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Author(s): Michelle Hegmon

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ARCHAEOLOGICAL RESEARCH ON STYLE

Michelle Hegmon

Department of Sociology and Anthropology, New Mexico State University, Las Cruces,
New Mexico 88003

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A consideration of material culture style has been a part of archaeology almost from the beginning. However, only in the past few decades have many archaeologists begun to question and discuss explicitly what style is and how it can be used [summaries of these trends can be found in a recent review in this series (99) and elsewhere (16, 36a)]. Recent examinations of style by archaeologists (17:1) and by an art historian (117:253) both cite Gadamer's (36:466) statement that "the notion of style is one of the undiscussed self-evident concepts upon which our historical consciousness is based." These researchers then go on to argue that archaeologists no longer share a united approach to style. Various kinds of style have been defined (e.g. 135, 112–114), and it sometimes appears that archaeologists have as many approaches to style as we have works on the topic.

In reviewing the literature, however, I found that despite different labels, archaeologists generally agree on what is meant by style and are able to launch profitable discussions of stylistic variation (e.g. 99) or of particular styles (e.g. 42) without lengthy preamble. Archaeologists have a common ground for considering style, though it is manifested in various definitions. At the core of the definitions used by a number of archaeologists with very different theoretical perspectives are two basic tenets. First, *style is a way of doing something*

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(e.g. 66, 112, 139), and second, *style involves a choice* among various alternatives (20:365; 47:591; 112).

If archaeologists can agree on so basic an issue, then why the debate? Why another review of style and archaeology fewer than ten years after the last (99)? Why so many recent books on style and related topics (12, 17, 65, 122)? The source of the debate becomes apparent, of course, when the various definitions are examined in more detail. According to Sackett, style (in traditional archaeological approaches) involves choice between functionally equivalent alternatives, and a style is “a highly specific and characteristic manner of doing something, which, by its very nature is peculiar to a specific time and place” (112:63; 113–115). Wiessner argues that “style is a form of non-verbal communication through doing something in a certain way that communicates information about relative identity” (139:107). Finally, Hodder states that “style is ‘a way of doing,’ where ‘doing’ includes the activities of thinking, feeling, being” (66:45). Thus for Sackett, style bears particularly on time-space systematics, for Wiessner it has a communicative function, and for Hodder it relates to cognitive processes.

Thus, despite this general agreement that style is a way of doing, debate arises about specifics: What, if anything, does style do? How does style relate to social and cultural processes? How is it best analyzed and studied archaeologically? Here I focus primarily on these questions, on style in artifacts (rather than architecture, mortuary practices, etc), and on work done in the past 15 years.

STYLE AND FORMAL VARIATION: HISTORICAL PERSPECTIVES AND ANALYTICAL RIGOR

In past decades—including the early years of the New Archaeology—many archaeologists defined style as a component of material culture, that is, as formal variation not determined by technological constraints (4:25; 110:321). Style was studied primarily as a diagnostic code for us to interpret (120:287; see also 16:9); and the distribution of styles or “stylistic variability” (4:203) was analyzed to define space-time systematics and gain information about prehistoric social groups. While this approach can be criticized for treating style as a passive phenomenon (119:89; 140), it is also worthy of praise, especially in terms of the analytical process. When style is defined as a component of material culture, a close analytical link is maintained between the object of study (i.e. patterns of formal variation) and the subject (i.e. style).

More recently, archaeologists have attempted to understand style from a more active perspective. The various definitions of style presented above, along with other perspectives on style and material culture articulated recently (e.g. 61, 89, 118, 119, 140), consider style to be a component of human activity. While this perspective is obviously attractive in view of current anthropological interests, it is somewhat problematic analytically because it

separates the subject (style as a component of human activity) from the object of study (material culture variation). While archaeologists are often skilled at developing effective bridging arguments that relate subject and object (e.g. 96), it is all too easy in stylistic research to ignore rather than recognize and bridge the subject-object gap. As Conkey (16:10–11) notes, material culture variation is sometimes treated *as if* it were human activity or stylistic communication.

As the active perspective on style has become more widely accepted in recent years, archaeologists have made considerable progress in bridging the gap between understanding style as a component of human activity, on the one hand, and analysis of material culture variation, on the other. Researchers (e.g. Conkey, cited above) have explicitly recognized the potential problem. Ten years ago Sackett wrote that style “is conceived as one kind of meaning that can be read into form, and not necessarily a property of form as such. Thus, while I may often refer figuratively in what follows to ‘stylistic variation’ among objects, this literally should be taken to mean formal variation that we happen to regard as being stylistically significant” (112:64). More recently Sackett (115:32) has directed his attention to understanding “where, in formal variability, does style reside?”

As archaeologists explore various dimensions of style both as a component of human activity and as material culture variation, the relationship between the two is becoming better understood. A number of researchers define certain kinds of style or components of style very tightly, and then consider specific patterns of material variation that can be closely linked to those aspects of style (e.g. 30, 32, 84, 101). Others focus on understanding causes of material variation, including production, exchange, and technological function, and consider style as a component of that variation (e.g. 43, 98). Finally, a number of archaeologists and ethnologists are adopting material culture as social production as their research subject (e.g. 2, 61, 65, 89, 118, 119, 125).

Here I trace the analytical process that links material culture variation, style, and human activity. In the section that follows, I explore the development of an active interpretation of style. Next I consider definitions of various kinds of style. I then consider work focused on the sources of material variation, including socio-cultural correlates and technology.

STYLE AS INFORMATION AND COMMUNICATION

In 1977, Martin Wobst proposed what has come to be known as the information-exchange theory of style. He argued that style *functions* in cultural systems as an avenue of communication, and he defined style as “that part of the formal variability in material culture that can be related to the participation of artifacts in processes of information exchange” (140:321). Although the general idea of style as communication was not previously unknown (e.g. 4:20–30; 15:85; 120:304), stylistic communication was rarely discussed explicitly in

archaeology. Rather, style was often treated as a passive phenomenon, with a minimal role in cultural systems. In some cases style was specifically contrasted to function (e.g. 29, 111:370). However, since 1977, treatment of style has changed profoundly (at least in Anglo-American archaeology), and discussion of information and/or communication has become almost *de rigueur* in research on style, whether Wobst is cited or not.

Emphasis on information and communication is a positive development. It assures that style will no longer be relegated automatically to a passive or residual role. However, information is so broad a concept that it can become almost meaningless. The information contained in style can be interpreted as anything from prehistoric symbolism to a chronological indicator (see 17:3; 107:244–45). As Hantman (44:37) notes, the information-exchange model “can easily become a post-hoc explanation for any and all prehistoric stylistic patterns.”

Recent research has made significant progress towards refining both Wobst’s (140) formulation and the broad concept of stylistic information by making explicit various factors relating to style, information, and material culture variation.¹ First, some of Wobst’s specific predictions have been challenged and refined. In his presentation of the information exchange theory, Wobst, working within a functionalist and systems-theory paradigm, argued that because style is a relatively expensive form of communication, stylistic information exchange will only be used in certain contexts so as to maximize efficiency. While this argument makes sense theoretically, in many empirical cases human material practices seem less than efficient; and inefficiency or excess can convey important information, particularly information about power or status [e.g. Hawaiian feather cloaks (30) or Kuba brocaded textiles (127:222; see discussion in 69)].

In general, researchers agree that the use of style is more complex than would be expected if efficiency were the only consideration. Specifically, at least two of Wobst’s arguments have been disputed. First, although he suggested that “only simple invariate and recurrent messages will normally be transmitted stylistically” (140:323), in many cases style conveys fairly complex and/or ambiguous information—as, for example, in Shipibo-Conibo Queenea designs (23, 37). Wiessner (137:162; 139:111) argues that ambiguity of stylistic information, rather than being inefficient, may be an important strategy in social relations. Second, Wobst (140) suggested that because stylistic messages are most useful in communicating with persons who do not know the sender well, stylistic information will be found primarily in visible contexts. While these predictions hold in some cases, a number of studies dispute the importance of visibility and argue that subtle variation may convey important information in close social relations (e.g. 20:378; 27, 59:55; see also 99:130–

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Unfortunately Wobst has not elaborated on his original statement, nor has he discussed in print others’ use of his ideas.

32). In a cross-cultural comparison, Jones and I (69) found that the importance of visibility and social distance varies with the kind of information transmitted stylistically. Material visible only in private is more likely to convey messages about ritual or belief systems, whereas highly visible material often indicates group or ethnic boundaries.

Dietler & Herbich (27) devote considerable effort to criticizing the information-exchange approach. They argue that their data on Luo (western Kenya) pottery decoration contradicts the expectations developed by Wobst (140) because the decoration requires little effort and is rarely associated with highly visible beer pots. They also state that the decoration conveys little information (27:158). It therefore appears that Luo pottery decoration does not fit the information-exchange theory's definition of style and cannot be used to refute the theory. Rather, the association among low visibility, little effort, and little information content in Luo pottery tends to *support* the general expectations of the information-exchange theory (see further discussion in 69). An important point brought out by this debate is that, according to the information-exchange theory, *not all* material variation is style; rather, style is that part of variation that conveys information (140:321).

The recognition that information exchange does not explain all aspects of style or material culture variation is a second major advance in the application of the information-exchange theory. During the initial heyday of information exchange, many researchers—including myself (51)—embraced information exchange and rejected other perspectives. Now many researchers recognize that information exchange emphasizes only one component of style—that is, the *use* of style-bearing objects—while it gives little consideration to the production and perpetuation of style. As a result, perspectives that emphasize learning and tradition [what have been dubbed the “learning-interaction” and “normative” theories (4, 98)] are no longer rejected out of hand [see the discussion by Conkey (16:6)].

Kintigh (70) and Hill (56) explicitly apply both the learning-interaction and information-exchange theories. Kintigh (70) suggests that subtle aspects of design on Cibola ceramics are more likely to be a product of learning, while more visually distinct attributes are more likely to have been used in information exchange (70:372; see also 128). Hill proposes an evolutionary framework that combines the two theories in a different way. He argues that a pool of stylistic variation exists and is maintained primarily through processes of learning and interaction. Cultural selection then perpetuates those aspects of style that are useful, for information exchange or other reasons.

Very recently, a number of archaeologists, working from widely divergent theoretical perspectives, have continued to explore various aspects of style. Braun (10) takes an evolutionary approach similar to Hill's, though Braun focuses on understanding why certain stylistic practices persist transgenerationally. At the opposite end of the theoretical spectrum, Hodder (60) reconsiders what might be called a normative view of material culture and

emphasizes interpretations within an historical context (see also 63). Other researchers have recently focused on how style is learned and how material culture is produced (e.g. 23, 27). Although many of these researchers do not explicitly draw on the information-exchange theory, and some (e.g. 60) explicitly eschew the functionalism of information exchange, all employ an active view of style and consider its cultural role and/or function.

Finally, the information-exchange theory, as first proposed, considered style to be active, in the sense that it functions in a cultural system; however, the theory gave little consideration to the active role of the people who create and use the style (C. Sinopoli, personal communication). Recent work, however, has explicitly considered the active use of style in individuals' social strategies (e.g. 135–138) and as social production that is created and manipulated by social actors (119:98). Thus the active perspective on style originally developed as part of Wobst's (140) information-exchange theory has been broadened to include active human agents.

While the information-exchange theory and the active view of style it exemplifies provide archaeologists with significant analytical potential, they also tempt the scholar into confounding style as subject and material variation as object. Fortunately, as more researchers accept a view of style and information exchange as active processes, they reassess Wobst's predictions, consider where information exchange does and does not apply, and broaden the perspective to include human actors. Scholars are also currently devoting more attention to what kinds of information are conveyed stylistically and in what kinds of situations.

KINDS OF STYLE

Researchers have recognized that no single theory can explain all aspects of style or all facets of material culture variation, and they have likewise recognized that style is not a unidimensional phenomenon. In the past few years a number of archaeologists have identified various kinds of style, which may co-occur on the same object and be interpreted in different situations. Fruitful approaches have been developed by Sackett (112–115; cf 5) and Wiessner (135–139) and have been advanced by others (e.g. 84, 101, 101a). Sackett argues that style resides in the choices made by artisans, particularly choices that result in the same functional end. He calls the results of such choices *isochrestic variation*—variants that are “equivalent in use” (112:72–73). He suggests that such choices are learned or socially transmitted, and variation may therefore reflect both social interaction and historical context. Sackett (113–115) contrasts his *isochrestic* approach to what he calls the *iconological* approach (used by Wiessner and others), which, he says, holds that style, by definition, has as its “primary function the symbolic expression of social information” (112:82).

Wiessner (135) proposes a multi-faceted view of style (see also 136–138). Drawing on Wobst (140) and a number of social theorists, she argues that style transmits information about personal and social identity that is used in the “fundamental human cognitive process of identification via comparison” (138:58). Wiessner (135) describes two kinds of style that convey different kinds of information, though both may be conveyed by the same objects. *Emblemic* style has a distinct referent and often carries information about groups and boundaries. *Assertive* style has no distinct referent but carries information about vaguer (or less easily verbalized) notions often relating to individual identity and expression.

In a series of exchanges and later statements, Sackett (113–115) and Wiessner (137, 139) argue that several different kinds of stylistic communication and/or variation can coexist and be subjected to separate analysis. Although he emphasizes isochrestic variation, which bears only a tenuous relationship to active social processes, Sackett does not reject the iconological approach. Instead, he (113:158) considers the possibility that although isochrestic variation is not necessarily imbued with social information, it may, under certain circumstances, take on iconographic cultural meanings—e.g. when an “unconscious” tradition becomes ethnically significant in times of ethnic conflict. Wiessner (137, 139) emphasizes the universal aspects of style used in social comparison (i.e. iconographic style); but she also recognizes that some components of material culture are best explained as isochrestic variation.

Others have expanded these perspectives and developed archaeological applications. Macdonald (84) relates Wiessner’s two kinds of style directly to social behaviors he calls *panache* and *protocol*. Protocol, a “set of social processes ... aimed at the promotion of group identity” (84:53), results in emblemic style, while *panache*—social processes that emphasize the individual—results in assertive style. Macdonald goes on to develop archaeological implications for these kinds of styles in mortuary analyses, and applies the concepts of protocol and *panache* to data from the American Plains.

In an elegant application, Plog (101) argues that different patterns of ceramic design variation manifested by different traditional ceramic types in the American Southwest are evidence of different kinds of styles. Strongly covarying designs on an early decorated type are interpreted as isochrestic variation, whereas increasingly variable designs on later types are more likely symbolic—that is, assertive or emblemic style. One later type tends to be associated with the Chaco regional system and/or with ceremonial structures; and this type has strongly covarying designs. Plog (101) argues that these invariant designs may involve iconographic style, indicative of special status.

Franklin (32, 33) also considers emblemic style in contrast to what she calls stochastic style. She does not define stochastic style explicitly but notes that it “relates to the individual’s perception of the world from a culturally-shaped perspective” and varies independently of ethnographic boundaries (32:122). She argues that because Australian rock art does not vary in ways that would

be expected if it were emblematic style (i.e. stylistic differences do not coincide with tribal or ethnic differences), it is best explained as exemplifying stochastic style.

The delineation of multiple kinds of style represents an advance in the development of an active concept of style. This perspective makes clear that style can have many roles, including—in the case of isochrestic variation—relatively inactive ones. Unfortunately, researchers who have applied this multi-dimensional concept have assumed or defined slightly different kinds of style. Wiessner (135) distinguishes assertive and emblematic styles; Sackett (113–115) uses isochrestic variation and iconological style; Plog (101) uses isochrestic variation, symbolic style, and iconographic style; Franklin (32) uses emblematic and stochastic style. While a proliferation of new definitions and concepts is an important aspect of the development of a new perspective, future work will probably be most productive if it builds on the concepts already defined (e.g. 84). Research that develops archaeological applications, including means of identifying different kinds of style (e.g. 101), would be particularly valuable.

THE SOCIO-CULTURAL SIGNIFICANCE OF STYLE AND MATERIAL CULTURE

The relationship among material culture, style, and socio-cultural processes is central to much research on style, whether the goal is to understand social production in a given context (118, 119) or to make inferences about prehistoric social organization (55, 80).

Much anthropological research has been done on this relationship. Ethnologists have explored the symbolic significance of design iconography (e.g. 37, 92), ethnoarchaeologists have attempted to discern the material correlates of social groups (e.g. 43), and social theorists have investigated the role of material culture in social strategies (e.g. 2, 89, 118, 119). Here I consider these issues in relation to style in four interrelated subsections covering (a) symbolic meanings, (b) learning and interaction, (c) social distinctions, and (d) power relations.

Structure and Symbolic Meaning

Anthropologists—as well as art historians and other researchers—have long noted and investigated the structural and symbolic meanings of art and material culture style (6, 38:94–120; 79:245–73). Consideration of these meanings takes many forms. Many authors draw parallels between the organization of designs, on the one hand, and social and/or environmental organization on the other (e.g. 1, 3, 88). Arnold (3:71) suggests that designs on pottery in Quinua, Peru “are organized by the same structural principles that organize the environmental and social space in the community.” Others consider the specific symbolic/iconographic content of designs (e.g. 37, 92.). Shanks & Tilley

(119:98–99) suggest that material culture can be regarded as a structured sign system.

In recent years, a number of researchers have related the symbolic content of material culture to the operation of society (e.g. 8, 20, 59, 66, 86, 126, 134). Hodder (59:58–86; 67) considers how calabash containers and their decorations—which are made and used by women—represent symbolic and structural contrasts between milk and blood, or women and young men. He links these contrasts to the structure of social relations, particularly to dominance by older men, and suggests that calabash and spear styles may function as a sort of silent discourse by means of which women and young men maintain solidarity and possibly disrupt the dominance of older men. David et al (20) interpret Mafa and Bulahay pottery decoration in terms of the symbolic parallels between pots and people. In their elegant essay, “Why pots are decorated,” they assert in explanation that pots are like people. Pottery helps to reinforce social values: “Designs on pottery, far from being ‘mere decoration,’ art for art’s sake, or messages consciously emblematic of ethnicity, are low-technology channels through which society implants its values in the individual—every day at mealtimes” (20:379). Braithwaite (8) argues that decoration on pottery is a form of symbolic and ritual discourse used primarily in stressful interactions between men and women.

Although our ability to identify specific meanings in the archaeological record is limited, archaeologists have made considerable headway in the interpretation of meaning in style and material culture. Some postprocessual archaeologists argue that style and other aspects of material culture should be interpreted only within their specific cultural and historical context because style is the result of “specific historical practices ... in given conditions” (118:148–49). Furthermore, “artifacts and social acts draw their meaning from the roles they play, their use, and in the daily patterns of existence” (61:4). These researchers’ insistence on this level of specificity sometimes limits their interpretations to ethnographic, ethnohistorical, or historical contexts, including a study of beer cans (118). However, several studies working with well-researched cases have been able to interpret the meaning of style and material culture in the prehistoric archaeological record (see 39 and 58 for examples within the post-processual paradigm, or 49 for a more general application).

Other archaeologists have sought to interpret stylistic meanings at a more general level. Although we cannot generally determine what every detail of material culture means, it is often possible to understand the general range of meanings conveyed by a class of artifacts (30:74; 73, 104:359–60). This approach involves considering the dimensions of stylistic variation (e.g. diversity, redundancy, structural regularity) in relation to other evidence. For example, I have interpreted a high degree of ceramic design diversity associated with relatively strong architectural boundedness as a stylistic expression of small-scale social differentiation, although I was not able to ascertain the specific kinds of boundaries that may have been expressed stylistically (52, 53;

see 9, 25 for related interpretations of diversity; also 78). A number of other researchers have also presented interpretations that emphasize such dimensions of stylistic variation. Crown (19) argues that standardized representational designs on Salado polychrome pottery are some form of ritual symbolism. Pollock (104) interprets increases in design redundancy on Susiana ceramics—which are associated with increases in settlement complexity—as representative of increases in vertical stratification. Finally, Braun (11) suggests that increases in the amount of decoration and decorative diversity on prehistoric Woodland pottery result from an increase in the expression of social identities and social differences.

Learning and Interaction

The burgeoning archaeological interest in style in the last several decades was inspired, at least in part, by the ceramic sociology studies of the 1960s (e.g. 55, 80). A basic premise of these studies was that material similarity is directly related to social interaction and shared learning contexts. Although many of the methods and specific results of these studies have been criticized (e.g. 97, 124), the studies inspired profitable research into sources of material culture variation. One topic that has received considerable attention [including work by one of the original “ceramic sociologists” and his students (41, 43, 81)] is the effect of learning and production on material culture variation.

Results of various studies suggest that the association between style and learning or production context is variable and context dependent. In analyses of Kalinga pottery Graves (41, 43) found only weak association between work groups and design similarity. Similarly, Hardin (34) found that Tarascan pottery design styles in most cases did not parallel work groups. Among the Shipibo-Conibo, DeBoer (23:103) found that “learning may lead to similarity or difference depending on the context.” That is, a woman generally learns from her mother and adopts some aspects of her mother’s style, though she may also develop a different style either because of differences in talent or because of a deliberate attempt to distance self from mother. At the pueblo of Zuni, where pottery-making is taught in a fairly formal setting (associated with the high school), different styles of design are strongly associated with different teachers (48:55). Finally, Luo potting communities have distinctive decorative “microstyles” (27).

The relationship between style or stylistic variation and the organization of production has also been a focus of research, particularly for scholars of complex societies (e.g. 18, 31, 108, 123, 133a). There appears to be a general relationship between style and production at some levels (e.g. between the scale of production and standardization). However, many aspects of style and material culture are affected by various cultural factors (such as prestige systems) and therefore bear little direct relationship to the organization of production (133a). The location of production does not necessarily coincide with stylistic similarities and differences. While different materials are often made

in different places, in a number of cases stylistically similar materials were found to have been produced at different locations (e.g. 19, 45, 141).

Although the association of learning/production context and stylistic similarity is far from absolute, some important insights can be gained by comparing these data. Longacre (82:8) suggests that the link between learning and material similarity is strong in cases where instruction is more formal (as at Zuni). The link between learning context and material similarity also appears to be stronger in cases (including Zuni and Shipibo-Conibo) where designs have more explicit symbolic content. In addition, the learning/production context may be expressed at one level of stylistic variation but not another. Several producer-groups (including the Luo and Zuni) have distinctive “micro-styles,” though they conform to a broader stylistic (possibly ethnic) tradition [a possibility considered by Kintigh (70)]. Finally, in a number of cases (including the Luo, Tarascans, and Kalinga), stylistic distinctions may be understood only by the producers or a limited subset of society (27, 34, 83).

Social Distinctions

Archaeologists have a long, and sometimes notorious, history of correlating styles of material culture and social groups, such as the European Neolithic Beaker Folk and the Hohokam Red-on-Buff Culture. At the same time, we have also recognized that material culture is not necessarily isomorphic to living cultures (13:41). No longer is the association between material culture and living cultures taken for granted. Instead, the archaeological interpretation of cultural identity is an active topic of research (122). Although the relationship is complex, there is a fairly strong association between material culture and social units at many levels, from the individual to the ethnic group.

Wiessner (135–139) and others (23, 84) have discussed the use of style for individual expression, including artistic expression. At a slightly broader, though still intra-societal level, numerous ethnographic studies document the association of certain styles with various intra-societal groups, including Kalinga age cohorts (41, 43), Masai age grades (72), Hopi political factions (142), and Maori sub-tribes (86). Stylistic distinctions at the level of the individual or intra-societal group are potentially problematical archaeologically because they are unlikely to create spatially distinct patterns in the archaeological record. However, stylistic distinctions should result in a greater degree of stylistic diversity; thus analyses of diversity or stylistic variability may reveal the existence of intra-societal boundaries or distinctions (10, 52, 53; see also 138).

In many cases material culture differences are associated with ethnic differences (e.g. 23, 83, 122, 135, 140). Kalinga vessel shape or profile seems “to be actively employed as a marker of important social boundaries ... at the regional level” (83:105). In the Baringo District (Western Africa) some forms of material culture (including dress and to some extent pots and stools) clearly distinguish ethnic and tribal groups, though other forms cross-cut ethnic

boundaries (59). Ethnic groups (including the Shipibo-Conibo) in the Ucayali Basin (Peru), have distinct styles that “almost certainly constitute a form of iconologic signaling in which adjacent and competing riverine groups distinguish themselves in a stylistically indelible manner (i.e. through tattooing and head-flattening)” (23:86). Washburn (132; see also 129, 130), argues that certain aspects of material culture—what she calls basic-level features such as design symmetry—are most likely to display ethnic identity, and she documents these kinds of ethnic distinctions in a number of cases, including those of Lao and Bakuba weavers. An important component of many studies that associate material culture and ethnicity is the understanding that the association is not automatic, a result of some kind of mental template; rather, style—a way of making or decorating material culture—is an active component of group definition. In several cases material culture differences are associated with competition and tend to increase as social tensions increase (23, 57, 59, 83, 94, 140).

While this association between material culture differences and ethnic differences encourages archaeological application, it clearly cannot be taken for granted. At least one volume (122), as well as other recent research (e.g. 7, 73, 86), has been devoted to elucidating the material expression of cultural differences. The process is complex. Cultural identity and ethnicity are not clear-cut concepts; they are often difficult to define even with ethnographic data. A number of authors illustrate cases in which perceived cultural differences have no material component (26), or in which certain material distinctions parallel ethnic distinctions while others cross-cut them (59). In other cases, ethnic distinctions, while present, are considered passive epiphenomena of other kinds of expression (73).

Despite the potential pitfalls, archaeologists have identified what appear to be spatially distinct social units in the archaeological record (e.g. 44, 57, 98, 116, 141). Although an absence of archaeologically observable stylistic boundaries is difficult to interpret, the presence of such boundaries can be interpreted, with some confidence, as an indication of social distinctions. The development of stylistic boundaries or changes in their distribution can be interpreted in terms of changes in the social units.

Power and Social Inequality

The control of material goods and manipulation of ideology are often central to the definition of rank and the exercise of power in complex societies. The style of the material culture may be an important component of these power manipulation strategies. Elites often have exclusive access to certain kinds of goods, and elite status is frequently reinforced in iconography (e.g. 30, 54). Recently, researchers have studied how elites acquire and manipulate status symbols and how the meanings of those symbols may change (30, 85, 91, 105, 121). Because much of this work considers material culture in general rather than style per se, I do not review it in detail here; but at least one point that

runs through this work is directly relevant to this discussion: Analyses of style with respect to power relations must consider how people who are trying to gain or maintain power manipulate material culture. Such considerations promote an active view of style and the people who make it and thus have important implications for the development of an active view of style at a broader level.

STYLE AND TECHNOLOGY

Recent research has both increased the precision of our understanding of style and broadened our conception of what style is. No longer opposed to function, style is seen as *having* a function. Similarly, style is no longer conceived as separate from technology and production. Rather, a technology (that is, a way of doing something) can have style. Although research linking style and technology has been fairly infrequent, some important advances have been made.

First, archaeologists often struggle with the problem of how to identify style, particularly in nondecorative components of material. Painted decorations on a pot are good candidates for stylistic analysis, but what about the rim profile and temper? Sackett's (112) concept of isochrestic variation—variation that results from a choice between technologically equivalent alternatives—takes steps towards resolving this problem. Isochrestic variation can include components of material culture that are intrinsic to an object's technological function or to the technology involved in that object's production. For example, isochrestic variation in lithic technology can encompass choice of raw materials, reduction technique, or tool shape (112:105). Sackett (112–115) focuses primarily on style or isochrestic variation in artifacts, but others have linked style and technology at a broader level.

In 1977 (the year the information-exchange theory was published), a volume edited by Lechtman & Merrill (75) advanced the concept of technological styles. The contributors considered not only artifacts but also “the activities which produce the artifacts” to be stylistic (75:5). Unfortunately, many authors in the volume used what would today be considered a fairly passive definition of style,² and the concept of technological styles has not been widely applied (but see 14 for a recent work on technological styles). More research in this direction would probably be fruitful. Lemonnier (76, 77) also uses the general concept of technological style, though he uses different terminology and does not site Lechtman & Merrill's work. Lemonnier focuses on “technological systems,” which include everything from garden preparation to the kinds of plants used in men's and women's capes. He argues that these “technological systems” (which are ways of doing something and therefore could be called

2

For example, Lechtman considers style to be “the manifest expression, on the behavioral level, of cultural patterning that is usually neither cognitively known nor even knowable by members of a cultural community” (75:4).

styles of technology) are “signifying systems” (76:174) used in ethnic and gender relations.

Interest in the relationship between style and technology has important implications. As Sackett’s (112–115) work demonstrates, understanding that style can include technological choices helps us determine what components of artifacts should be included in stylistic analyses and increases the kinds of information that can be gained from the study of production systems. Production is no longer merely a factor that needs to be controlled-for before stylistic analysis can be done, nor must production be considered only in economic terms. Instead, production can be a subject of interest for archaeologists concerned with issues related to style.

ANALYTICAL APPROACHES

As archaeologists became increasingly interested in style in the 1960s and 1970s, they developed an array of methods with which to analyze styles of material culture. One of the most significant advances of earlier research was the development of systematic and replicable systems of classification and quantification as a basis for stylistic analysis. Researchers developed methods of analysis (directed primarily at decoration) that eventually included a hierarchy of attributes—ranging from the shapes of individual forms to the overall design configuration [e.g. 98, 106; see review in Plog (99:128–33)]. Recent research includes extensive application and occasional refinement of these methods (e.g. 19, 53, 102). Washburn (e.g. 129, 130, 132) has continued to pursue symmetry analysis and has published a comprehensive guide to the technique (133).

For the most part, however, recent advances emphasize not new techniques of classification and analysis but new applications of developed techniques.³ Archaeologists have increasingly combined and extended analytical techniques, to great benefit. These combinations fall into two general categories. First, researchers often draw from more than one analytical system and consider different components of material. For example, in research on ceramic designs from the Southwest (52, 53), I considered both the appearance of design elements (triangles, lines, etc) on the ceramic assemblage as a whole (sherds and whole vessels) and the layout and symmetry of designs on only whole vessels or large portions of vessels. For similar approaches, see combined work by Lathrap and Washburn (74, 131), and by Braun (11). Researchers have also combined analyses of specific attributes and typological

3

One exception is work by Jernigan (68), who developed a new method of analysis based on design schema. However, Jernigan’s work has been criticized (28, 101a) because the schemata—which are emic units of design—are vaguely defined, and the analysis is not replicable.

analyses in order to interpret the kind of information or kind of style conveyed by each type (53, 101).

Second, rather than concentrating solely on one class of material culture, a number of archaeologists and ethnoarchaeologists have broadened their approaches to consider style in multiple media. For example, Hays (50) considers designs on various Basketmaker III (7th century AD) media (including ceramics, rock art, and textiles) from the American Southwest. She interprets the role of the designs (e.g. in relation to gender and as a possible indicator of ethnic differences) based on their occurrence on different material and in different contexts. DeBoer (24) considers different ways in which design styles are applied to different media in Andean South America. The Shipibo-Conibo use complex and symbolically significant Quenea designs on many different media (pottery, textiles, clothing, etc), while the Cache apply different designs to different media. DeBoer (24) contrasts the *pervasive* design system of the Shipibo-Conibo with the *partitive* system of the Cache. He relates these differences both to the stability of designs over time and to the level of meaning attached to the designs; he finds that the Shipibo-Conibo pervasive designs are both more stable and more meaningful (see also the discussion in 69; see 39, 59, 64, 126 for other examples of cross-media analyses of style).

CONCLUSIONS

In this review I have treated the study of style in archaeology, considering primarily style in portable artifacts. Other current issues and applications of stylistic analysis should be acknowledged. These include the evolution of style (7, 87:314; 109), the use of stylistic analysis in chronological studies (19, 71, 102, 103), art historical/classical perspectives on style (22, 117), stylistic diffusion (21, 71), and studies of architecture or burial practices (e.g. 35, 90, 95).

As research on style has proliferated, so has the variety of research perspectives. Fortunately, in a very encouraging development, researchers are increasingly replacing debates about which theory of style or kind of analysis is correct with the conclusion that many perspectives may be applicable, depending on the problem at hand. This multi-level/multi-dimensional approach is apparent in consideration of issues ranging from the definition of various kinds of style to analyses that combine classification of separate design elements with studies of design symmetry. The broad perspective gained by such an approach helps to foster, if not a sense of unity, at least a level of tolerance that often draws together disparate viewpoints.

The general perspective on style taken by many researchers also fosters a degree of unity in archaeological approaches to style. Most research on style at least considers the active role of style, whether or not such an active perspective is central to the research. Work such as Wiessner's (135–139)—which

focuses on style as a means of defining the self or group—considers the role of style and stylistic information in social relationships. Shanks & Tilley (118, 119) also emphasize the role of style, although they see style (or art) as “social production” and a form of ideology. Finally, researchers who focus on understanding sources of material culture variation—and who do not take an active view of style—often still consider whether or not the material culture conveys information and in what contexts (e.g. 27). Thus the role of style can be a unifying concept for these disparate perspectives.

We are still far from an integrated theory of style, and some have suggested that such a theory is neither possible nor necessary (17:2–3). We also lack integration on a more modest level. Although we understand many aspects of style and have extensive data on material culture variation, we have not yet put all the pieces together. Archaeology lacks a synthetic perspective that integrates the many sources of empirical data with conceptual approaches to style. The information is available, however, so the time for such integration may be near.

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