Habitus, Techniques, Style: An Integrated Approach to the Social Understanding of Material Culture and Boundaries

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The detection and understanding of social boundaries of various types in the archaeological record is a problem with which archaeologists have grappled for many decades. Interest in this issue first developed during the period when archaeologists began to abandon the construction of artifact typologies found in a unitary evolutionary model as the primary goal of the discipline and to move instead toward the exploitation of regional diversity (cf. Trigger 1989; Willey and Sabloff 1993). Initially, this involved the delineation of archaeological units called "cultures" (on the basis of the regional spatial distribution of associated stylistic similarities in selected aspects of material culture) and attempts to reconstruct a "history" of the interactions between these cultures, of their movements over the landscape, and of changes in their configurations (e.g., Childe 1929, 1950).

In Europe, especially, this research program can be traced to the fact that archaeology developed as a discipline largely as a backward extension of history, meaning essentially national history. Hence, the search for national origins in "ethnic" groups of the past was a strong stimulus in defining research goals (e.g., see Cleenruci et al. 1991; Dieterle 1994; Häkä 1991; Sidenst 1982). The interpretation of these archaeological constructs termed "cultures" in a fairly straightforward manner as the remains of ancient ethnic groups resulted from an abstraction of ideas from nineteenth-century Romantic nationalist historiography and of the Kulturkreis concept developed by Koskinen; and this was later bolstered by the organic model of culture derived from the functionalist tradition in social anthropology (cf. Herbich 1981; Shennan 1989; Trigger 1978; Ver 1989; Wierlka 1993).

During the 1960s, the overly simplistic aspects of this perspective were subjected to a withering attack by archaeologists such as Binford (1966) and Clarke (1968), and it appeared that the idea of a straightforward and predictable relationship between archaeological cultures and ethnic groups of the past had been dealt a fatal blow. However, while the conceptual framework under which this early research was launched has been largely abandoned, the reconstruction of the boundaries of ancient social groups has remained an important research goal for many archaeologists. What distinguishes a number of the more recent attempts to address this issue is a more explicit concern with the theoretical justification and methodology of the endeavor and, at least for some, a more nuanced conceptualization of the complex and fluid nature of social and cultural identities and of the contextual definition and negotiation of boundaries of various kinds. Nevertheless, it is our impression that progress in improving our understanding of this perennial issue has been elusive and often hampered both by the parochialism of different national and regional traditions of analysis and by the hasty adoption and perpetuation of simplistic, reductionist interpretive formulas.

More substantial progress in the pursuit of social groups and boundaries in the archaeological record, to the extent that this may be possible, requires that the problem be situated in a larger theoretical context that addresses the more general issue of the relationship between material culture and society. The imperative centrality of a social understanding of material culture stems from the twin facts that, as Trigger has noted, "prehistoric archaeology is the only social science that has no direct access to information about human behavior" (1989:137) and, as Appadurai has put it, things "constitute the first principles and the last resort of archaeologists" (Appadurai 1986:41). All archaeological inference about past societies (including, potentially, the identification of social groups and boundaries) hinges critically upon an understanding of the relationship between material and non-material aspects of culture and society; left with only remnants of the former, we seek to use them to perceive and comprehend the latter. That is the essence of the archaeological endeavor.

Clearly, archaeologists with an interest in the exploration of ancient social groups can approach them only through the delineation of material culture patterns and boundaries in the archaeological record. But, an interpretation of those patterns and boundaries requires a theoretical understanding of the full range of social processes that might have produced them. Moreover, this theoretical understanding should also guide the further improvement of appropriate strategies for the identification of patterns. In other words, the attempt to study social groups and boundaries of the past requires a coordinated self-conscious consideration of both (1) the conceptual tools by which archaeologists define patterns, and (2) in what ways, and to what extent, the patterns they define may be related to social
and cultural identity. However, coming to grips with these issues necessitates an exploration of two broader domains of anthropological inquiry: In the first place, it requires the pursuit of an understanding of the nature of material culture systems as social and historical phenomena. Secondly, it requires an ethnological understanding of the nature and reproduction of social groups, of the construction of identity, and of the nature and function of boundaries. For reasons of space, we focus here primarily on the former domain, and offer only a few comments on the latter.

THE SOCIAL UNDERSTANDING OF MATERIAL CULTURE

Over the course of the past couple of decades, archaeologists have become increasingly aware of the limitations of our rather rudimentary understanding of the crucial relationship between material and non-material aspects of culture and society. This has led to a number of them to turn to the ethnographic study of material culture in living contexts, where both sides of this relationship can be observed, as a method of developing a set of theoretical tools by which to craft a more adequate window of entry for perceiving social relations and processes in ancient societies. The comments offered here stem from our experience of having undertaken several years of such "ethnoarchaeological" research among the Luo people of western Kenya.1

In approaching the study of material culture in an ethnographic context with the pragmatic desire to better perceive and comprehend ancient societies, two questions impose themselves as being fundamental. The first is "how does material culture originate in its social context?" That is, what are the social processes and structures that condition the production and reproduction of material culture? The second major question is "what social and technical roles does material culture serve and in what ways does material culture, in the performance of these roles, reciprocally affect social structures and processes?" An understanding of the interactive nature of the relationship is essential for comprehending its dynamics, the forces which direct the course of change. Moreover, it is only within the context of these larger questions that one can begin to engage in the more specific attempt to understand the role of material culture in the formation, expression, and reproduction of identity and to assess the feasibility of using remnants of material culture to identify social groups and boundaries of the past.

Of course, these are ambitious questions, and we are not proposing to be able to answer them definitively here. More modestly, we wish to explore a theoretical perspective that holds some promise in explicating some of the connections in this complex relationship and suggests further productive avenues of research. It is unlikely that a realistic general understanding of these issues will come easily or that such an understanding will produce some handy simple formula of ready utility to archaeologists (see also LeMoult 1986, 1999). Rather, we must be prepared to face squarely the complexity of the phenomenon and to commit ourselves to a rigorous long-term pursuit of the anthropological study of material culture.

Toward this end, we present here a critical comparative discussion of several recent archaeologically and ethnoarchaeologically derived approaches to the social understanding of material culture in order to identify both some key theoretical issues and various problems exhibited by these approaches in dealing with these issues. We then propose an alternative approach crafted from insights developed during our experience of ethnoarchaeological research in Africa and incorporating theoretically useful elements from (a) Bourdieu's (1977, 1982) theory of practice, (b) the study of material culture embodied in the French technologie de techniques et culture school, (c) the anthropology of consumption, and (d) an historically informed cultural economy perspective. Finally, examples from the ethnoarchaeological research are used to demonstrate the utility of the proposed approach for understanding material culture as a social fact and to indicate the theoretical and analytical prerequisites to consideration of social groups and boundaries in the material record of the past.

MATERIAL CULTURE AND TECHNIQUES

In approaching the study of material culture, one must begin by explicitly emphasizing a fundamental distinction between design and technique which should be quite obvious, but which bears elaboration. The distinction is one between objective and process. Things are physical entities that occupy space; they are what archaeologists recover as evidence. Techniques are those human actions that result in the production or utilization of things. From an archaeological perspective, they are one order of inference removed from things. Furthermore, things often preserve in their physical attributes and in their archaeological contexts clues that may inform, through a process of analogical interpretation, about the techniques employed in their creation and use. Moreover, things are made, exchanged, used, and discarded as part of human social activity. Hence, both things and techniques are embedded in and conditioned by social relations and cultural practices, and this fact holds out the promise that an understanding of this complex interrelationship may inform about society and culture in general.

However, this analytically and methodologically important distinction between things and techniques has been too often ignored by archaeologists (and even some ethnoarchaeologists) seeking to understand the social significance of material culture. Clearly, in order to adequately address the two fundamental questions...
posed earlier, one must look first at the ways that things are created and used in daily practice. The mediating process between things and society, and the key to understanding their reciprocal relationship, is techniques. Unfortunately, those archaeologists (at least within the Anglophone community) who have focused most intensely upon the interpretation of the social significance of things have tended to pay little serious attention to techniques, and (as will be explained below) have attempted to infer (or "read") social and cultural information directly from what is called the "style" of artifacts without a full investigation of and a realistic appreciation for the processes by which style is created (e.g., Hodder 1982; Wobst 1977).

But style results most immediately from techniques; and it is only by studying techniques, with the full range of social and physico-technical constraints to which they respond, that we can arrive at an understanding of the social forces and relations that condition material culture.

The concept of style has played a major role in archaeological approaches to the social significance of material culture (see below), and it illustrates very well the importance of what might be called an overly fastidious insistence on the distinction between things and techniques. The term style is often used to describe either of two phenomena. It may be used to designate characteristic ways of "doing things" (i.e., performing actions), what Mauss (1959) referred to as techniques du corps. Alternatively, it is more commonly used to designate characteristic patterns of material attributes in objects resulting from some of those ways of doing things (i.e., from techniques of production). We will refer to these two senses as style of action versus material style. Very frequently the two senses are conflated without a recognition of the difference or its significance. This issue will be more fully explored later, but the importance of the distinction may be briefly hinted at here by noting that not all explanations of why people perform actions in characteristic ways can be related directly to intended effects in a material product. Like history, although style is always the product of purposeful human action, it cannot be simply understood, or "read," as the consciously intended product of that action. Moreover, it is well to remember that the static, frozen pattern of traits which constitute material style is not the result of an instantaneous act of creation, but rather of a temporally extended process that is best conceptualized in the ethnoarchaeological model developed in the French school of technologie.1

ARCHAEOLOGICAL APPROACHES TO THE SOCIAL SIGNIFICANCE OF MATERIAL CULTURE

The most common way that Anglophone archaeologists have attempted to deal with the social dimension of material culture has been to separate out three dis-

creet aspects called "style," "technology," and "function" (cf. Braun 1981; Brunn- bry 1986; Flug 1980a, 1983; Wright 1983). Frequently, analysts selectively specialize in the study of one of those aspects. By technologie, in this narrow sense, is usually meant the techniques and materials used in the primary production of objects (most commonly, ceramics, stone tools, or metal goods). Function is usually taken to mean what might be called "utilitarian" or "instrumental" (as opposed to "social") function; it refers to those techniques that objects were designed to perform as "tools" acting upon matter. Style has a variety of meanings for archaeologists, although these are often somewhat ambiguously treated and are rarely very clearly or consistently defined. However, in the most general sense, whatever the differences in definition, it is usually considered to correspond to that aspect of material patterning which is thought to correspond to socially and culturally determined or constrained (i.e., it serves a "social function" or is a residue of social action); hence it is the realm where more archaeological attention has been focused by those interested in the social significance of material culture. However, as the following discussion will show, exactly how one identifies style and how one interprets its social significance and role are subjects of considerable controversy. Perhaps the most common way of identifying style has been to locate it negatively in relation to function and technology; it is thought to consist of those aspects of material patterning that remain after the latter two aspects have been accounted for. In other words, it is to be located in those attributes of objects that have no discernible role in affecting their utilitarian performance in the context of use (the domain of function) and that do not result from technical constraints in the context of their manufacture (the domain of technology). The presumption has been that these "residual" attributes were therefore included for reasons having to do with social processes. In the case of ceramics, since the possible effects of other attributes on performance are often difficult (or impossible) to evaluate, this has meant that studies of style have tended to focus almost exclusively upon what Sackett (1982) calls "adjunct form"; traits that were presumably "added on" either to perform some social function or as a passive residue of social action. In practice, this has meant that the concept of ceramic style, by tacit definition, has become virtually synonymous with "decoration" (i.e., surface treatment patterns). In the case of stone tools, which have no obviously distinguishable decoration, style has generally been located in those patterned aspects of form that differ on implements assumed to be used for identical utilitarian functions.

This negative approach to identifying style, in both its manifestations, has some serious problems. If one is interested in understanding the full social significance and roles of objects, then a focus on decoration alone is unsatisfactorily narrow; it is now clear from ethnographic studies that decoration is of highly variable significance in relation to other physical attributes and its meaning cannot be compre-
hended in isolation (see Dietler and Herrich 1989, 1994b; Lemonnier 1986, 1990; Sackett 1982, 1990). If, as in the case of stone tools, one is attempting to compare implements of the same utilitarian function to detect their stylistic differences, it is, at a minimum, necessary to have some means of verifying the similarity of function which is independent of analogies based upon the formal characteristics one wishes to study. Moreover, as Signor (1991) has pointed out, from an ethnographic standpoint, this basic conceptualization of "function" and its relationship to form is naively oversimplified and severely limited. These difficulties highlight the dangers of artificially separating style, function, and technology in this way and correlating these domains of material patterning with separate social and techno-utilitarian domains of action. While this analyt- ical strategy may have limited heuristic utility for addressing some problems (e.g., see Wright 1981), it is not a productive approach for understanding the social signif- icance of material culture. In so doing, one has unrealistically limited the possi- bilities for comprehending interrelationships between the domains and for per- ceiving techniques as "social facts." For example, such a conceptualization masks the role of social and cultural factors in conditioning technical choices and func- tional evaluations (Letchman 1977). Moreover, ethnographic evidence has shown that whole "technical systems" are embedded in social processes and relations: both broad system strategies and choices made at all stages of chaînes opératoires of production and use are aspects of social action and cultural concepts that result in the production of material style (see Dietler and Herrich 1989; Lemonnier 1986, 1990, 1992). This is why, as an essential prerequisite to developing a social under- standing of material culture, we have argued vigorously for a more integrated view of material style encompassing patterning in technological, formal, and decorative aspects (Dietler and Herrich 1989; Herrich 1987; Herrich and Dietler 1991) and for a corresponding approach to the production of material style based upon the concept of the chaîne opératoire (Dietler and Herrich 1989, 1995b). Among the principal advantages of this approach is that it allows one to view the production of material style as a temporally extended series of interrelated operational choices rather than as an instantaneous act of creation. Most archaeologists share the assumption that material style is a key to under- standing the social dimensions of material culture and would concur with Mauss (1930/1970) in his statement that "Le domaine du social, c'est le domaine de la modélisation." However, granting that something like material style, by whatever def- inition, may be adequately identified within objects, there have been many con- flicting interpretations of its social origin and roles. A primary division can be identified between those who see style as primarily a passive reflection of social be- havior or of shared cultural concepts and those who see it as a more active "tool" in strategies of social action (cf. Sackett 1990; Wiessner 1990).

The former view of style as a passive residue represents a longstanding tradition in archaeological research. It was this implicitly accepted relationship that allowed Childe (1928) to identify archaeological "cultures" and correlate them with peo- ple. With the advent of the "New Archaeology" during the 1960s, craft-learning patterns were identified as a primary social mechanism underlying this view (al- beit without much empirical investigation of the process in ethnographic con- texts). Using an idealized version of this mechanism as a basis, several archaeolo- gists (e.g., Dettb 1961; Longacre 1970) advanced interpretations of stylistic patterns as reflections of social organization (specifically, of post-marital residence patterns and kinship structures). These interpretations have now been shown to have suf- fered from a number of methodological and theoretical problems, including, most seriously, an overly static and stereotypic view of the process of craft learning and a rather limited understanding of its social context and relationship to material culture patterning (see Herrich 1986, 1989).

Structuralist approaches to material culture (at least those which hold closest to the structuralism of Saussure and Levi-Strauss) may also be recognized as adop- ting an essentially passive, reflective view of style (cf. Dettb 1977; Glassie 1971; Haddon 1927). However, in this case, stylistic patterns are seen to be a sur- face manifestation of deep cognitive structures that also generate structures of so- cial organization, myth, ritual, and other aspects of culture. Studies in this vein ex- clude the role in the production and reproduction of culture of socially situated subjects with different cultural competencies and different, often contradictory, interests. Where culture is viewed simply as a reflection, or an effect, of uniformly shared cognitive structure rather than as an historical social process, there is little scope within such an essentially static perspective for understanding change in ei- ther styles or society.

To a certain extent many of these problematic limitations are a result of the face that little attention has been paid to the relationship between different kinds of structures or to the extent to which the theory fails to consider the activities that actually create the material manifestations of those structures. As Sahlin has observed more generally, "If structural/semiotic analysis is to be extended to general an- thropology on the model of its pertinence to "language," then what is lost is not merely history and change, but practice—human action in the world" (Sahlin 1986). As will be discussed later, we hold this concept of practice as central to un- derstanding the social significance of techniques. Various other cognitive approaches to style have been developed without neces- sary reference to specific theoretical models purporting to explain the generative
basis of the phenomenon as a social fact. Many of these, such as Hardin's (1984) studies of decorative design schemes and Washburn's (1977) approach to design symmetry, have at least contributed greatly to the advancement of our methodological sophistication in characterising decorative aspects of material style for comparative analysis. Perhaps the most explicit explorer of the passive perspective on style has been Sackett (1981, 1990). Generally eschewing the term style, he has championed an alternative conception called "inchoistic variation" to describe the different ways people have of making and using things for similar purposes and the resultant characteristic combinations of traits that constitute the distinctive material culture patterns produced within what he calls "ethnic" groups. A primary focus of his analysis has been the definition of where, in material patterning, style may be seen to reside, and he has made a valuable contribution in refusing the pervasive style/function/technology schema and corresponding focus on style as-decoration in favor of a more realistic conception of the interrelated nature of material culture attributes. Sackett (1990), correctly, holds his definition of the locus of "inchoistic variation" to be independent of an explanation of its social origin. While recognizing the occasional active "sociological" use of material style for intentional signaling, he has urged persuasively that inchoistic variation should be viewed primarily as a result of the transmission within "ethnic" groups of largely unconscious perceptions of the way things should look and be used. Unfortunately, he has been reluctant to explore in satisfactory depth the ways in which social relations and processes condition the traditions guiding the production and reproduction of inchoistic variation. This hesitation most probably stems from a recognition of the limits of theorizing from an archaeological base; such understanding can only develop out of primary ethnarchaeological research through which these social features can be observed. In any case, despite its insightful contributions, this perspective ultimately lacks explanatory power to provide a convincing social understanding of techniques and material culture.

Much of Sackett's argument was developed in critique of the more active approach to style. Again, there are several competing perspectives in this camp all of which agree in seeing style primarily and essentially as a medium of communication. Perhaps the most popular among American archaeologists has been a view of material style as a tool for "information exchange" (e.g., Hegmon 1992; Plog 1980a; Pollack 1983; Wobst 1977). Based upon a seminal paper by Wobst (1977), this approach hinges upon a narrow definition of style (as decoration) and a hidden premise that it is an ethnocentric neoclassical economic argument (see Dietler and Herbich 1986 for a detailed critique). At the risk of schematizing to the point of caricature, the core of the argument runs as follows: style is seen as something "affixed" to objects at an extra "cost" in time and labor (Wobst 1977:336f); it serves a social function of communicating information, but with greater "costs of emis-

sion" than other modes of communication (Wobst 1977:332); the target group of their information and its message content can therefore be inferred from a cost-benefit analysis of the energy expended in "stylistic behavior" (Wobst 1977:335). Because an investment in the use of style to communicate with people who are in daily personal contact would be a redundant "dysfunctional waste of energy and matter" (Wobst 1977:335), the most efficient use of such stylistic information has generally been located in the symbolic communication of group (particularly "ethnic") boundaries and identity to outsiders (Wobst 1977:328-330).

This perspective has some fatal flaws, and its application to archaeological cases has led to some rather curious conclusions, such as a direct (and necessary) correlation between increasing complexity of ceramic decoration and increasing complexity of political organization (e.g., Pollack 1983). Ethnographic studies have demonstrated that the exclusive identification of decoration as material style or as a communication medium is untenable (Dietler and Herbich 1986; Gosselain 1992b; Lemonnier 1986, 1990), and the economic argument depends critically upon this correlation (one can only assess the energy "cost" invested in the production of style if it is viewed as something extra added to an object). Moreover, this reductionistic functional perspective pushed to its logical conclusion has the effect of explaining the creation of material style as an intentional strategy exclusively for communicating social boundaries. It etymologically confuses one potential eventual role of style with a primary constitutive function and hence the cause of its creation. As will be explained later, it shares with some of the "text"-analytic approaches to material style a basic confusion between the concepts of communication and signification. Again, a central defect with this program is that no attention was paid to understanding the social contexts of manufacture. Assumptions about the generation of material style were simply extrapolated from observations derived exclusively from the context of use. These problems stem ultimately from a failure to appreciate the distinction raised earlier between things and techniques.

A related defect in Wobst's (1977) argument is that the general principle of using a sliding scale of the relative visibility of material media as a gauge of their efficiency for broadcasting messages of identity was extrapolated largely from a narrow range of observations about clothing in Eastern European peasant communities (see Bogatyrev 1977, for a more nuanced discussion of the social categories expressed in Moravian folk costumes and the function of clothing in reinforcing status and role distinctions). However, the reason that clothing (and other bodily adornment) is so often a medium for the expression of identity has much less to do with its relative position on some abstract scale of visibility and efficiency than with its uniquely close association with the body and the social inscription of concepts of personhood (cf. Comaroff and Comaroff 1992:69-91; McCracken 1990:17-79).
ture to signal ethnic boundaries and the presence of "economic and social stress." If this were true and of more general validity, it would point the way toward developing the theoretical links that, by their absence, are a major problem for the archaeological application of Wissler's approach. Unfortunately, the utility of Hodder's study is highly dubious. In the first place, there is an alarming disparity between the extremely brief period of fieldwork involved (and the methods employed) and the sweeping social interpretation offered. A few weeks of ethnographic immersion of the complex social forces underlying material patterns, particularly in the absence of investigations of the process and social context of production. Moreover, Hodder neglected to define clearly what he meant by "economic and social stress" in the numerous articles in which he presented this material, and no adequate measure of this relative intensity (or, indeed, even an adequate demonstration that it actually existed) was ever offered in the cases where it was invoked. Furthermore, there was no attempt to demonstrate or explain the critical social link between this vague "stress" and the production and use of material culture. The study simply mapped the spatial distribution of objects of quite disparate ages and then fashioned a nebulous synchronic correlation which was asserted as causation without ever moving beyond the context of use (or indeed, even exploring that social context in any depth).

A number of recent studies focusing on the communication function of material culture have attempted to identify a broader range of roles than broadcasting identity, including particularly the use of material style in the representation of the social relations of power and strategies of ideological manipulation. These studies, although often designated as "post-processual," actually vary far too greatly in theoretical inspiration and methodology to be usefully lumped under this unfortunate polychromatic rubric. The insightful work of Miller (1986, 1987), for example, is quite compatible with the perspective developed in this paper, especially in its exploration of the relevance of Bourdieu's concept of practice to the social understanding of material culture and its grounding in solid ethnographic research. Others, however, despite programmatic statements to the contrary, may be seen to be in common a fundamentally identical central concept that views material culture as essentially a medium of symbolic expression (cf. Hodder 1982; Shanks and Tilley 1987; Tilley 1984). Consequently, the analysis of material cultures has been directed toward a quest for its "meaning." Often this has involved the analogical perception of material culture as a form of text, conveniently enabling the use of analytical methods derived from semiotics and textual criticism to "read" the encoded meanings.

This latter approach is subject to some serious criticisms. In the first place, analysis of material style has once again generally been focused narrowly on deco-

Sahlins 1976:273; Turner 1969, 1980). Clothing (along with cosmetics, body painting, tattooing, scarification, jewelry, headdresses, etc.) is part of "the social skin": the frontier between society and the self that "becomes the symbolic stage upon which the drama of socialization is enacted" (Turner 1980:172). Far from being a "dysfunctional waste of energy," the redundancy of bodily adornment in reiterating social status and role distinctions among closely interacting members of a group is an important mechanism for the naturalization of social categories and behavioral expectations in the formation of personal identity.

An interesting alternative approach to material style as a communication medium proposed by Wissler (1981, 1984, 1990) attempted to circumvent the severe limitations of the "information exchange" model (especially the exclusive focus on decoration and the ethnocentric economic reductionism) by identifying style in a more inclusive and positive way through its social function. She began with a restrictive definition of style as those aspects of material patterning that serve to communicate information about relative identity among individuals and groups. Style in this sense has two potential aspects called "emblemic" and "assertive." The former kind of style (emblemic) involves the existence of a distinct referent and conveys a clearly recognized message about the division of the social world into distinct groups with boundaries (cf. Davis 1985). The latter kind of style (assertive) has no distinct referent or clearly recognized meaning and is largely a matter of personal expression.

However, not all material culture patterning is necessarily related to these kinds of expression of identity. Hence, while this definition may be logically valid and operationally feasible in an ethnocentric context such as the San case investigated by Wissler, this is a problematic approach for archaeologists, which must lead them inevitably into tautology. This definition may be viable for ethnographers who can evaluate such communicative behavior directly (as Wissler attempted to do in her ethnoarchaeological research). However, in the absence of a developed theory that explicitly demonstrates which aspects of material culture patterning will be consistently used for such communication and which will not, it is clearly untenable logically for archaeologists to identify material style within a set of artifacts on the basis of a social function that cannot be observed but which must instead be inferred from the data as an explanation of their patterning. Moreover, as Barth pointed out in his seminal article on ethnic boundary signaling, "one cannot predict from first principles which [cultural] features will be emphasized and made organizationally relevant by the actors" (Barth 1966:243).

Other communication advocates operating outside Wissler's "information exchange" framework have also focused upon the concept of signaling ethnic boundaries. Hodder's (1979a) often cited ethnoarchaeological study in the Baringo area of Kenya, for example, posited a connection between the use of material cul-
ration as the text to be read (cf. Hodder 1991; Shanks and Tilley 1987:146-171). There has been a failure to recognize the complexity of the ways that both objects and techniques are imbued with meaning, to attenuate technical activity within the scheme of analysis, and to examine the actual process of practice by which material style is created (see Lemennicier 1990, for a detailed critique; and Hodder 1991, for a particularly egregious example purporting to read the geometric decoration on calabashes as a form of silent discourse by women about their oppression). Moreover, the overly literal analogy between text and material culture and the consequent borrowing of methods of linguistic and textual analysis are highly suspect endeavors that stem from, among other problems, a confusion of signs and symbols (cf. Sperber 1975; Yengoyan 1985) and a confusion of the concepts of communication and signification.

One of the fundamental distinguishing features of symbols is precisely that they are not like language and are not subject to analysis by semiological methods: they don’t “mean” but rather “ evoke,” and they are not articulated like language (Sperber 1975). Furthermore, material culture is not a text: it is not a coherent sequential string of connected signs with “referential meaning” (see Ferguson and Beauvoir 1987:171-175) created expressly and exclusively as an instrument of communication. Material culture is embedded in systems of symbolic expression but also in systems of practical action on matter. Hence, although material culture participates in processes of signification (objects may provoke emotional and intellectual responses and be invested with significance of various kinds by users and makers), it is not primarily a system of communication like language. The relationship between the intentions of the maker of an object and the significance attached to that object is complex, direct, and far more complex and ambiguous than in the reading of a text produced by a writer.

An understanding of the social origin and significance of material culture will not come from “reading” decorations as text (see Lemennicier 1990). It requires a dynamic, diachronic perspective founded upon an appreciation of differences in the contexts of both production and consumption (see Dietler and Herrich 1994a), an approach to material style centered on the chaîne opératoire concept, and upon a rigorous examination of the link between objects and techniques in the contexts where they are generated, reproduced, and transformed.

HABITUS AND TECHNIQUES

This quick survey was by no means intended to be exhaustive, but rather to schematically indicate a range of strategies archaeologists have developed for grappling with the crucial issue of the social dimensions of material culture and to identify some problems with these approaches. Most of the theoretical debate concerning this issue has, of course, developed in the context of ethnoarchaeological research where, unlike archaeological cases, it is possible to actually evaluate the plausibility of one’s concepts through participant-observation of social activity (even if, alas, this potential is not always fully realized).

The most frequently invoked basic difference in approach, that between the passive and active conceptualizations of style, may be recognized as a manifestation of the persistent central paradigmatic dichotomy of the social sciences, that between structure and agency (cf. Bourdieu 1977, 1980; Giddens 1979; Ortner 1984; Sahlin 1976, 1981). Some scholars posit that stylistic patterns are predominately unconscious reflections of social or cultural phenomena, in the case of structuralist analyses, material culture patterns are thought to conform to deep cognitive structures underlying all social relations and cultural practices (e.g., Deetz 1977; Glassie 1973; Hodder 1981:212-214). Others see them as a largely unconscious behavioral reflection of societal organization, interaction, or membership in “ethnic” or other social groups or categories (e.g., Longacre 1970; Sackett 1990; Wauchope 1977). Those who emphasize a more action-centered view of material culture tend to view it as largely a product of social practice and to emphasize the manipulation of material symbols in strategies of group boundary maintenance, ideological representation of social relations, or cultural categorization (e.g., Hodder 1982; Plog 1980; Wissler 1983; Wauchope 1977). These views are not necessarily contradictory; they are merely partial. Some tend to perceive social action as determined directly from the level of structure, while others focus upon symbolic action without adequate reference to the matter in which broader socio-cultural forces and material conditions structure or constrain perceptions and decisions. However, a realistic theory of material culture as a social phenomenon that can address the two questions posed at the beginning of the paper must account for both structure and agency by showing how the two are mediated through practice: that is, both how practice is conditioned by structure and how it reduplicates structure in the process of reproducing it.

For reasons which will be explained below, we believe that Bourdieu’s (1977, 1980) theory of practice, and particularly his concept of the habitus, has a great deal of potential in pointing the direction toward such a bridging conceptualization for material culture. However, in order to effectively bring his ideas to bear on the domain of material culture we must reestablish a more holistic conception of material style and techniques incorporating the concept of the chaîne opératoire and focus analysis concurrently on both the contexts of production and consumption. This requires a foundation strategy pioneered in the French tradition of technologie et ethologie des techniques (cf. Cresswell 1976; Haendelcourt 1987; Lemennicier 1976, 1986, 1990, 1992; Lenni-Gourhan 1943; Mauss 1936; Schlanger
ture patterns are assimilated and reproduced, particularly in the case of prehistoric (and pre-industrial) societies of the type usually studied by archaeologists who craft learning generally takes place through observation and emulation without the use of a formally articulated set of rules (see Herbich 1987). The reproduction of material culture then becomes more realistically situated in social life. Techniques are not seen as, in some sense, a secondary "product" of social activity or of social strategies, but rather it is recognized that dispositions which generate action in all domains of social life are formed together in the course of practice. This perspective would, for example, shift the focus of an analysis from seeing material style as something intentionally "willed on" in order to signal group identity (as do advocates of the "information exchange" approach), to seeing the process by which a sense of group identity is formed and transformed as being coeval with and identical to the process by which a sense of techniques is formed and transformed. Both appear to be a part of the natural order. This avoids the problem of confusing function with intention by recognizing that while all social action is purposeful, the larger patterns that we perceive are often unintended consequences of many choices made by social actors following different strategies but linked by certain common structurally conditioned tendencies toward action.

It should be emphasized that the habitus is not a static concept: one of its most attractive features is that, as the "generative principle of regulated improvisation" (Bourdieu 1977:78), it allows the perception of how practice both reproduces and transforms structure as it adjusts to demands. Rather than seeing practice as predetermined by a static set of cultural concepts or structures (e.g., some sort of rigid mental template), the habitus is a dynamic relational phenomenon which is both an historical product and agent. This is because, as a set of learned dispositions that allow the solution of daily technical and social problems through a process of structured analogical reasoning, the solutions to these problems influence the development of the dispositions. A certain latitude in action is thus possible as people respond to practical demands. Practice may alter gradually without marked consequence as long as there continues to be a close fit between the objective conditions and the subjective organizational system of dispositions.

This relation of correspondence results in a state of unquestioning perception of the "naturalness" of the social and material world that Bourdieu calls "donk." However, demands sometimes lead practice into responses that call this correspondence into question in certain areas, leading to the formation of a domain of self-conscious discussion between positions that Bourdieu calls "heterodoxy" and "orthodoxy." When the arbitrariness of some of what was accepted as implicit axiomatic knowledge is exposed in this way it results either in rationalization and systematization of what was formerly an unconscious set of dispositions, or in overt social conflict. This is one way in which material culture and techniques can
have an unintended impact upon the social relations and structures which generated them, and this is particularly significant for social change when the arbitrariness of social institutions and practices embodying asymmetrical relations of power are exposed.

In order to understand the course of change in techniques and material culture, it is necessary to understand: (1) the apparatus that structures responses to technical and social problems, demands, or opportunities (i.e., the habitus), (2) the material conditions that influence the formation of the dispositions that constitute the habitus, and (3) the origin and nature of the problems or demands that provoke responses. It must be recognized that such demands originate simultaneously at several levels, from small-scale interpersonal relations to the supra-regional political economy. This means that, to reiterate once again, explanations of change that reside at the level of homogeneous, bounded cultural structures are inadequate. Concepts derived from anthropological work on consumption and historical cultural economy must be brought to play in exploring, at a range of scales in the contexts of both manufacture and use, the material conditions of the development of techniques and the transformation of strategies of choice in chutes ouvertes.

DEMONSTRATION OF THE APPROACH

In order to illustrate the utility of this perspective for understanding the social significance of techniques, it is necessary to very briefly examine a few empirical cases. The two examples used are drawn from ethnoarchaeological work among the Luo people of western Kenya.

Luo is a Nilotic language spoken by some two million people occupying a territory of about 10,000 sq km surrounding the Winson Gulf of Lake Victoria (Fig. 10.1). The regional settlement pattern is characterized by polygenous, patriarchal, three-generation extended families living in separate homesteads scattered over the countryside. Each homestead undergoes a life-cycle of foundation, growth, and abandonment, and the landscape is composed of interspersed homesteads representing all stages of the cycle. The economy is based upon horticultural production of a mixed assortment of grain, legume, and root crops. Fish from the gulf are traded widely over the area, and cattle also play an important role in the economy as a measure of wealth and as a source of milk and occasional meat. Cash cropping is poorly developed in the northwestern third of Luo territory where our study was focused (Siaya District), although it is more prevalent in the other two districts. In Siaya District the local economy is weakly linked to the national economy by a network of regular periodic rural markets and somewhat more strongly by a pattern of male wage-labor outside the region. The markets provide a source of cloth-
The Luo produce a wide range of ceramic pots for household use, including cooking, storage, and serving vessels (see Dietler and Herrich 1989, Herrich 1987, 1989; Herrich and Dietler 1989, 1993). The pots are made exclusively by women, and moreover by a limited set of women who constitute a very small percentage of the total female population. In this sense, Luo pottery production is a specialized craft, although potters do not depend on any significant extent on the craft for their subsistence. Luo potters, like other Luo women, are full-time agriculturalists responsible for growing the food to feed their families.

Potters tend to live grouped in various network-clusters of homesteads that we call "potter communities." These women learn the craft after marriage from their mothers-in-law or other senior women in the husband’s father’s homestead, and this results in the production of distinctive local "micro-styles" (Herrich 1987). These micro-styles are defined not only on the basis of decoration. Rather, they are characterized by their cultural patterns of technique, form, and decorative attributes. Figure 10.2 is an attempt to briefly and schematically illustrate the complex nature of these micro-style differences through selected examples of one pot category (a type of water storage/cooking vessel) from six different potter communities. Each drawing represents a typical example from a range of characteristic variants for this particular pot type produced within each community. (Figure 10.3 gives a corresponding sense of internal variation by showing a typical range of variants for this pot type produced within the same potter community.) Each of the other pot types within the local repertoire for each community will also be distinctive from those produced by other communities, but not in the same way as the water pots: characteristic decorative motifs and structuring of the decorative field, for example, will differ considerably for different pot types within the same community (see Herrich and Dietler 1989, 1993 for a fuller explanation).

These patterns are the product of choices made at various stages of the chaîne opératoire of production (from clay procurement through to firing) by local sets of potters within a global population of Luo potters employing a very similar limited set of tools and basic techniques (Dietler and Herrich 1989). Each community producing a distinctive micro-style does so not through following a set of rules. In fact, although potters can distinguish their own local style from that of other communities, they are not usually able to self-consciously articulate the sets of attributes which constitute their style and they certainly do not teach or learn the craft this way. Moreover, the attributes that characterize pots falling within a style are not identical. Rather, potters share a set of learned dispositions that guide their perceptions of an acceptable range of variation in choices at the different stages of the chaîne opératoire.

This process can be partially situated within its social context by noting that these technical and aesthetic tendencies are learned as part of a general process of
post-marital resocialization that occurs for all new brides under the authority of their mothers-in-law and other senior women in the patriloc al homestead (Her- 
bich 1987). The actual process of learning takes place in the context of normal di-
menst labor and is structured by networks of personal interaction and authority 
among friends, co-wives, and mothers-in-law. It would be misleading to view the 
material style produced in this way as a medium intended to communicate group 
identity (although individual choices at any stage of the chaîne opératoire may 
sometimes be directed by the expression of individual or group identity). Rather, 
it is a function of the personal transformation of habitus through practice respon-
sponding to certain demands of social relations. 

It is important to note that these potting styles are not static. The tendencies re-
sponsible for shared patterns of choice in the chaîne opératoire of production re-
produce the local style, but not slavishly as if dictated by a rigid set of rules. 
Rather, they allow practice to continually respond to demands in ways that are 
conditioned by the dispositions. Changes may occur at any stage of the chaîne 
opération in response to a variety of demands, and this is the reason that styles of 
the different potter communities cannot be differentiated on the basis of a single 
trait (such as decorative motifs). The operation of the dispositions in the course of 
practice results in separate historical trajectories of ranges of acceptable production 
choices for different groups of potters and a corresponding polythetic overlapping 
distribution of traits over the region. Such choices are not random; all of the clusters 
of traits are compatible with the evolving structures which generated the habitus. 

However, none of them can be "read" like a text to yield the "meaning" of the style. 

A few specific examples may help to clarify this perspective. Potters living in 
several potter communities around Ng’ija market (see Figure 10.1) all use ground 
sherd temper in the preparation of their potting paste. This practice is due not to 
any lack of suitable natural temper (or incompatibility of local natural temper 
with the local clays) but to a technical disposition which guides practice. The rel-
atively high cost of obtaining pots to grind up for temper (one new pot is ex-
changed for two old ones), has stimulated a few potters to attempt experiment-
ing with other tempering materials. However, they have not tried the abundant nat-
ural temper which is known by some to work for potters in other areas, but have 
instead tried grinding up other fired artificial products such as bricks and the 
burned soil from charcoal production mounds. Others use blanks of clay that they 
have fired alongside their pots to meet this need. This pattern of choice is clearly 
"cultural" in origin rather than physico-technically determined. However, in such 
a process of innovation, perception of the limits of the possible is constrained not 
by considerations of communication functions or identity concerns, but by the 
historically molded inclinations toward action of the habitus, which are tied in 
through their mutual origin to perceptions of "natural" social relations within the
homestead and the society. While it might be tempting for some to read this rejection of natural temper in favor of artificially fired materials as a symbolic reflection of opposed concepts of "raw versus cooked" and "wild versus domesticated," etc., this is far too simplistic. Potters of the same Lao subtribe living a few kilometers away use natural temper instead of sherd temper. Such an interpretation is powerless to explain how such variations can arise within the same culture, while a practice approach yields more plausible insights. What is necessary is an historical understanding of the demands to which choices in the chaine opératoire respond and how choices at other stages or times are subsequently constrained.

Many of these demands stem from the level of the political economy, while others reside at the level of personal relationships. As an example of the latter, certain aspects of decoration may be cited. Every potter has a slightly varied repertoire of decorative motifs which she shares variably with other potters in the community and applies in a relatively consistent spatial configuration with a common set of tools and techniques. However, potters often try subtle experiments with new motifs or arrangements. Whether these innovations become incorporated into the acceptable range of choices for decoration for a community depends upon several factors, such as market acceptance. However, one of the most influential of these factors appears to be personal relations among potters. The innovations of popular potters are more likely to be imitated by others than are those of unpopular potters. Antagonism between potters can also result in increasing differentiation of aspects of their decorative repertoires. In this way, personal relations in the context of manufacture among small groups of potters operating with common dispositions and tools can result over time in significant stylistic changes which have little or no resonance in the context of use.

In fact, careful analysis of the eventual spatial distributions of pots after they are purchased and carried to the contexts of consumption shows that most of the resulting micro-style zones cut across important social and cultural boundaries, including Lao subgroup boundaries and the border between the Lao and the neighboring Banu-speaking Luyu (Figure 10.4, shows such a distribution for over 1,000 pots emanating from Ng'ya market and the Lao subgroup boundaries that are traversed). Moreover, not only are the borders of territories and groups, which are clearly important to people not reflected in the distribution of ceramic styles, but the boundaries of the style zones fall in areas that are of no cultural or social significance (see Dieterle and Herbich 1994a). Even when the community of origin of a particular micro-style is clearly recognized, this is of little concern to the people who use the pots: ceramic style plays little role in the expression of group identity in the context of consumption.

In summary, the Lao ceramic data present us with two distinct and important phenomena. The initial production of ceramic style and the historical development of changes in the domain are the result of traditions of production (shared dispositions guiding choices in the chaine opératoire of production) characteristic of the different potter communities. These traditions are reproduced by women recruited from outside the potter community (through a system of patriarchal postmarital residence) by means of processes of craft learning in a domestic context and a more general socialization after marriage (see Dieterle and Herbich 1985; Herbich 1975; Herbich and Dieterle 1993). Insofar as considerations of the expression of identity (group or individual) play a role in the creation of ceramic style, this is largely confined to the context of production and little understood outside these networks of personal interaction. Processes of distribution linking producers and consumers necessitate a change of context and of meaning; and the eventual
spatial distributions of ceramic styles, which are so important to archaeologists, tend to override and obscure the meaning of style within the context of production.

Consequently, it must be admitted that for archaeologists neither the spatial distribution of ceramic styles nor regional resemblances in pot forms are necessarily very good indicators of group identity. Homogeneous style zones may pass across traditionally hostile borders and the boundaries of these style zones may bisect groups with a strong sense of mutual identity. And this is not only the case with obvious large-scale trade wares. The caveat applies even where, as with the Lao, such style zones are less than 30 km in diameter: a fairly typical pattern for pre- and protohistorians. A critical lesson for interpretation of ceramic data from this ethnarchaeological case is the importance of understanding the distinction between the social contexts of production and consumption and the ways they are articulated (see Dietler and Herbich 1993a for a more detailed discussion).

Lao houses offer an interesting example of the reciprocal relationship between practice and structure. On a regional scale, they are in the process of undergoing a gradual transformation in form, technique of construction, and materials. The change is from houses of round plan to houses of rectangular plan (Fig. 10.7), and from wattle and daub construction on a post-built frame and a thatch roof to cement block construction with a corrugated iron roof. However, these aspects are not spreading as a package or at a uniform rate. While the traditional round house is found only in wattle and daub construction, the rectangular plan is found with wattle and daub construction and (far less commonly) in cement construction. Moreover, the wattle and daub version can be found with either a thatch roof or a corrugated iron roof. Some areas still have almost exclusively round houses, others are mixed (often in the same homestead), and in some areas it is rare to see a round house any more.

What is interesting about this situation is to see what demands are being responded to in these various changes, how inclinations of practice condition changes, and how some changes have unintended consequences for challenging "dosya" (the unquestioning perception of the "naturalness" of the social and material world) in other domains of social practice. All of these changes are ultimately a response to the impact of the world economy on the region, but in somewhat different ways. The rectangular form is an adaptation to the adoption of European furniture, particularly beds and tables, which do not fit very well in a round house. While it is also felt by many people to be "modern," it does not carry particularly heavy symbolic weight as a sign of unusual prestige or wealth (although, to a certain extent, the furniture "implied" by a rectangular house may have this effect). Because of their cost, corrugated iron roofs and, especially, cement construction do clearly and directly carry such implications.

The spatial and temporal organization of the Lao homestead (called dala) is an extremely complex symbolic representation of the genealogical structure and the relations of authority in both the homestead and society that can be only briefly alluded to here (for a fuller account see Dietler and Herbich 1993; Herbich and Dietler 1993). In a very schematic way, one can say that seniority and authority, both generational and structural, is represented literally by elevation, with lower seniority individuals building downhill from more senior individuals. Lanes of structural opposition and alliance between co-wives, and in the broader kinship and political systems, are correlated with house placement on alternating sides of the homestead (see Fig. 10.6). Moreover, relations of seniority and authority are also represented and naturalized through temporal sequences of house construction, repair, and a host of daily activities and rituals that take place in the homestead. In view of the importance of spatio-temporal relationships, it may appear somewhat surprising that a change in house form could be accomplished with so little apparent concern or turmoil. Yet this seems to be the case. Experiments with changes in the position of the houses due to land shortage have been a cause of
considerable anxiety, of concerns about supernatural consequences, and of discussions attempting to rationally establish an orthodoxy. But the form of the house appears to be a feature open to substantial variation without much comment or concern.

It should not be imagined that the spatial arrangement of the homestead is inflexible: in fact, there are possibilities for all kinds of contingencies in practice that even make the underlying regularity of structure somewhat difficult to perceive for an outside observer. However, the range of choices is decidedly limited by the ban on and reinforced by ritual and the threat of supernatural sanctions. There are certain innovative responses of practice (such as, for reasons of land shortage, a man building a house behind that of his grandfather, i.e., upstage from it within the homestead) which have called the axiomatic nature of \"down\" into question and provoked a discussion of the logic of practice, particularly among senior men. Space and time are so important in the contexts of settlement organization because dispositions governing the relationship of houses are closely linked in their reproduction with dispositions governing the structure of seniority, kinship, and authority. The spatial structure of the homestead (as well as ritual and temporal sequences involved with acts of founding, building, etc.) constitutes a powerful symbolic representation of the structure of social relations because it forms the physical environment in which the \"kinship\" producing the perceptions of the \"natural\" order of social relations is formed in the course of daily social life. Changes in the form of the house have been less critical in this case because they have had less of an impact on daily relations of interaction. Moreover, the internal structural relations of domestic space remains unchanged from round to rectangular houses. There is still a female side of the house with the hearth and an opposite side for visitors. This structural principle even determines the proper function of rooms as the innovation of internal divisions appear in houses.

Curiously, changes in the materials from which houses are made have had more profound social consequences than the form of the house. This is, again, because it affects practices that underlie dispositions governing social relations. Traditionally, thatched roofs can be built and repaired only by men, while walls must be regularly smeared with clay by groups of women at least once a year. The need for periodic roof repair reinforces relations of dependence between women (the \"owners\" of houses) and men, and the smearing parties reinforce relations of mutual support and dependence among women. As a further illustration, upon the death of a male head of the homestead, none of the other co-wives is allowed to have her house repaired until the first wife's house has been repaired; and this is allowed only after the house has undergone a ritual to mark the end of mourning. It is clear that the more permanent construction materials, by eliminating such practical needs for repair, may have a profound impact on relations of authority and dependence. Moreover, when the owner of a house dies, others are not allowed to occupy it: the house must simply be left to deteriorate and fall down or be pulled down. As noted earlier, homesteads themselves undergo a regular cycle of occupation by a three-generation family (a man, his wives, his sons and their wives and children). They are abandoned after the death of the founding generation and converted to farmyard by the sons of the original male head of the homestead. These sons are obligated by custom to move out of their houses in the father's homestead and

Figure 10.6. An idealized Luo homestead coupled with a kinship diagram showing the relationship of occupants and a schematic representation of lines of structural opposition and authority expressed in the spatial organization of houses (adapted from Herbert and Dietler 1993). The upper half is occupied by the male founder and his wives, each with her own house. Immediately succeeding wives are considered to be in a relationship of structural tension, while relations of cooperation are assumed to exist within the group of even-numbered wives and within the group of odd-numbered wives. Houses in the lower half of the homestead are occupied by unmarried sons and by married sons and their wives. A daughter-in-law is expected to cooperate with her mother-in-law and allied co-wives.
found their own homesteads when their own sons are ready for marriage. The building of expensive permanent houses is creating strains in this system, which is again intimately tied in with kinship and political structures.

CONCLUSION

The intent of this paper was to suggest and explore a way of circumventing some of the problems that have troubled archaeologists attempting to grapple with the crucial relationship between material culture and society. Penetrating this relationship and understanding some of the social forces that produce material culture patterning is a fundamental requisite to engaging in the more specific attempts to understand the role of material culture in processes of identity formation, expression, and reproduction and to assess the feasibility of using remainders of material culture to identify social groups and boundaries of the past. This must, of course, be coupled with an improved understanding of the complex nature of social group identity and the shifting contextual definition of boundaries that take account of the political-economic dimensions of the process of interaction between groups. The nature of group identification, the strategies for signaling exclusion and belonging, and the shifting salience of different cultural elements in these strategies vary greatly according to the relative asymmetry of power relations among interacting groups (see Comaroff and Comaroff 1981:47-67).

It was suggested that the artificial division between style, technology, and function has become excessively refined and is not heuristically useful for the purpose of understanding the social dimension of material culture. These concepts and the approaches they entail cannot, for example, produce plausibly cohesive answers to the essential questions posed at the beginning of the paper: how does material culture originate in its social context and how does material culture reciprocally condition social structures and processes? A more integrated approach incorporating elements of the French tradition of *méthodologie*, with its emphasis upon techniques as the mediating factors between objects and society and upon understanding choices and demands at various stages of *châbles opératoires*, holds much greater promise in producing a realistic perspective of the complexities of material culture patterning. Moreover, a theory of practice modeled on the work of Bourdieu may allow us to situate techniques more readily within their social context as products and producers of habitation. It provides a "temporal" approach to technics that links structure and agency as mutually generative forces. Both the objective material conditions that generate dispositions and the demands to which practice responds are best approached from a perspective that views culture as an historical social process within a larger world of social and economic relationships.

Such a synthetic approach, it is hoped, may propel us to a new realization of the complex nature of the problem facing us. A social understanding of techniques is a crucial issue for archaeologists; we must address it realistically through both empirical ethnographic research and the development of theory. Our ability to propose and evaluate plausible interpretations of the past, including the delineation and understanding of social groups and boundaries, depends upon the progress of this endeavor.

ACKNOWLEDGMENTS

This chapter is a revised version of a paper that was originally presented in 1993 at a multidisciplinary symposium on *Genre sociale des techniques—Génie technique des hommes* at the estate of the Fondation des Treilles, near Tourroux, France, and subsequently published in French as "Habitus et reproduction sociale des techniques: L'intelligence du style en archéologie et en ethnoarchéologie" (Dietler and Herbich 1994b). We would like to express our gratitude to Bruno Latour and Pierre Lemonnier for the invitation to participate in that symposium, to all the participants for their helpful comments and camaraderie during the week we were assembled together, and to the Fondation des Treilles for its exceptional hospitality. We also wish to thank Mirtam Searf for her invitation to include this paper in the current volume and for editorial comments.

NOTES

1. The research was carried out between April 1981 and January 1983. Funding was provided by the National Science Foundation, the L.B. Looby Foundation, The Winter-Gray Foundation, and the Beiney Fund of Oxford University, for which we are extremely grateful. Our thanks also to the National Museum of Kenya, the Office of the President of Kenya, and the British Institute in Eastern Africa, *Pro domo mecum standing* to the Luo people and to our field assistant Monica Okeyo, the late Elijah Odhoo Ogkoo, and more especially Rhoda Ojinya.

2. It should be emphasized for non-Francophone readers that our approach is not an orthodox recapitulation of the French *méthodologie* program, and it should not be used as a handy substitute for reading that rich and important body of literature. Rather, ours is a distinctive perspective that incorporates concepts drawn from the "school" into a framework rooted in our ethnoarchaeological experience and informed by anthropological theory in the domains of consumption, historical cultural economy, and practice. One important difference between our approach and the *méthodologie* school is that our introduction of Bourdieu's theory of practice into the discussion of material culture is an issue of clear disagreement with most of its practitioners (we have had the pleasure of amiable wrangling about this and various
points of accord and disagreement over the past decade at various symposia and seminars at the University of Paris and the École des Hautes Études en Sciences Sociales.

3. The château opératoire (or "operational sequence") is an analytical concept first developed by Lévi-Strauss (1964), who was himself inspired by the work of Mauss (e.g., 1935). The concept has been further refined and elaborated in slightly different ways by various practitioners of the French ethnological school, for whom it is a fundamental tool for approaching the anthropological study of techniques (e.g., Crowell 1976; Lemoine 1980, 1990). We prefer to employ the original French term rather than a translated equivalent in order to indicate this historically specific usage. Basically, a château opératoire is a technical process composed of a series of operations that result in the production of an object.

The description of particular château opératoires is a very effective way of illuminating the series of choices involved at all stages of the process of production, of revealing the cultural and physico-technical context of these choices, and of characterizing differences in technical systems. Such description involves the sequential specification of the materials and tools used, the actions performed and their names (if any), as well as the identity of the maker and the place, time, and context of production. See Dietler and Herbich (1987) for an example of the application of the château opératoire to the analysis of pottery production among the Luo of Kenya (cf. Gosselain 1980; van der Leeuw 1990).

The term ethnologue is a potential source of confusion for a mixed French and English audience. Signor (1986, 1987, 1995) defines it as a social science of technical facts, or what might be called the "ethnology of techniques" (cf. Hauberrisser 1978; Lemoine 1980, 1986, 1989, 1990, 1995; Schlanger 1993). This use of the term does not correspond to its common English use (or rather, given the most meaningful parts of the wood, its mimicry) and certainly not to its accepted meanings within the Anglophone anthropological and archaeological communities (cf. Bailla 1978; Plog 1980; P docy 1990; Renfrew and Bahn 1993; Rice 1987; Wright 1988). Unfortunately, nor is there, as yet, a developed or even recognized domain of Anglophone ethnological research corresponding to the French tradition denoted by this term.

4. The sense of this phrase is difficult to convey in translation, but it may be rendered approximately as "The domain of the social is the domain of repetitive similarity."

5. The same pattern of localized ceramic microwear can result from several different systems of post-marital residence because design concepts are not invariably fixed in childhood. Parents can learn new patterns of production choices, and in patrilocal societies where women marry at an young age, they may learn potting only after marriage. Hence a patrilocal system with women married exogamously from outside the area of the potter community and a mother-in-law-daughter-in-law learning process will result in the same pattern of localized microwear as a matrilocal system with women remaining in place and a mother-daughter learning process (Herbich 1981, 1987).

6. Sackett uses the term "cultural" to indicate, very generally, social groups at a wide variety of possible scales. This is a somewhat ideologically broad usage even among archaeologists who tend to use the term in a much less specific and rather different sense than cultural anthropologists (e.g., Barth 1956b; Bentley 1987; Cameron and Cameron 1980:49-67; Nash 1985).

7. A further major difficulty with the application of W. D. R. information exchange approach in ceramics is that the principle of relative visibility as a key to the assessment of energy in "artistic behavior" runs counter to common practice. Among the Lus, as elsewhere, one finds highly decorated pots that never leave the kitchen and are not covered with stoves that one can barely see the original decoration. Clearly, the desire to communicate with outsiders cannot be invoked as an explanation of aesthetic elaboration of this kind, and considerations of efficient exchange of information are (indeed).

8. In terms of its inappropriateness for achieving social and cultural understanding and, critically, for assessing objects in their sociocultural context, work of this kind is really the etno- graphic equivalent of Pannekoek's famous "telephone booth" excavation. As archaeologists, we must learn to stress quick simplistic formulas and become so sophisticated and critically demanding in our assessment of ethnographic or archaeological studies as we are in evaluating excavations; and, as ethnographers, we need to standardize a more rigorous set of field methods that includes long-term participant observation and ethnobotanical research.

9. Although the term "habitus" has been employed in related ways by earlier anthropologists (e.g., Mauss 1935), we use it in the very specific sense defined by Bourdieu (1977, 1982) as part of his theory of practice. While recognizing the merits of other similar approaches modulating structure and agency, such as the structuration theory of Giddens (1979), we prefer to use Bourdieu's approach both because its formulations prediced these other theories and because Bourdieu has been intensively concerned to develop, extend, and explicate the theory through repeated applications to a broad range of empirical domains.