture and material culture are related dialectically, in a constant process of being and becoming: processual in nature rather than static or fixed entities. Persons and things, in dynamic relation, are constitutive of human culture in general, societies and communities in particular, and in the agency of groups and individuals. In Spanda-nirṇaya and Kārikās there is a mention of 'yasmātasarvamayö jīvah sarvabhāvasamudvāt' i.e. the limited individual self is identical with the whole universe. Ideas, values and social relations do not exist prior to culture forms which then become merely passive reflections of them, but are themselves actively created through the processes in which these forms themselves come into being.

Thus material forms do not simply mirror pre-existing social distinctions, sets of ideas or symbolic systems. They are instead the very medium through which these values, ideas and social distinctions are constantly reproduced and legitimised, or transformed. The meaning and significance of things for people are part and parcel of their lives. To use a phenomenological description of this process: we touch the things and the things simultaneously touch us. The relationship is reciprocal. Object and subject are indelibly conjoined in a dialectical relationship. They form part of each other while not collapsing into or being subsumed into the other. Subject and object are both the same, yet different. The ontological relationship between the two embodies this contradiction or ambiguity: same and different, constituted and constituting. Personal, social and cultural identity is embodied in our persons and objectified in our things. Through the things we can understand ourselves and others, not because they are externalisations of ourselves or others, reflecting something prior and more basic in our consciousness or social relations but because these things are the very medium through which we make and know ourselves.

Through critical viewing of objects we realise that objects are a means of communication. Taken collectively, the objects serve as reflection of culture, an expression of

human values. Much of our past exists in objects around us and these non-verbal records are an expression of the society that produced them and used them. In viewing artefacts, we can connect ourselves across time and place with those people and their pattern of life. It is difficult to adequately convey the intricacies of 'decoding' material culture especially so if these are from different culture (ethnographic) or time (archaeological).

The assertion that art 'communicates' is one that is very commonly made about painting, sculpture and other visual art forms in both Western and tribal societies. But establishing with any degree of certainty what a particular painting or sculpture might 'say' about the society which produces it is no easy matter. And teasing the 'meaning' out of art objects is made all the more difficult by the fact that artists generally (including writers and composers) typically show reluctance in translating into ordinary discourse what their creation are 'about' – something that has been noted since at least the time of Plato [Tredennick 1984). This reluctance on the part of the artist to interpret what he has created for the benefit of an observer means that when the anthropologist sets out to enquire into the 'meaning' of a particular visual art-form, more often than not he or she is confronted by a seemingly insurmountable wall of silence. It is largely for this reason, I believe, that so much of the anthropological literature on art is distinguished more by what it does not say than by what it does. Having said this, I would like to add that plastic art-forms can be seen to communicate significant information about the societies that produce them – as information is expressed in somewhat different ways in many other contexts like: in myth, ritual and so on.

Meaning in object is threefold (Hodder 1987):

- 1. Objects have use value through their effect on the world: this is the significance which is held for a functionalist, materialistic or utilitarian perspective (these words I would say are synonymous);
- 2. Objects have structural or coded meanings, which they communicate: this is their symbolic meaning;
- 3. Finally, objects have meaningful interest through their past associations: this is their historical meaning.

Through the ages, Indian society has constructed expressions and symbols culminating in speech and imagery to define the 'other'. Since there is always a concern for human expressiveness Chinmoy Goswami (37) writes that: "The point that emerges is that expressiveness presupposes another while understanding generates the notion of a self. This selfing, bringing other

into one's own 'fold', is an essential feature of any understanding while othering of the self makes expressiveness possible. There is a dual process in operation – objectifying the subject for expressiveness – while subjectifying the object for understanding".

Ш

In the recent past we have witnessed the blurring of the boundaries of 'literary text' (Ricoeur, 1981) the broadening of definition of 'text' for example, which is no longer a piece of writing on a paper or stone. Any meaningful action can be considered as a text (Ricoeur 1984). The so called "linguistic turn" in the social sciences has shown how we give meaning to the world, which is multiply coded and multidimensional in material culture. According to many scholars like Barthes (1977) Butler (1981) the text is a fluid construct. It refers to socio-cultural events at which persons read and interpret meaning. Meaning is created or interpreted with the text rather than extracted from something inherent in it.

Meaning in material culture is always provisional and contextual in nature, which needs to be reread and reinterpreted. Proper understanding of material culture can lead to an altered paradigm of connectedness, which alone can bring meaning in life. Studies of material culture, both archaeological and ethnographic, have undergone a profound transformation during the past twenty years and may now be claimed to be one of the most dynamic and innovatory areas of research in social sciences. In Paul Ricoeur's version of hermeneutics one finds that material culture is a social creation and understanding its meaning is an act of translation. Like all other social phenomena material culture also poses problems of interpretation.

An analysis of context enables us to reconstruct the 'life history' of an artefact or structure, which in turn helps to define how the artefact or structure was used and the purposes of the agents who made and used it. Agentcentred approaches are founded on the premise of social heterogeneity, which can only be identified through variation in material culture. Therefore, agent-oriented researches are predisposed to seek out variations and to explore its meaning. Variation implies choice. Variation also enables the researcher to gauge the degree of social conformity demanded by past societies. Technology is one of the social processes by which individuals negotiate and define their identities, in terms of gender, age, belief, class and so on. Sometimes these actions may be explicitly formulated; more often than not they are habitual and tacit. In its very essence therefore technical action parallels social action, and should be understood as social agency.

Construction of meaning is always a social practice, and there is a need for understanding the relationship between 'our' and 'their' meanings. Material-culture meaning does not work in a language – like way where relation between signifier (symbol) and signified (concept) are almost always arbitrary. Meaning in material culture are entirely relational, always provisional and local and somewhat fluid. They can always be reread and reinterpreted.

Archaeology is a mediation of past, present and future. It is a social practice that involves a temporal mode of presencing, uniting and yet holding apart past, present and future, constituting each other in their difference (Shanks and Tilley 1987). Both the disciplines of archaeology and anthropology go through a dialectical process of the interpretation of data binding it to theory. A dialectical approach involves three conceptions:

- 1. a mode of theoretical appropriation of data
- 2. a method of analysis and criticism transending subject/object divisions
- 3. a theory of social reality as a set of internally connected relations

The meaning comes into being through understanding. Objects have use value through their effect on the world: this is the significance which are held for a functionalist, materialistic perspective. Objects have structural or coded meanings, which they communicate and are to be read by us: this is their symbolic meaning. The archaeologists must approach all questions about the past by understanding symbolic meanings, which have their origins in particular historical processes of assigning conventional meanings to material signs. Finally, objects have meaningful interest through their past associations: their historical meaning. A search for patterns in stylistic behaviour and use of the comparative method to understand such patterns in economic, social and ideological contexts is a fascinating process. Function is one kind of meaning that the objects have, and this is most often interesting and accessible to archaeologists and anthropologists.

We are well aware of the arrow of time: man's present becomes past and stays with him as memory or tradition (*Parampara*) and the future becomes present. With the first perception, we feel an uninterrupted series of continuity and with the second, there is a sense of constant shift or open-endedness. Archaeology is a mediation of past, present and future. It is a social practice that involves a temporal mode of *presencing*, uniting and yet holding apart past, present and future, constituting each other in their difference (Shanks and Tilley 1987). According to

Giddens, "Artifacts are relics or remains, the bric-a-brac washed up on the shore of modern times and left there as the social currents within which they were created have drained away" (Giddens 1984). An interesting question to be posed is when are changes in social and political organisation reflected in material culture?

The past requires completion by interpretation. Absence of written sources in prehistory makes interpretation a challenging task for prehistorians. The prehistoric record presents a static pattern of associations and co variations among artefacts distributed in space. A widely accepted way to translate statics (material residues) into dynamics (behaviour) is through the study of living systems (Binford 1977). This method, rooted in the principle of uniformitarianism, rest on the assumption that "people in the past behaved much as they do in the present, with similar social structures, economic strategies and cognitive abilities" (Bailey 3). Though plausible, this is nonetheless an assumption, often used unquestioningly for the reconciliation of certain tendencies of modern societies (capitalistic ideology, for example) with the prehistoric past (Shanks and Tilley 1987).

In order to understand prehistoric human behaviour, it has been customary to use data from living societies with traditional modes of subsistence (ethnoarchaeology). It should, however, be borne in mind that simple analogy is inadequate as a method of analysis and can be misleading in its effects on the reconstruction of past behaviour (Gould 1978; Wobst 1978). This compels one to devise research methodology, alternative to ethnoarchaeological, one that would rely on the direct study of the material remains with relevant theoretical shifts. Traditionally the object of archaeology was to obtain better scientific knowledge of human activities in the past, on the basis of material remains. Appropriate methods were used at specific sites, but the overall method of objective recording of layers, artefacts and their superimposition was seen as general. Symbolic and contextual archaeology, propounded by post-processual archaeologists, relies heavily on material culture studies, linguistic analysis and constitutes a positive step towards reading the material culture 'text'.

How does an archaeologist 'reason'? The empiricism and positivism in archaeology have tended an apparent separation between fact and theory. Though, it is supposed to be a controlled and linear process from hypothesis to test to conclusion where data are supposed to confront theory in a direct and verifiable manner but in real practice archaeologists are engaged in processes of inference (reasoning):

1. By integrating part into a whole (whole - part

- relationship). All the different parts fit into a coherent whole. Believing in Indian philosophy of Sankhya and with Abhinavagupta's belief in 'sarvam sarv tmakam', archaeologists' reasoning holds good.
- 2. By analogy and comparison the wholes put together at one level or in one sphere have to cohere with larger and more inclusive wholes and with disciplinary knowledge and cross-disciplinary knowledge.
- 3. The pre-understanding, by this we mean initial (mis)understanding about the function or date of a particular area in the excavation.
- 4. It is data-led, this means that archaeologists can only ask certain questions of certain types of data (data offer 'resistance' to theory)
- 5. It is multiple and diverse An open 'text'
- Evaluating (the right)-'fit' or corporate agreement, but there is also the opportunity to challenge consensus viewpoints.

Archaeologists mediate between past and present, neither simply describing data nor simply translating it into 'our' terms. The archaeologist as mediator provides information, images, ideas to a diversity of audience from different pasts. Archaeological research involves a 'fitting' process that is both data and question (perspective) led, thus subject and object are interrelated.

DATA

Objects

Contexts

THEORY

Interpretation

This diverse, fluid and interactive process of interpretation could be further explained by the process of looking at and understanding (reading) the artefacts.

- A link between description of the artefact and interpretation is inevitable and in anthropology this is known as 'thick description' (Geertz, 1973). For Foucault (1977) interpreting or explaining an event involves description and specificity of the events. In archaeology descriptions on data sheets make the interpretation of a particular excavation possible/coherent by looking at the systematic pattern.
- Explanation on the other hand is associated with processual archaeology. Its aim is to identify causal mechanisms, demonstrating that a particular event has happened because of certain conditions (Binford 1989).
- Post-processual archaeologists (Hodder 1992, Richards 1991 & 1996, Tilley and Shanks 1987) believe

that there is more to human behavior than causal relationship like – intentions, narratives, understanding etc.

 Contextual approach involves understanding a particular event in its localized context like in agency study. Such consideration often seems difficult if not impossible in prehistoric archaeological study.

Success of archaeological theories lies in how many new directions; new lines of inquiry; new perspectives are opening up. The confirmation of archaeological theories depends on inter-subjective agreement. Having said this, I would like to add that if what we know already explains things then we may not search for alternatives; we mainly do this when standard accounts do not work or if we have to change our assessment of an adequate explanation because of social or political factors (Rama-Janmabhumi or Setu Samudram controversy).

Archaeological interpretation involves a circularity of argument. We start out with a site or a region or a theory or a problem. Already our data and theory are related as we have background knowledge about the site or region and about the interpretations that have been made of similar data. We expect certain things and our interpretations depend on them. We may find that the data do not really conform to our expectations. In this case we adjust our theories but always in relation to more general theories. A simplified version of the hermeneutic circle has just been discussed. Hermeneutics is the science of interpretation of text and archaeology, it is a 'hermeneutically informed dialectical science of past and present' (Shanks and Tilley 1987).

Hermeneutics provide a far better description of what archaeologists actually do than any positivist hypothesistesting procedure. What we try and do as archaeologists is to work back and forth between theory and data, showing that some theories account for more of the data than others, and adjust our theories according to the data. We try and situate our general theory in relation to as much of the data as possible. In other words, we try and contextualize our theories and data. The notion of hermeneutics is closely linked to context. We try to give meaning to a particular piece of data by embedding it fully in its surrounding data. We work in a closed circle which encompasses past and present. We 'read' the data by translating them into our own terms.

The hermeneutic circle is more properly described as a spiral because we never return to exactly the same spot as we move between theory and data. The experience of data forces us to adjust our interpretations. There is a degree of partial independence between past and present contexts. We learn as we 'read'. The material culture (text) studied by archaeologists is different; we are not just interpreting excavated material but dealing with artefacts which has layers of meaning and has to be fitted into a pattern.

The archaeological record shows that over a period of approximately three million years hominid populations developed toward culture through refinements and changes in adaptive techniques. One such major Rubicon has taken place during the Upper Palaeolithic period in the form of Prehistoric art which is a product of human mind. It is a world of symbols and dreams, myths and fantasies. It is one of the great cultural achievements of human kind. Artefacts and art forms have survived to indicate a cultural system based on fully symbolic conceptual organisation. It testifies not only to an immense technical skill but also to the human capacity for expressing emotions, and representing the rhythm and breath of nature in lines, patterns and space. The paintings are almost like 'touching with eyes' to reproduce the feelings. Through Prehistoric art we share the sensitivities of the Palaeolithic hunters in their natural world. Upper Palaeolithic has gradual cumulative processes that eventually culminated in critically significant qualitative changes. The key feature which requires explanation in the Upper Palaeolithic is the appearance of style in its various manifestations (Wobst 1976; Conkey 1978; White 1982). Like all great art Prehistoric art transcends the boundaries of time and space to say something fundamental about the human condition, yet 'that something' is elusive. Increased investment in visual activities, such as decorating ceramics, cave walls and fashioning bone ornaments, need not be a sign of increased leisure time nor of the emergence of luxury goods controlled by 'managerial elites' as is often surmised. Rather it may signal increased competition and social stress due to environmental change and resource crunch (Chattopadhyaya 2000).

The changes in artefact and subsistence technology constitute straight forward adaptive improvements, but the development of art and lithic-tools - worked with an elaboration are far beyond functional requirements. The increased regional clustering of types of such objects reflects social changes whose causes often are not very easily explained. The widespread interpretation of these changes, as reflecting the appearance of increased corporate solidarity, the introduction of ethnicity, constitutes a major first step in understanding the processes involved in bringing such change. But this idea has not been articulated satisfactorily with the technoenvironmental aspects of the Upper Palaeolithic. We have to understand how making of a stone tool or ceramic pot

can be both mechanism and metaphor for disciplining the human body into a cultural mould. Prehistoric art can be viewed in a holistic - ecological perspective (Mithen 1990). Art should be viewed as part of the whole set of thoughts and actions undertaken by the Palaeolithic hunters. An ideal and complete ecological interpretation would show how all the different facets of life were interwoven and our divisions of 'art', 'society and 'economy' are superficial and artificial.

Bourdieu (1977) talks of 'the mind born of the world of objects'. Artefacts provide an important element in the habitus - the everyday world in which the human subject is created in history and which provides the source from which these same subjects, through their strategies as individuals and social groups, create history. Human beings have a story to live and a story to tell. Bourdieu situates his notion of habitus between structure and practice. The habitus are essentially durable but transposable dispositions including, for example, a sense of honour, but also left/right, up/down and other structuring principles. Bourdieu's views are particularly relevant for Prehistoric archaeologists because he develops his theory of practice (or social action) in relation to material culture and the use of space. A child learns about the structuring principles of society through the spatial patterning of the domestic architecture or village settlement as manifested, for example, by the gender or social distinction or other distinctive characteristics of social order. Bourdieu shows how the habitus is passed from generation to generation without going through discourse or consciousness. The central position of processes of enculturation in Bourdieu's theory is of importance for archaeology because it links social practices with the 'culture history' of society. As the habitus is passed down through time it plays an active role in social action and is transformed in those actions.

In the daily pattern of life a child has no difficulty in grasping the rationale behind the series of events. The child adjusts and accommodates subjective and objective patterns. The habitus thus formed is based on the child's own social position. The house or his immediate surroundings and the use of space and objects in a house lead a child to an understanding of the habitus. The same house then comes to be perceived differently by different social groups, through their different habitus. Bourdieu's theory of practice presents an implicit invitation to archaeologists in general and Prehistoric archaeologists in particular, to come to an understanding of the principles lying behind other cultural practices through an examination of and involvement in objects, arranged in space and in contexts of use. Every pot, every tool, hearth, house and burial have a network of associations.

If they are studied in proper context, they tell us about the way 'that world' is put together - these are writings in space' (Chattopadhyaya 2000).

The origins of agriculture or major factors causing the change from hunter-gatherer way of life has been studied in archaeology to be climatic change, population increase and resource availability. We can reach a different understanding of the origins of agriculture and domestication of plants and animals if we take into consideration the symbolism and make it coherent within our own traditional way of understanding. I will explain domestication not only as a mechanism but also as a metaphor. Domestication created the idea of house as the structured, the stable and the long-term phenomena. The wild plants and animals were brought in, as well as the symbols of the wild were controlled within a cultural metaphor within the house. To make a suggestion, wearing ornaments made out of antlers and animal bones, painting pictures of wild animals on rocks or on the body itself symbolically brings the wild into the house. The economic transformation, thus, is linked to a symbolic transformation and we should trace the genesis of domestication in the earlier period i.e. Mesolithic Period.

The house provided both structure and continuity. This continuity was emphasised by building new houses above the old. Ancestors and past inhabitants were buried at the habitation linking the present with the past. It focuses on continuity across generations. Archaeological evidence from the Mesolithic site of Mahadaha, in Central Ganga valley (Sharma et al.1980) shows regular burial practices at the centre of the habitation site. Elsewhere I have argued that this onsite burial practice was symbolically linked with social continuity and sedentism — a prerequisite of food producing economy — as well as the rise of territoriality and corporate group behaviour to gain control over certain dependable resources (Chattopadhyaya and Chattopadhyaya 1990).

Construction of settlement provided stable framework of longer term communities where the domestic symbolism became more elaborate. It seems the cultural-symbolic and economic processes were dialectically related. It will not be out of place to mention here that the practical logic of increased production depended on setting up of the idea of house ensuring continuity and survival against various dangers of the wild. At Chopani-Mando, an extensive Mesolithic site in the Vindhyas (Sharma et al. 1980), we have concrete archaeological evidence of construction of cluster of sheltered houses with hearth and fire (elimination of danger from the wild) in the middle. This can be perceived in the symbolic elaboration in domestic context in the Mesolithic period. I would like to add that the very process of domestication

started much earlier than the Neolithic period. This is visible by signs and symbols which we, as archaeologists, can perceive in material culture.

For making mainstream archaeology more holistic the quality of theory is to be measured by its style and flair and the extent to which it is grounded in evidence. Theoretical debate in the west according to Paranjpe (1990) is an endless process of dialectical substitution. He holds that this difference is essentially for power. Archaeologists feel that theory could provide a central coherence and definition of objects and objectives of study. Without going into further details, all I would say is that till now archaeologists have not been able to write a 'grand narrative' or 'grand unified theory', which incorporates all perspectives. Different theories are appropriate for different objects of study. In fact these different theoretical perspectives in archaeology are not contradictory but complementary. We should move from conceptualizing systems in terms of unchanging essences and regard them as embedded relations and make a foray into the study of cognition. This would help us in developing a theory of persons within a more general theory of organisms. Our research would be enriched and more meaningful only if we realize that there is divergence in perception as well as convergence. There are many ways of capturing the facets of reality, each valid in its own right. The material culture plays an important role in forming the identities of groups and individuals, archaeology and anthropology have a public 'margin' which extends beyond the disciplinary core. The possibility of material culture studies lies not in method, but rather in an acknowledgement of the nature of culture, as understood by theorists such as Simmel (1968). We as academics can strive to understand and empathy through the study of what people do with objects, because that is the way the people that we study create a world of practice.

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References

- Ascher, R. (1968), Time's arrow and the archaeology of a contemporary community in *Settlement Archaeology*, (ed.) K.C.Chang, pp.43-52 National Press: Palo Alto.
- Bailey, G.N. (ed.) (1983), Hunter-Gatherer Economy in Prehistory: a European Perspective. Cambridge: Cambridge University Press.
- Barthes, R. (1977), *Image Music Text*. Transl. S.Heath. Fontana: London.
- ———, (1981), 'Concepts, time-scales and explanations in economic prehistory', in J.A. Sheridan and G.N. Bailey (eds.), *Economic Archaeology*. Oxford, BAR International Series96: 97-117.
- Bartel, B. (1982), A historical review of ethnological and archaeological analyses of mortuary practice. *Journal of Anthropological Archaeology* 1: 32-58.
- Berg, B.L. (1998), *Qualitative research methods for the social sciences*, Boston, Allyn and Bacon.
- Binford, L.R. (1977), For Theory Building in Archaeology. New York: Academic Press.
- Binford, S.R. and L.R.Binford (eds.) (1968), New Perspectives in Archaeology. Chicago, Aldine.
- Bourdieu, P. (1977), *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.
- Chattopadhyaya, I. (Forth coming publication) Habitus, symbolic archaeology and interpretation of archaeological 'text' (ed.) J.N. Pal in *Prof. R.K. Varma Felicitation Volume*, Allahabad.
- Chattopadhyaya, I. And Chattopadhyaya U.C. (1990), 'The spatial organization of mortuary practices in the Mesolithic Ganga valley: Implications for territoriality' in (eds.) N.C.Ghosh and S.Chakrabarti *Adaptation and Other Essays*, pp. 103-121. Shantiniketan, Visva-Bharati.
- Chattopadyaya, I. (2000), 'Writing' in space: an interpretation of prehistoric mortuary practices in the central Ganga valley'. In *Studies on Man: Issues and Challenges* (ed.) M.K.Bhasin, KR Enterprises: New Delhi.
- -----, (2001), 'Microlithic Traditions of south Asia', a commissioned article published in *Encyclopaedia of prehistory*. Volume III, (Eds C. Ember and P.peregrine: Human Relations Area Files Inc.,).New York:Kluiver
- Conkey, M.W. (1978), 'Style and information in cultural evolution: toward a predictive model for the Palaeolithic', in C. Redman et al. (eds.), Social Archaeology: Beyond Subsistence and Dating. New York: Academic Press.

- Deetz, J. (1977), In Small Things Forgotten. Garden City, New York: Doubleday Natural History Press.
- Giddens, A. (1984), *The Constitution of Society: an Outline of the Theory of Structuration*. Berkeley, University of California Press.
- Gould, R.A. (1978), 'Beyond analogy in ethnoarchaeology', in R.A. Gould (ed.), *Explorations in Ethno-archaeology*. Albu-querque: University of New Mexico Press.
- Goswami, C. (1997), 'On understanding: Standing under Wittgenstein', *Journal of ICPR*, Vol. XIV, No.2, Jan-Aprl.
- Hodder, I. (1987), *Archaeology as Long-Term History*. Cambridge: Cambridge University Press.
- ———, 1992. Theory and Practice in Archaeology. London:Routledge.
- Jochim, M.A. (1976), Hunter-Gatherer Subsistence and Settlement. New York: Academic Press.
- Joerges, B. (1988), Technology in everyday life: Conceptual quaries. *Journal for the Theory of Social Behaviour:18*(2).
- Mithen, S.J. (1990), Thoughtful Foragers: A Study of Prehistoric Decision Making. Cambridge: Cambridge University Press.

- Paranjpe, M. (1990), The invasion of 'theory': an Indian response. *New Quest* 81, 151-61.
- Ricoeur, P. (1984), *The Reality of the Historical Past*. Marquette, Marquette University Press.
- ———, (1981), Hermeneutics and the Human Sciences. Cambridge University Press: Cambridge.
- Shanks and Tilley, C. (1987a), *Re-constructing Archaeology*. Cambridge: Cambridge University Press.
- ———, (1987b), Social Theory and Archaeology. Cambridge: Polity Press.
- Sharma, G.R. et al. (1980), *Beginnings of Agriculture*. Allahabad: University of Allahabad.
- Simmel, G. 1968. *The conflict in modern culture, and other essays*. New York: Teachers College Press.
- Tredennick, H. (Trans.) (1984), *The Last Days of Socrates*. Penguin.
- White, R. (1982), 'Rethinking the Middle/Upper Palaeolithic transition'. *Current Anthropology* 23: 169-92.
- Wobst, H.M. (1978), 'The archaeo-ethnology of hunter-gatherers or the tyranny of the ethnographic record in archaeology'. *American Antiquity* 43.