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Introduction

The central aim of this study is to explore the factors underlying variability in artefacts. The major proposition that it employs is that artefacts, as objects created and interpreted by people, embody the organisational principles of human categorisation processes. Through the intensive study of a specific corpus of contemporary artefacts – the earthenware pottery in an Indian village – it is intended to investigate the manner in which these organisational principles generate variability in material forms. The variability of objects is significant as a major source of evidence for the study of society, the artefactual environment being one of the main products of social action. It is anticipated, therefore, that an understanding of the forces which create artefactual variability can also contribute towards an understanding of the social.

Its focus on the relationship between objects and society situates this volume within the area of material culture studies. The study of material culture cuts across disciplinary boundaries, but one of its original foundations lies in the discipline of archaeology for which the material world provides a prime source of evidence for social relations. The intention of this introduction is to focus upon some limitations in the manner in which archaeology at present posits the relationship between the material and social worlds.

This study takes the form of a micro-analysis of the pottery found in a single village, including the details of rim form, body angularity and decorative technique which are the familiar domain of a vast number of archaeological analyses. The carrying out of this exercise in the unusual domain of a modern ethnographic setting is not intended as a ‘cautionary tale’, pointing out the contextual information which does not survive for the archaeologist. On the contrary, the intention is to reveal the richness of information about social relations which these typically archaeological procedures are capable of revealing when applied to contemporary as well as ancient artefacts, compared to the more conventional subjects and methods of ethnographic enquiry.

An understanding of the variability of material objects, which is the

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immediate problem often faced in archaeological analyses, is inseparable from an understanding of those forces which create social variability. The processes of categorisation may be used as a primary link between these two. A brief survey is given here of the traditions in all three areas by which variability has been analysed: archaeology, social anthropology and cognitive studies.

Archaeology and the problem of artefactual variability

From its inception, the prime goal of archaeology has been the reconstruction and understanding of past societies. One of the major sources (though by no means the sole source) of evidence for this task is represented by the humanly altered physical remains of these past societies. Archaeologists have therefore invested considerable effort in the investigation of the variability of artefacts, which they have seen as reflective of the variability of society. This has resulted in a prodigious quantity of classificatory studies in which artefacts are attributed to 'cultures' and 'styles'. Under the influence of the natural sciences, the search for regularity in the behaviour of artefacts has become increasingly formalised, developing into an 'analytical archaeology' (Clarke 1968) to complement the techniques of excavation.

Today this interest in variability has extended into a number of broad fields, including the techniques of quantitative manipulation (Doran and Hodson 1975), individual stylistic variation (Hill and Gunn Eds. 1977), variability as either spatial distribution (Hodder and Orton 1976) or temporal distribution (Marquardt 1978), or both (Dethlefsen and Deetz 1966). To propose therefore that the investigation of artefactual variability has major consequences for archaeological theory is to state that which has always been evident to archaeologists.

Less obvious and more problematic is the suggestion that this very focus in archaeology has led to peculiarities and bias in archaeological investigations, often with consequences detrimental to its major aims in respect of knowledge about past societies. If the approach to these societies is always mediated through the study of their artefactual remains, there will always be a tendency to 'fetishise', i.e. to substitute material relations for social relations. Archaeology cannot ignore its own symbolic processes. In theory the material form, such as a stone or metal implement, is supposed to stand as signifier for the Celtic or ancient Indian society under study. In practice, however, a symbolic inversion may occur in such a way that the name of the society comes to act merely as a label for the actual subject of the study, which remains at the level of objects. Thus 'cultures', as movements of styles, were assumed to represent directly movements of peoples, and entities such as 'culture' and

'style' rather than society itself became the goal to which archaeological resources were primarily directed. Society then becomes an abstracted legitimation, a promise which is never realised. With the rise of the New Archaeology in the 1960s the model of past societies and human agency tended to become that which it was necessary to postulate in order to assume regularity in artefactual patterning.

In the New Archaeology, under the legitimatory principles of hypothetico-deductivism, human behaviour tended to be relegated to predictable reactions to stimuli, mainly the environmental and ecological background to past human behaviour. Culture was defined, following White (1959), as the 'extra-somatic means of adaptation' (Binford 1962), so that the social was tied to the natural. Schiffer developed a 'behavioural' archaeology in which the notion of cultural transformations was modelled directly on natural transforms (Schiffer 1976). The parallel notions of systems and adaptation linked these principles with disparate elements of human social behaviour through the observed variability of artefacts. Explanations based on these ideas ranged from Gunn's assertion that 50% of cultural change at Hogup Cave could be ascribed to (i.e. statistically associated with) the impact of the environment (Gunn 1975) to Terrell's use of human biogeography to explain the cultural variability of the Solomon Islands (Terrell 1977, Miller 1980a), or even to why the Tasmanians stopped eating fish (Jones 1978).

The resultant model of human society accords closely with the behaviourist view of human beings as passive reactors to external stimuli (Skinner 1972), with a functionalist view of society, couched in the language of systems theory and a determinist view of material culture, which seeks to explain variability almost entirely by reference to assumed functional attributes, although these may be distinguished as primary or secondary (Binford 1962). These are implicit assumptions, expressed and legitimised mainly at the level of arguments over appropriate modes of explanation in archaeology. This has tended to disguise what has, in effect, been the development of a particular model of society, shaped by its compatibility with the new methodologies (Miller 1982a).

In recent years these assumptions have been the subject of many critiques, from the standpoints of relativism (Hodder Ed. 1978), evolutionary theory (Dunnell 1980), critical theory (Miller 1980b), structuralism (Hodder Ed. 1982) and structural Marxism (Rowlands and Gledhill 1977). Some of these critiques have queried the search for 'explanation', as found in the natural sciences, and have preferred a notion of 'understanding', on analogy with the social sciences, as a more appropriate goal for archaeology. Except in the case of evolutionary theory, these critiques have assumed that archaeological theory should first develop as a more satisfactory social theory, which might then have

to be modified at a secondary level to accommodate the specific problems of archaeological methodology.

The concern to develop a model of human agency and social institutions compatible with the necessary emphasis on artefactual variability has led to an increasing interest in studies of present-day artefacts. These have tended in two directions, the first of these being 'ethno-archaeology'. A large number of recent studies (e.g. Gould Ed. 1978, Kramer Ed. 1979) have investigated problems of archaeological interest, such as site formation and ceramic variability, in contemporary settings. In general, this has involved the archaeologist in the fictive stance of an 'as if it were a site' argument, attempting to interpret materials without the additional contextual information provided by informants (e.g. David 1971, Bonnichsen 1973). A second major thrust has been the emphasis suggested by the theoretical basis of the New Archaeology, which attempts to focus on behaviour assumed to be relatively free of cultural considerations and therefore amenable to an analysis based on intrinsic functional relations, which could be projected back into the archaeological record, whatever the cultural context of that past. This is an explicit goal of Binford's recent work on Inuit use of bone (1978). The emphasis on areas with extreme environments, such as the Kalahari desert (Yellen 1977), the Australian desert (Gould 1980) and the frozen tundra has tended to make the determinist assumptions of the ethno-archaeologist appear more plausible.

The disingenuousness of such an approach prevents it from contributing towards the goal of a more satisfactory model of the social. Since most ethno-archaeological work concerned with society continues to apply notions of 'culture', 'adaptation' and 'style', derived from the nineteenth century, to its observations of contemporary societies, it is unable to use the contemporary to challenge its own assumptions. Variability in artefacts becomes reduced to two areas. In the positivist tradition it is used to correlate with some absolute measure of human 'behaviour' outside history, or as style it either 'functions' e.g. to communicate information (Wobst 1977) or is seen as directly reflective of social forms. In the present study, by contrast, the relationship to archaeology is conceived of as mediated by material culture studies and not by ethno-archaeology. Material culture studies are concerned with all aspects of the relationship between the material and the social, and are not determined by the logistical constraints of any particular discipline. The aim is to achieve a model capable of representing the complex nature of the interaction between social strategy and artefactual variability and change. It is inevitable that some of this sophistication should be lost with the formation of the archaeological record, but this loss should be regarded as such, rather than minimised by starting with a limited social theory more compatible with the paucity of evidence. It is

in this concern to explore the nature and interaction between society and artefactual variability that the roots and legitimation of the current work lie. As research in material culture studies, however, the work employs ideas from, and attempts to construct arguments relative to, the whole spectrum of the social sciences, including linguistics, social anthropology and cognitive psychology, as well as archaeology.

Variability in society

Archaeology is not the only discipline to have perceived the variability of its object of study as the prime source of evidence for the understanding of human society. The origins of anthropology also lie in questions posed by the variability of human social practices, revealed by the opening up of the world in trade and colonialism, alongside the emergence of physical anthropology as the study of the variability of the human species. The major drive in much of nineteenth-century anthropology was towards a search for the origins of human diversity projected backwards in time through the various evolutionary models, which were later assigned an additional spatial reference in diffusionist and folk-movement models. These models were all predicated on the synchronic differentiation of extant societies, seen as relics of the temporal process under study.

The search for an understanding of variability in social practices continued in the attempts to uncover pattern and process in culture by Kroeber and his followers (e.g. Kroeber 1948) and also underlies studies of the adaptation of societies to their particular environments (e.g. Forde 1934). The work of Lévi-Strauss demonstrates an extreme reduction of the very concepts of social structure and cultural forms, such as myths, to the play of categorisation as transformations creating diversity over space and time (e.g. 1970).

More closely related to the type of investigation being proposed here are approaches to the understanding of the mechanisms which generate internal variability in society. The emphasis on the division of labour and the linkages between the divided segments of a population are key motifs in Durkheimian and later functionalist analysis. Lévi-Strauss's work on internal classificatory systems employed a very different approach to the question of social divisions, which more than ever before were closely integrated with speculation on the nature of categorisation processes. South Asian society has often been cited as an example of highly-developed internal differentiation, in particular in Dumont's work on the caste system (1972; see also Lévi-Strauss 1977: 327). The question of internal differentiation is particularly crucial in any attempt to understand the nature of 'modernity', the experience of living in current industrial societies, with their extremes of social and material diversity (e.g. Simmel 1968).

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The artefactual variability studied by archaeologists differs in its material physicality and its peculiar selection through differential preservation, but otherwise is generated by the same processes which social anthropologists attempt to understand. On occasion similar materials are addressed (e.g. Sahlins 1976: chapter four). The research presented here is based upon the selection of one particular approach to the nature of internal social variability as discoverable from material objects, that of categorisation.

Approaches to categorisation

Most approaches to categorisation stem from the ideas first systematically developed by Kant, who was concerned to formulate a theory postulating the innate structures which human beings must possess, in order to be able to experience the world (Kant 1934, 1935). Once the relationship between people and their environment was seen to be, of necessity, mediated by these structures, an alternative developed to the naïve empiricism which had preceded Kant's work. Kant's formulations were transcendent not only in his own sense of being prior to experience, but also in that he was not primarily concerned with the context in which categorisation operated, and it is this which has led towards a formalism in much of the work influenced by him. Kant's work may, however, lead towards a more 'constructivist' model of people in which the environment is not given, but constituted in this process of interaction (e.g. Furth 1969, Piaget 1972, Turner 1973).

Approaches to material forms based on categorisation processes have almost always been mediated by linguistics and the influence of linguistics on anthropology through Lévi-Strauss's structuralism. The basic divisions of Saussurian analysis have been widely applied to the material world (Saussure 1959). A number of analyses of pottery use approaches which parallel the syntagmatic and paradigmatic levels of articulation proposed for language (e.g. Clarke 1970, Friedrich 1970). Deetz (1967) attempted to appropriate these ideas as a more general approach to artefacts but the critique by Hymes (1970) should be noted. These methods have been used to analyse a variety of objects ranging from Mongolian spirit figures (Humphrey 1971) to Walbiri iconography (Munn 1973), and are implicit in Boas's (1955) earlier work on American North-West coastal art.

Other approaches used in both linguistic and material studies include componential analysis (Kimball and D'Andrade Eds. 1964, Hammel Ed. 1965, and Tyler Ed. 1969), which established the principles of 'hierarchy', 'contrast' and 'field' as major features in categorisation processes. Applications include archaeological studies of classification (Dunnell 1972), burials (Saxe 1973, Chapman *et al.* Eds. 1981) and

ceramics (DeBoer and Lathrap 1979). Chomsky's (1957) 'transformational grammar' which indicated the infinite generative power of language has in turn been applied to shell gorgets (Muller 1977), pottery design and production (Hodder 1982a: 174–71, Krause 1978, Mead *et al.* 1973), and body designs (Faris 1972).

The extensive use of all these approaches since the 1960s has made apparent several severe problems with their application. As Keesing suggests (1972) of the employment of componential analysis, the approach relates to an ideal logical language, in which something either is, or is not, a member of a category. It ignores the nature of category variability found in the real world, becoming an overused mould into which things are fitted, rather than adapting to meet the challenge of variability. Like the notion of 'mental template' in archaeology it thereby becomes a normative approach, subsuming rather than explaining variability. Nor does it fit the evidence of psychologists regarding the nature of categories (see below).

The more direct borrowings from structuralism have been attacked for a similar formalism. Despite Lévi-Strauss's own attempt to distinguish the two in his essay on Propp (1977), most critics see little evidence of these ideals in Lévi-Strauss's own work (Sperber 1974). The lack of a temporal context, implied in the fourth of Saussure's dichotomies, has been criticised, and structural Marxists such as Friedman and Rowlands have attempted to develop the dynamic implications of structural transformation in the analysis of societal development, using archaeological and historical data (1977). Recent advances in structuralist-inspired work on material culture has shown how some structural processes generate related patterns in a variety of media (e.g. Adams 1973, Glassie 1975). Generally, 'social context' in material culture studies within anthropology has denoted coherence with social categories in the Durkheimian tradition (e.g. Douglas and Isherwood 1980), although some recent work has been concerned with the social manipulation of meaning (e.g. Barthes 1973, Baudrillard 1981, Hodder 1982a). A criticism of formalism has recently been made by Tyler (1978) who attacks the assumption that relations of meaning can be studied without reference to a consideration of pragmatics, arguing from the conventional basis of signification.

Further critiques of structuralism have come from post-structuralist analysis, which has suggested that the relationship between signifier and signified is not as straightforward as suggested in, for example, Barthes's early work (Coward and Ellis 1977: chapter three) and has raised the issues of power and ideology which were rarely discussed in the period of high structuralism (Miller and Tilley 1984). The actual symbolic mechanisms postulated by structuralism have also been attacked, and Sperber's (1974) critique of semiological assumptions as to the 'mean-

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ing' of symbols, proposing rather different cognitive mechanisms and a more flexible process of evocation, has been particularly influential.

Alternative approaches to categorisation

An alternative approach to human categorisation is best exemplified in the work of another philosopher who dealt extensively with the notion of category. Wittgenstein, in his *Philosophical Investigations* (1958), concentrated on the everyday use of language and showed how it diverged from abstracted, idealised forms. He emphasised the polythetic qualities of semantic and perceptual categories, and contextual factors in the determination of their meaning. These two areas of indeterminacy and context are precisely the factors which more formalist modes of analysis tend to ignore.

Indeterminacy in categories can be defined according to 'fuzzy set theory', originally a set of mathematical principles (Zadeh 1965), which is concerned with the nature of a logic whereby objects are not, as in conventional logic, either members or non-members of a given set, but rather are considered as better or worse representatives of that set. This may be paralleled by Lakoff's discussion of linguistic hedges which are expressions of indeterminacy such as 'A is a sort of B' (Lakoff 1973). The linguist Labov has employed pottery profiles to investigate the relationship between contextual knowledge and indeterminacy. Labov produced a series of such profiles with measured variance, such as a gradual increase in width in relation to height (Labov 1973). From this it could be graphically demonstrated how the shift occurs from the linguistic category 'cup' to that of 'bowl', by asking informants to draw a line in this series indicating the boundary between those profiles which they would call a cup and those which they would call a bowl. Labov shows that this depends not only on the increasing width–height ratio, but also on contextual knowledge, such as the number of handles, and whether the contents are, for example, coffee or mashed potato. Labov comments that, 'In the world of experience all boundaries show some degree of vagueness, and any formal system which is useful for semantic description must allow us to record, or even measure, this property' (p. 352). It is this fuzziness which is encountered whenever we try to apply categorisation ideas in a social context. It has been demonstrated also in our concept of 'function' (Miller G. 1978), in general discussions of ethno-classification (Ellen and Reason Eds. 1979) and, as the ethno-methodologists would point out, is true of the process of analysis itself (Garfinkle 1967).

These ideas have been developed further by the psychologist Rosch in

her work amongst the Dani of New Guinea and in America (Heider 1972, Rosch 1978, Mervis and Rosch 1981) and by the anthropologist Kempton in his work in Mexico (Kempton 1978, 1981). According to Mervis and Rosch, 'A category exists whenever two or more distinguishable objects or events are treated equivalently' (1981: 89). Equivalence for them is a matter of degree. Rosch shows that some members of a category are closer to its core 'prototype' while others are on the more indeterminate periphery. Kempton's work demonstrated how the category itself shifts in relation to the heterogeneity of the society in which it is constructed. Simply to map variability is, however, insufficient. Analysis has to proceed beyond 'social context', taken as an unproblematic base-line, and examine in detail the relationship between the various ways in which society constitutes itself in a series of representations manifested in both practical action and conceptual models.

These developments in the study of categorisation will be employed here to analyse the variability in ceramic forms. While the more conventional symbolic analysis may be employed to analyse the normative formal order, this must always be seen in relation to the variable 'informal' aspects which cannot be reduced to neat patterns of symbolic homologies. Two terms are crucial to the analysis of this informal variability, and both are used to relate material categories to their social context. The term 'pragmatics', derived from the study of the effect of context on meaning in linguistics (Levinson 1983), will be employed to examine the processes of differentiation which create the multivalency evident when consideration is given to where and when evocation takes place and to the nature of variability in the social context itself. The effect of pragmatics in creating an apparently highly diffused and variable relationship between an object and the pattern of its evocative potential is in part countered by the use of approaches which come under the term 'framing'. These are concerned with the processes by which contextual cues are used to decide which of the various possible interpretations should be given to the object on any specific occasion. Pottery will be found to work both *as* frames (Chapter 7) and *within* frames (Chapter 9).

These approaches to categorisation are concerned mainly with methodological and synchronic issues. In Chapter 10 an attempt will be made to examine the relationship between forms and their social context in more dynamic terms by examining the dialectic between changes in material forms and changes in social groups, with their differential ability to objectify their interests in the construction of the material environment. This demands a consideration of issues such as ideology and naturalisation as they bear on the material world and this will be discussed in the next section.

Material culture as evidence

The major source of evidence used in this study is the material world. The emphasis on variability and categorisation is derived from the need to work with objects rather than more conventional forms of anthropological evidence. For the present ethnographic study, as in an archaeological investigation, the significant dimensions of variability cannot be elicited by direct enquiry. The members of the society which produces and uses the objects may have very little to say about them; articulation at the level of language may be a poor reflection of the complex expression evidenced in the actual range of products and interaction with them.

This is an important factor in distinguishing between the way in which the terms ‘categorisation’ and ‘classification’ are used in this study. The primary subject of analysis is material categories. These represent an order that is imposed upon the world through the creation of material objects. As such they are a part of the overall creation of cultural order, and may be used for the study of the social and material relations of which they are a product. These categories may be the subject of a large variety of different classifications, both by their producers and by the analyst. Classifications by the producers include linguistic terms, which, as this study will illustrate, may vary depending upon who is classifying, when and why. In the present study such classifications are treated as only a secondary level of evidence. The methodology which has to be employed in describing these material categories at a primary level is therefore not substantially different from that used by archaeologists in analysing prehistoric material. There is therefore no *a priori* reason for archaeologists to equate evidence which is contemporary with the primacy of the ‘emic’ (Pike 1967).

There has been considerable discussion in archaeology over the status of classifications employed in analysis. In the 1950s this was centred primarily on the notion of attributes, types and morphological entities (e.g. Ford 1954, Rouse 1960, Spaulding 1953; see also Clarke 1968). Recent work on style, with its concern for the identification of the correct level of design or element, is, however, parallel (e.g. Hole 1984, Plog 1983, Washburn Ed. 1983). As classifications, these should be judged heuristically for their ability to reorganise the material under study in a convenient form for further analysis. What seems spurious to the debate is the question of the ‘reality’ of types or designs assumed to operate on a privileged level, universal to ceramic analysis and observable in the ethnographic record.

In practice, the dimensions and aspects used to create significant difference are varied, and their significance is best postulated on the basis of the contexts in which they are produced, distributed and used.