Chapter 1

Integrating Approaches to Material Style in Theory and Philosophy

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Truth is ever-expanding awareness.
WILLIAM DAVID

Form and spatial distribution: These are the two most fundamental axes of variation in material culture that archaeologists use. They are essential to describing, classifying, and analyzing the archaeological record. They are the primary data used in identifying, explaining, and interpreting the archaeological record, whether reconstructing or writing the past. Traditionally, formal variation in material culture over space has served to distinguish past social groups, to define their chronological positions, and to reconstruct their behaviors, organization, and ideas at specific points in time.

However, the concept of style, which is central to these tasks, is currently controversial and confusing for archaeologists. Basic questions have been raised over the past 10 years about what the term "style" means, how material variation should be studied, and what the results of stylistic analyses can and cannot tell us about past societies. More specifically, archaeological literature on style has questioned or become ambiguous about whether style is a material or processual phenomenon. If style is a material phenomenon, what kinds of formal variability constitute style? What is the range of cultural, social, material, and other processes and constraints that determine style? What are the contexts under which these factors are effective? At what phenomenological level(s) should causation of stylistic variation be sought, such as the ecosystem, society, or the person? Considerable uncertainty has also developed over how history, context, and emic viewpoints can be brought into studies of style without resulting in particularism, and whether particularist goals are acceptable. These issues concern both the middle-range theoretical task of identifying past processes or conditions and the higher theoretical task of understanding them within some anthropological or social scientific paradigm.

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Efforts to answer such questions have resulted in a dramatic increase in the amount of research on style over the past decade. A variety of media and geographic areas have been explored and new theoretical perspectives have been developed. Key results of many of these substantive and theoretical efforts are presented, reviewed, and critiqued here in 13 chapters by archaeologists and ethnographers.

In presenting and discussing this research, an integrated theoretical framework for the anthropological study of material style is built. Integration and coexistence of diverse theories of style, rather than their unification from some single perspective, appears to be the most logical and productive approach for studying style at this time (see also Wiessner 1990).

Integration is facilitated by several means, at the levels of high theory, middle-range theory, and philosophy. Most central to the thrust of this book is envisioning, in a hierarchical manner, the form and spatial organization of a material cultural system, the processes, regulating mechanisms, meanings, and other causal factors that define it, and the potentially explanatory theories that pertain to those factors. Different causal factors are shown to pertain to different formal levels and spatial scales of organization of a material system. Our title, *Style, Society, and Person*, encapsulates this hierarchical viewpoint. From this perspective, different boundary conditions (Hemple 1966) are then placed on the various current theories of style by stating the particular formal level(s) and spatial scale(s) of organization to which the theories apply. In so doing, the complementary rather than competing status of the theories is revealed.

Our strategies for integrating current approaches to style focus on high theory, middle-range theory, and practice, but not on epistemology. The perspective offered here embraces the recent calls of postprocessual archaeology to seriously consider local context, particular history, coherent internal meanings, part–whole relations, and individual–society relations in the analysis of material style. However, integration of the postmodern, poststructural, critical, and hermeneutical epistemological assumptions behind these calls is not attempted.

The chapters that follow this introduction are divided into three parts: Part II considers high theories of style; Part III addresses middle-range theory; Part IV presents case studies of complex societies.

The chapters in Part II systematically inventory and exemplify the broad range of factors that can determine "formal" variation in material culture. The factors range in scale from ecological to sociocultural to psychological ones. The chapters in Part II also review and evaluate current theories about these causal factors.

The descriptions in Part II of the many kinds of causal factors that can determine formal variation in material culture lead naturally to the middle-range theoretic question addressed in Part III. This question is: Which specific determinants of an artifact's form are reflected in which of its specific attributes, and under what contextual conditions? If an artifact's style is perceived and can be analyzed partitively, then which attributes reflect, for example, technological constraints, the identity of social units of various spatial scales, personal identity, or motor habits? The problem is to find objective criteria for isolating sets of attributes, dimensions of attributes, or artifact classes that reflect and can be used to identify specific past processes. Also, the criteria must be justified through middle-range theoretic arguments that link resultant forms to their determining processes. The task of isolating and justifying the variables that are relevant to single processes is a fundamental requirement for logically concordant and accurate analysis and meaningful interpretation (Carr 1985).

The chapters in Part III build, test, and illustrate a coherent middle-range theory for isolating attributes that are relevant to particular processes. The arguments that are used to bridge resultant forms to their causal processes involve some parameters that have been considered previously, such as attribute visibility and geographic distribution. Other parameters are new.

In all of these arguments, however, the linkages between form and process are drawn here more finely and flexibly than has hitherto been typical. This is done, first, by considering specific "real world," "on the ground" behaviors (e.g., artisan decisions about message priorities), rather than

"composite, generalized processes" (e.g., information exchange). In other words, attention is focused on the *microdynamic processes* behind stylistic variability, distribution, and change, rather than on highly abstract, cross-cultural "principles" that simply describe or generalize about the *results* of microdynamic processes. In this way, the approach taken here differs from earlier systems and information theoretic perspectives on style (e.g., Wobst 1977; Conkey 1978; Braun and Plog 1982).

Fine and flexible linkages between causal processes and resultant forms are also drawn by accommodating the particulars of local history and context and by considering how these come into play in microdynamic processes, thus altering any general, cross-cultural tendencies in form–process relationships. For example, social situations that differ in character may encourage different message priorities among artisans and the communication of different messages, stylistically. Finally, the linkages between form and process are drawn so as to consider the variable effects of different material media.

The chapters in Part IV continue the theory-building efforts begun in Part III, but shift emphasis in two ways. The first way is in the level of formal variability considered. The chapters in Part IV concentrate on artifacts and their alternative classes within multiclass material systems, whereas the chapters in Part III concentrate primarily on formal attributes and their alternative states within a single artifact class. The second way is in the scale of social complexity examined. The chapters in Part IV focus on stylistic processes in chiefdom and state-level societies, whereas the chapters in Part III deal primarily with simpler societies.

In considering style within complex societies, the chapters in Part IV differ from most previous stylistic research, which has focused almost entirely on band and tribal societies. The chapters document the complex stylistic processes and patterns that arise with vertical and horizontal role segregation. Different artifact classes are found to reflect different forms of communication, interaction, and/or social strategies among various social segments. Single artifact classes are likewise found to reflect multiple processes. Some but not all classes are found to have hierarchical geographic distributions. The chapters in Part IV show that the study of these kinds of material patterns and their causal processes requires social and middle-range theory beyond that used in studying egalitarian societies. Also, analytic methods beyond simple measures of diversity, similarity, and homogeneity are necessary. The chapters clarify the issues that lie ahead in developing systematic theory and methods for studying style in complex societies, and emphasize the importance of contextual analysis.

Throughout this book, a wide range of media are used to critique, build, and test high- and middle-range theory about style. The media encompass not only pottery, which has been the focus of archaeology's development of style theory since the "ceramic sociology" of the 1960s (Sackett 1977), but also cordage, fabrics, basketry, wood carving, stone jewelry, metals, architecture, and site plans. Considering diverse media is essential to building middle-range theory about style because style is embedded in technology (Sackett 1985). Technological processes provide a framework for partitioning formal variation into attributes and for organizing attributes hierarchically in a manner that is relevant to the many possible processes that can cause a style.

In addressing the topic of style, this book focuses on patterning in material artifacts—what might best be termed "material style"—which, in turn, is the product of various causal processes and constraints. This book does not consider style in its broadest sense, as a "way of doing" (Hodder 1990:46) that may crosscut multiple genre and may include ideas, decisions, and practices within a cultural–behavioral system. Instead, ideas, decisions, and practices are taken to be elements that, in part, cause and explain a material style. Also, this book does not consider style in the sense of a cultural "configuration" or "pattern" or form of organization of a cultural system (Benedict 1934; Kroeber 1957, 1963).

The remainder of this introduction has two parts. First, a succinct review is offered of many dimensions of recent debates among anthropologists about material style. This review makes clear the need for an integrated, if not unified, framework for speaking about, analyzing, and interpreting

material style. Second, the several means by which integration is sought in this book are summarized. These include synthesis at the levels of high theory, middle-range theory, and philosophy of science. Key contributions toward this goal that are made in this book are noted. More detailed summaries of these and other significant contributions to style theory are given in the three introductions to Parts II, III, and IV.

CURRENT DEBATES ABOUT STYLE

Over the past decade, archaeologists have come to define and discuss style with increasing uncertainty and, in some cases, narrowness and polarization. This is evidenced in the proliferation of debates and contrasting viewpoints about style. Some fundamental axes of disagreement are as follows: (1) How should style be discriminated conceptually and operationally from function and technology? (2) What factors determine style? (3) How important are contextual factors in determining style? (4) Which attributes of a style are more or less relevant to reconstructing past processes, conditions, and social units? and (5) Should style be defined in empirical, material terms? Finally, several epistemological issues concerning the archaeological uses of style have been raised. Resolutions for each of these dimensions of disagreement are offered in the chapters of this book.

The discrimination of style from function conceptually and operationally has been made and debated by Binford (1965:199–203, 1986), Dunnell (1978), and Sackett (1982, 1986). These authors have respectively used systemic, technological decision-making, and selectionist perspectives to draw their distinctions. Likewise, the relationship of style and technology has been envisioned in multiple ways. Style has been seen as embedded within technology (Sackett 1977, 1982). Technology has been defined as an aspect of style (Lechtman 1975:6; Sackett 1986:630), as a "way of doing" (Conkey and Hastorf 1990:2–3; Hodder 1990). Finally, style has been defined as independent of and a residual of both functional and technological variation (Binford 1965:199–203; Binford and Binford 1966: 245–246).

The processes and constraints that determine material style, and how stylistic variation is to be interpreted in terms of these, are also at issue (see Carr, Chapter 6, Table 6-2). Braun and Plog (1982), emphasizing a dichotomy drawn by Wobst (1977), questioned the long accepted view among anthropologists that the determinants of artifact styles are traditional norms which reflect enculturation (see also Roe 1980). They proposed, alternatively, that artifact styles are determined by social and individual conditions and needs that are adaptive to communicate at the time of artifact manufacture and use. These two views of the causes of material style stand at the foundation of the contrast between the social interaction and information exchange theories of style.

Sackett (1985), Wiessner (1984, 1985), and Hodder (1982a) have also focused on different primary determinants of artifact styles in their isochrestic, symbolic–iconographic, and action/social–dialectical views of style. These determinants are, respectively: (1) passive enculturation; (2) human intent to actively communicate social and personal identities in order to define social relations; and (3) human intent to establish guiding templates for social action and justifications for social strategies. Within the information exchange/iconographic theoretical tradition, the range of messages that style communicates has been narrowed over time from social and personal identities, conditions, imperatives, regulations, and such (Wobst 1977), to social and personal identity alone (Conkey 1978; Wiessner 1984, 1990; MacDonald 1990). Carr (Chapter 6) describes this narrowing in detail.

The culture-specific, contextual factors that surround the production and use of artifacts are also given varying analytical and theoretical weight as determinants of material styles by archaeologists. Well acknowledged, although not consistently compensated for analytically, are the effects of the nature of the social situation and the distance of artifact viewing; enculturation patterns; artisan mobility; adoption and marital patterns; population density; artifact exchange; and artifact breakage,

deposition, and other formation processes (e.g., Bunzel 1929; Schiffer 1972; Stanislawski 1973; Plog 1978; Roe 1979; Lathrap 1983; Braun 1991). In contrast, the effects of culture-specific values, beliefs, and world view on material style are rarely thought significant and considered analytically. At issue here is not whether style can be used to express ideology, which it clearly can symbolically (Lechtman 1975) or iconographically (e.g., Penny 1983; Phillips and Brown 1978; Coe 1989; Marcus 1989). Rather, at issue is the degree to which and ways in which the material symbols of social interaction, communication, and social strategies are constrained by and expressed through the dominant principles of symbolic meaning of a society (Braithwaite 1982; Hodder 1982a:125–184). In other words, how does the social operate through the ideological as represented in material imagery?

At the analytical level, debate has surrounded the selection of appropriate attributes. Which attributes are relevant for analysis in that they are sensitive to or reflect specific behavioral processes, past conditions or contextual parameters, or specific social units, and thus allow the identification or measurement of these? Wobst (1977) hypothesized and showed that the likelihood of stylistic attributes being used to communicate various messages of social units of varying scales depends on the levels of visibility of the attributes. More visible attributes may bear the messages of broader social units (but see Carr, Chapter 7). Complementarily, Friedrich (1970) showed that attributes that are less easily decoded and comprehended are better measures of interaction among persons or social units.

Since these seminal publications, however, several issues regarding attribute selection have arisen. First, and most simply, does the operational distinction between discrete and continuous stylistic attributes drawn by Voss (1982) adequately capture differences in attribute visibility and comprehendability that constrain the processes that attributes may reflect? Second, are structural aspects of a style better indicators of social groups than iconic design elements or "schemata" (Plog 1982, Chapter 11; Washburn 1982, 1983, Chapter 4; Jernigan 1986)? Third, are structural aspects of a style always indicative of an ethnic or cultural group (Washburn 1983:5, Chapter 4), or can they reflect social groups of varying scale, depending on the context and aspect of structure described? Fourth, can structural aspects of a style represent active symboling, social communication, and social strategies, or is structure always a passive, traditional, rule-bound feature of a style (Hodder 1986: 47–48; Washburn, Chapter 4)? Finally, is it possible to archaeologically isolate and verify culturally recognized, "emic" attributes (Muller 1979:173–176; Jernigan 1986; Plog, Chapter 11), and is it possible to interpret the ideological meaning of those attributes through their contextual associations in the archaeological record (Hodder 1982a), and at what level of specificity?

More fundamentally, opinion further varies as to whether style should be defined in empirical (i.e., observable) material terms. Traditional, art–historical, cultural anthropological, and archaeological culture–historical approaches to style (e.g., Shapiro 1953:28; Kroeber 1957; Deetz 1965; Gardner 1970) have defined style in material and contextual terms. A style is characterized by its forms, relationships among forms, part–whole relationships, gestalt–perceptive qualities, and, to some extent, its consistency and coherence in space-time. In archaeology, movement away from this material definition has been in two directions: toward abstraction and toward behavioral process. The first movement is found in the emerging view of style not as observable facets of surface content, but as abstracted, underlying, static, model structures and relationships among content (Lechtman 1975; Washburn 1977, 1983), or underlying generative grammatical rules to be inferred from surface content (Friedrich 1970; Muller 1979; Roe 1980; Knight 1986). The second movement is found in the more common yet implicit trend over the last two decades to shift the criteria for defining style from observable formal patterning in the archaeological domain to determining processes in the systemic domain, which have uncertain empirical correlates (Wilmsen 1974:93; Wobst 1977; Conkey 1978:66; Wiessner 1983:256; Sackett 1985:157; Conkey and Hastorf 1990:2; Hodder 1990:46,51).

Both movements have had positive and negative effects. The grammatical movement toward abstraction has enhanced our tools for describing material style. However, descriptions of form have not usually been linked adequately to the various processes that determine form (e.g., Muller 1979;

Chippindale and Boast 1986; Knight 1986). As Muller (1979:173–176) and Roe (1979:210) point out, model structures and rules can be simply formalisms, without congruence to "real-world" processes. In contrast, the processual approach to defining style has broadened our understanding of the range and nature of processes that determine artifact style. However, it has confounded explanatory phenomena (processes) with that to be explained (material style). This has led, as Sackett (1985:159) has rightly objected, to logical tautologies in the interpretation of the past.

At a most basic, epistemological level, archaeologists are now evaluating the merits of the different ways in which material style has implicitly been conceptualized in the course of being used to achieve the various and changing goals of archaeology (Conkey 1990). Initially, material style was conceived of as an "analog" of culture. This allowed the culture–historical goals of establishing chronologies and delimiting social groups seemingly to be met. Later, style was taken as an "indicator" or "code." Material style as "text" was read etically for the culture–historical purpose of reconstructing past lifeways and for the sociological purpose of measuring specific processes that explain culture change.

Today, these two views still predominate in the day-to-day workings of archaeology, yet are challenged by the postmodern, poststructural, critical, and hermeneutical theoretical movements within contextual archaeology. Material styles are said to tell more about the contexts in which social groups are created and individual-to-group interrelations are worked out than about groups and group boundaries, per se (Conkey 1990:12–13; Hodder 1990:46,49). This is thought to be so for several reasons: Most basically, the conditions and pressures of past social contexts (e.g., contexts of fear versus safety, affluence versus scarcity, intergroup versus intragroup competition) influence the choices and actions of persons, including the uses of style (Wiessner 1988). More theoretically, styles, cultures, and social groups are seen as productive acts aimed at constructing meanings, which necessarily vary contextually and historically (Conkey 1990). Also, the ambiguity with which style links the particular to the general requires that it be interpreted (Hodder 1990:46) rather than read as an indicator of past processes or conditions.

In turn, these newer theoretical and epistemological positions on style have become enmeshed with the larger issue of whether archaeology is a nomothetic scientific discipline or a particularistic, historical, and/or politically focused discipline (Hodder 1982b; Earle and Preucel 1987). Regarding the last, it is said that past styles can be interpreted for contemporary sociopolitical purposes because the past is partly constructed in the present (Renfrew 1989) through "interpretation" rather than "decoding" (Conkey 1990:7). However, accepting that any social situation or style can be interpreted in multiple ways, depending on the viewpoint of the perceiver—be that person a participant in the culture or an outside researcher—there still remains the issue of professional responsibility and sensitivity to past peoples when rendering their endeavors and motivations, including their material styles. Casually accepted, the constructivist attitude not only allows the conscious reading of cultural and personal agendas into the archaeological record, but also facilitates the unconscious projection of the researcher's own cultural and personal issues upon the past (e.g., Hodder 1990 vs. Wiessner 1990:111) unless explicit methodological checks are imposed (Hodder 1991).

In sum, it is fair to say that the multiple approaches to style thus far taken have been helpful in revealing its complexity and its determinants. Yet they also have reached a critical level of proliferation and contradiction. So few assumptions and notions about style are shared among professional anthropologists that they can no longer present and discuss stylistic analyses without first establishing their positions relative to a cumbersome history of contrasting thoughts (Conkey 1990). Moreover, we see in the classroom today that students who have not grown up with these intellectual developments find the literature on style increasingly more difficult to organize, integrate logically, and evaluate. Finally, the diversity of unintegrated approaches to style that archaeologists use to analyze and interpret the archaeological record leaves their reconstructions highly open to debate. For these reasons, a more integrated framework for analyzing and interpreting material styles is required and offered in this book.

INTEGRATING CURRENT APPROACHES TO STUDYING MATERIAL STYLE

In the course of this book, integration of the diverse approaches that are currently taken to studying material style is facilitated through five steps. These steps are made at the levels of basic description, high theory, middle-range theory, and philosophy of science.

First, the diverse processes and constraints that determine style are enumerated and described in detail. These include selective–evolutionary and historical processes (Braun, Chapter 5); material, social, economic, political, ideological, demographic, ecological, and archaeological-formational processes (Roe, Chapter 2; Pryor and Carr, Chapter 8; Rosenthal, Chapter 10); social-psychological processes (Voss and Young, Chapter 3); cognitive and perceptual factors (Washburn, Chapter 4); and some personal and personal psychological, depth-psychological, and physiological factors (Carr, Chapter 7; Pryor and Carr, Chapter 8; Rosenthal, Chapter 10). Some of these factors, such as selection, social-psychological processes, decision making, and depth-psychological factors, are more universal in their nature and occurrence. Others vary among cultures or with the social situation. The effects that the various factors can have on material style are richly illustrated at the detailed level of microdynamics through both ethnographic and archaeological applications (especially Roe, Chapter 2; Pryor and Carr, Chapter 8; Rosenthal, Chapter 10; Morris, Chapter 13).

The second step by which integration is facilitated here is at the level of high theory. Major anthropological theories of material style are reviewed and, when possible, nested within broader theoretic frameworks. Voss and Young (Chapter 3) and Braun (Chapter 5) review and critique the assumptions behind the social interaction, information exchange, and social-dialectical/symbolic approaches to style from social-psychological and selectionist perspectives, respectively. Voss and Young go on to show how the three schools of thought are special cases of social-psychological theory about the dynamics of self-definition and re-creation, and how each school implicitly assumes an incomplete and complementary view of the self. In this way, Voss and Young nest the three approaches to style within a more encompassing social-psychological framework. Similarly, Braun shows how isochrestic and iconographic variation, which are the differing subjects of the three schools, can each have social effects, and can thereby be accommodated as special cases within selectionist theory. Selectionist theory concerns the varying effects of alternative stylistic and other cultural practices, and the implications of those effects for the differential transmission and perpetuation (i.e., selection) of those practices. Finally, in Chapter 14, Carr and Neitzel suggest how a selectionist theory that combines ideas from both Braun (Chapter 5) and Hill (1985) can serve as an umbrella framework for integrating many processes that determine material style and its change or stability over time. These processes include natural selection, cultural selective processes that do not involve choice, and cultural selective processes that do involve choice. In turn, robust forms of decision theory (Arrow 1951; Limp and Carr 1985) and social-psychological theory about personal choices made in the re-creation of the self stylistically can be nested within selectionist theory to describe those cultural selective processes that involve choice.

The third step that is taken here to integrate the diverse, current approaches to style shifts our attention from integration at the level of high theory about causal processes, to synthesis at the level of middle-range theory that links causal processes to resultant forms. In this step, the many processes and constraints that can determine a style and the various theories of style that pertain to those factors are ordered hierarchically by the phenomenological level to which they pertain (e.g., the ecosystem, society, social segments, the person).

Four somewhat different hierarchical frameworks for ordering processes and theories were developed by the authors here as they attempted to integrate stylistic theory. The first three frameworks provide only partial inventories of the phenomenological levels to which causal processes pertain. First, Roe (Chapter 2) speaks of the psychological, formal, social, mythic, and structural levels of style. Second, Carr (Chapter 7:Table 7-2) defines a more detailed hierarchy of processes that is more

easily bridged to resultant material forms. The phenomenological levels that he considers are the technological, social, interacting artist, personal behavioral, personal psychological, personal physiological, panhuman depth-psychological, and panhuman physiological levels. Processes are also ordered among and within these levels by whether they are active or passive, conscious or unconscious. The hierarchy is derived from various models of nature and society found in ecological anthropology and Jung's (1971) and von Franz's (1964) models of the unconscious and the self. Third, Voss and Young (Chapter 3) refine the social and interacting artist levels from a social-psychological perspective, drawing upon Hsu's (1985) model of the self. Voss and Young speak of the "intimate society," "operative society," and the "wider society and the outer world." Combining these three frameworks provides the most complete ordering of processes. This synthesis is summarized in Figure 1-1 and discussed below.

The phenomenological levels depicted in Figure 1-1 are much broader than those upon which current archaeological theory about style focuses. Most work on style has dealt with processes at the levels of the operative society, small groups, and the individual (Braun, Chapter 5).

The fourth step that is taken in this book to integrate current approaches to style is building a middle-range theory that logically links the many causal processes that have been inventoried and ordered to resultant attributes that comprise an artifact's form (Carr, Chapter 7). Attributes of a population of artifacts are ordered hierarchically according to objective criteria: their visibility, decision order, and production order. Then, through many bridging arguments, attributes at different hierarchical levels are associated with different, sometimes overlapping sets of potentially causal factors at various phenomenological levels. By implication, those same attributes are also linked to high theories of style that pertain to those causal factors. In this way, operational "boundary conditions" are defined for the theories.

The strategy of arranging processes and formal attributes hierarchically in order to bridge them is more than a convenient formalism or a following of historical precedent (e.g., Whallon 1968; Friedrich 1970; Redman 1977:46–49; Braun 1977; Plog 1978). It reflects the real-world, nested organization of process within process and form within form. For example, the design attributes that an artisan chooses to express his or her individuality are usually drawn primarily from a larger, socially constrained pool of alternative attributes that is the product of historical and other contextual factors. In turn, both socially and individually selected design alternatives fall within a broader set that is constrained by technological raw materials and procedures.

The final step toward integrating high theories on style is taken at the level of philosophy of science. A logical distinction is made explicit between four, often confused, types of factors that can determine material style. These are: (1) dynamic processes; (2) the constraints (or conditions, adaptive milieu, or contents) that define, promote, or discourage those processes; (3) the sets of unique events (or history) that trigger the activation of processes; and (4) the regulating structures that permit the survival of the system by controlling processes. Causal factors of each logical type occur at each of the phenomenological levels mentioned above, as shown in Table 1-1.

The significance of these distinctions is that the four different logical types of causal factors play different logical roles in theory and explanation, as will be discussed. Understanding the different roles played by different kinds of causes, and seeking broad theoretical frameworks that evoke all of these kinds of causes, encourages theoretical integration.

Definition of the four kinds of causal factors can be clarified by way of a physical example and a material style example. Suppose the thing to be explained is the flow of water through a drainage pipe. One relevant dynamic process would be the dynamic pattern of water flow, as measured in various ways (e.g., its turbulence). Some constraints or conditions that define the dynamics of the flow would be the pipe, its form, and the force behind the water stream. A triggering event that could activate the process would be a rainstorm.

Regulating structures would also have a part to play in explaining the flow of water. Regulating structures are selected for and evolve within a system in response to triggering events and the

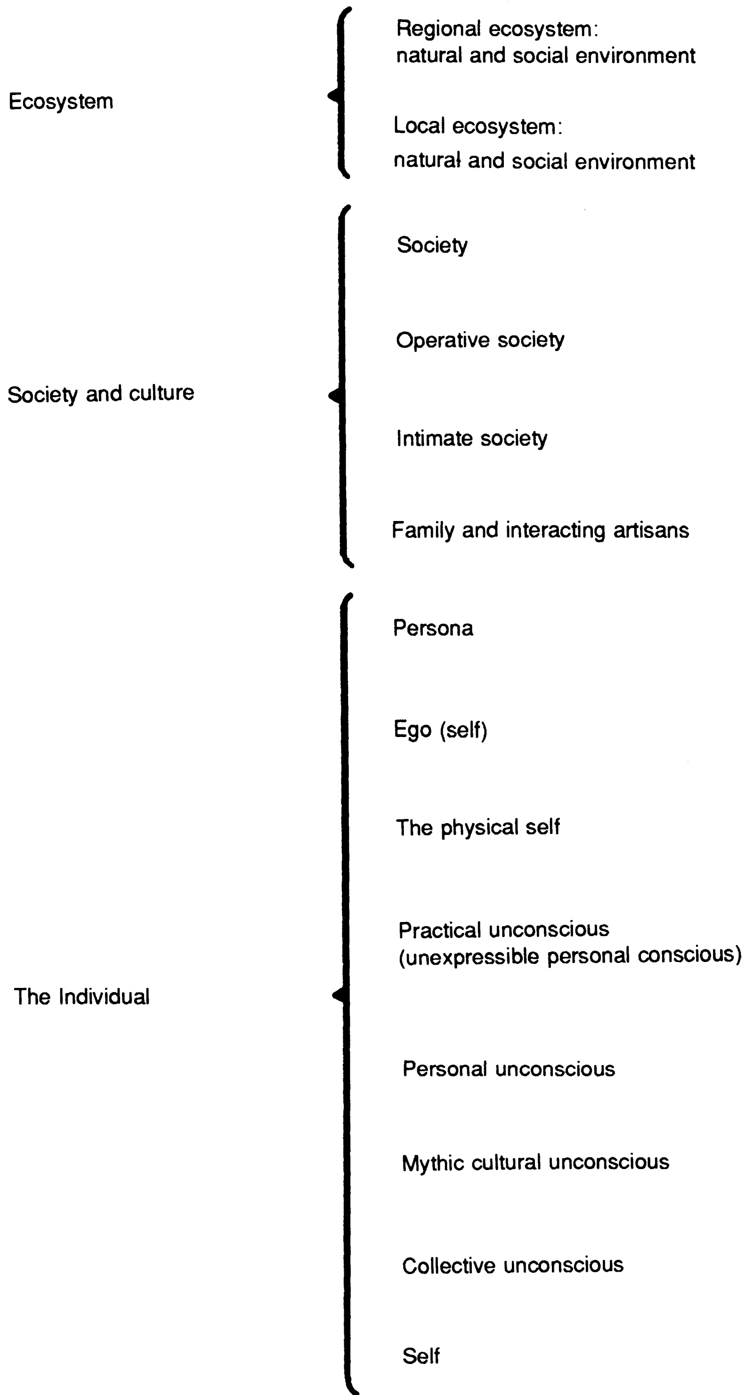

Figure 1-1. Phenomenological levels within which the factors that determine material style operate.

Table 1-1. Components and Phenomenological Levels of a Complete Explanatory Framework on Material Style

Phenomenological level	Regulating structures	Processes determining style; theoretical approaches	Conditions, constraints, adaptive milieux, & content determining style	Unique triggering events (history) determining style (some not knowable archaeologically)
Ecosystem and regional demography (ecological anthropology)	Regulating structures only indirectly pertain to material style (e.g., biological regulators of population density)	Natural selection Ordered sequences of adaptation	Euclidean geometry of the physical world Natural access to raw materials Social–regional access to raw materials Raw material properties Natural factors defining costs of artifact production and artifact value Natural factors affecting population densities Natural factors affecting degree of contact between societies Abundance of basic resources	Natural environmental events affecting raw material availability & costs of production Natural environmental events affecting population densities (e.g., a disease, drought) Natural environmental events affecting contact interaction, & exchange between groups (e.g., increasing risks to subsistence, rainfall, & trail conditions)
Society and culture (Hsu 1985)	Pansociety rules on the appropriate contexts of use (spaces, activities, rituals) of artifact classes Pansociety rules that set stylistic message priorities, situation independent or dependent Pansociety grammatical rules of style	Cultural selection Information exchange: pansociety regulating messages—economic, political, social identity, world view, mythic & religious themes Diffusion between societies	Social access to raw materials Social factors affecting costs of artifact production & artifact value Pansociety population density & its effect on daily interaction rates, audience sizes, viewing distances Sociocultural factors affecting degree of contact, cooperation, competition between societies Known technology Artifact curation and uselife Extant pool of isochrestic design alternatives (historicity)	Pansociety events affecting raw material availability, costs of artifact production, artifact value (e.g., territory & clay resource loss or acquisition) Pansociety events affecting population density (e.g., emigration, immigration) Pansociety events affecting contact between groups, interaction, artisan mobility (e.g. social costs, risks of travel)

			Institutionalized world views, beliefs, values Language categories Ideology Law Social concepts of the self Socioculturally dictated message priorities, situation independent & dependent Socioculturally dictated weighting of media for their communication potential Factors affecting between-society diffusion: grammatical, symbolic, & semantic similarity of styles of societies, artisan mobility	Pansociety events affecting social practices and ideas (change in leadership, rise of religious figures or the Great Individual) Pansociety events affecting message priorities, situation independent & dependent (e.g., population intrusion, raid)
Operant society, intimate society, small-group/ interacting artists (Hsu, 1985; Pryor & Carr, Chapter 8)	Local rules or traditions on the appropriate contexts of artifact use and situationally dependent message priorities Local grammatical rules of style	Information exchange: social messages & active expression of dialectical oppositions between social segments; personal messages Stylistic legitimization of social strategies Stylistic mimicry during migration, acculturation Performance and re-creation of the self (reactive) Image management and re-creation of the self (proactive) Small-group decision making Transmission: enculturation, casual learning and diffusion through interactions	The social situation, group size, & their effects on interaction & viewing distances Audience size & viewing distance as functions of the social situation Artisan-chosen message priorities depending on the social situation Extant pool of isochrestic design alternatives (historicity) Local variants of world view, beliefs, values Local variants of language categories Factors affecting enculturation, casual learning, diffussion: artisan mobility; power relations; kin relations; acceptability of creativity; realms of protected deviation; archiving; grammatical, symbolic, & semantic similarity of styles of groups	Localized factors affecting group size, contact, & interaction between & within groups; group practices & ideas; raw material availability; costs of artifact production; artifact value; artisan-chosen message priorities (e.g., feud, territory–wealth loss or acquisition, rise of a big man) Family or group unique history of interactions with others

(Continued)

Table 1-1. (*Continued*)

Phenomenological level	Regulating structures	Processes determining style; theoretical approaches	Conditions, constraints, adaptive milieux, & content determining style	Unique triggering events (history) determining style (some not knowable archaeologically)
Conscious person	Regulating structures only indirectly pertain to material style	Decision making "Rule replicative behavior" "Rule creation behavior (Roe, Chapter 2) Habitual methods of manufacture	Conscious knowledge Personally known technology Personally known pool of isochrestic design alternatives Artisan-chosen message priorities Ego drives Personal preferences, goals, strategies Personal beliefs, world view Ideolect Active memory capacity & information processing capability	Events & personal history of interactions with others, affecting knowledge of technology and known pool of isochrestic design alternatives (e.g., loss of a parent–craft teacher) Events affecting one's current contact & interaction with others, knowledge, beliefs, preferences, goals, strategies, message priorities
Physiological person	Regulating structures only indirectly pertain to material style	Motor skills	Personal physiology affecting motor coordination Neurophysiology & biochemistry affecting conscious and unconscious processes (e.g., phosphene-induced visions of shapes)	
Unexpressible personal conscious and unconscious aspects of the psyche (Jung, 1971; von Franz, 1964)	Conceptualization and classification of the physical world to control information load (Kroeber, 1948:329)	Novelty production: creative inspirations through mild trances while crafting; deeper altered states of consciousness—dreaming or induced trances "Rule creation behavior" Selective memory Projection Perception processes Other cognitive functions	Content of the personal unconscious: subliminal information, repressed thoughts, personal manifestations of the archetypes Content of the cultural unconscious: mythological themes & structures about the social order & cosmology; culture-specific manifestations of the archetypes Content of the collective unconscious: archetypes	Personal physical, emotional, & intellectually integrated experiences with outer world and inner world of psyche Events inducing altered states of consciousness (e.g., repetitive crafting, drumming, taking hallucinogens)

processes that they initiate. Regulating structures help the system to survive by controlling the timing, distribution, intensity, and/or other parameters of processes. This control is achieved by adjusting the constraints that define processes. In our water flow case, an example of a regulator would be a self-adjusting valve that changes the pipe's form (constraint) and, thus, flow pattern (process).

Now suppose that the material style of an artifact class is the thing to be explained. An example of a causal dynamic process would be information exchange through artifact production and use. Some relevant constraints would include known technologies, the social situation, artifact viewing distances, and the numbers of persons comprising the audience. Events that trigger the production and use of artifacts for information exchange might be any of a variety of ecological, social, or small-group events. Examples include short-term meteorological conditions that produce subsistence hazards requiring greater social cooperation and interaction; an argument between social groups; the intrusion of a new social group into the region; or a change in leadership. Finally, examples of structures that might evolve and regulate stylistic diversity and the process of information exchange would include the grammatical rules of the style, and social rules that govern the appropriate contexts of use of the artifact class (e.g., restriction to certain spaces or rituals). In turn, those rules might derive from political policy or basic religious or world view propositions, as part of the regulating structure (Rappaport 1979).

A complete and satisfactory explanation of a style involves all four of these logical types of factors and a clear discrimination of their roles. Aristotle (1966) and Flannery (1972:409) envisioned different parts of this framework in their essays on kinds of explanation and the components of an explanation (Table 1-2).

Table 1-1 provides some examples of processes, constraints, triggering events, and regulating structures that determine style at each phenomenological level. The table is simply a heuristic device. It does not attempt to enumerate all determining processes, constraints, and triggering events. Also, only those regulating structures that directly pertain to material style are listed. There are many other regulating structures that only indirectly or weakly affect material style and that are beyond the practical scope of stylistic studies (e.g., ecosystem regulators of population levels, biological regulators of human coordination). Finally, note that the events, constraints, and processes that relate to each other in determining material style can belong to different phenomenological levels. Constraints at

Table 1-2. Components of a Complete Explanation and Archaelogical Schools of Thought on Style

Component	Aristotle's terminology	Flannery's terminology	Schools of thought that emphasize this component
Processes	—	Processes	Selectionist Information exchange Social dialects Social interaction Enculturation aspects of isochrestic school
Constraints, contents	Material cause	Adaptive milieu (prime movers)	Technological aspects of isochrestic school
Triggers	Efficient cause	—	Historical-contextual archaeology (Hodder 1982a)
Regulating structures	Formal cause & efficient cause	—	Grammatical approaches High structuralist aspects of structural–symbolic archaeology (Hodder 1982b)

one level can define processes at another. For example, natural environmental constraints-conditions that affect the degree of contact between societies (ecosystem level) can define the information exchange process between societies (society level). Also, constraints at one level can determine constraints at another. For example, a pansociety belief (society level) might affect the nature of power relations among kin and the acceptability of creativity (intimate society level). In turn, both of these constraints would define the nature of the enculturation process (intimate society level).

Table 1-1 suggests that the "causes" of a style and the components of a satisfactory explanation of style are usually numerous, of several different logical types, and pertain to several phenomenological levels. The explanation of style is a complex logical task—much more complex than any previous, single archaeological theory of style has considered.

Table 1-1 also shows that different archaeological schools of thought on style emphasize different phenomenological levels and/or logical types of causal factors (see also Carr, Chapter 6:Table 6-2). For example, natural selection, cultural section, information exchange, social dialectics, and decision-making processes pertain to different, sometimes overlapping ranges of phenomenological levels. Furthermore, whereas the schools that focus on these factors all evoke processes to explain style, historical–contextual approaches focus on constraints and triggering events, and grammatical approaches emphasize regulating structures.

Thus, different archaeological schools of thought on style vary from each other in different logical ways. Those that emphasize processes as causes, but that evoke processes of different phenomenological levels, differ *paradigmatically*. In contrast, processual schools differ from those that focus on context or structure in the *logical type* of causal factors that they evoke. In this way, some schools of thought on style are not comparable, logical alternatives and do not differ paradigmatically in the sense of Kuhn (1970). They are clearly complementary rather than competing, and can be integrated and used together to explain a style.

In sum, this book attempts to integrate the diverse approaches that are currently taken to the study of material style using several different strategies. These strategies include simple descriptions of the many factors that determine style, integration of high theories about style, integration of the factors that cause style within a single, middle-range theory, and philosophical systematizing of causal factors as to the logical explanatory types. Together, each of these strategies allows one to view and understand material style from a broader and more holistic perspective.

CONCLUSION

The analysis and interpretation of a style's origin, content, diversity, distribution, and transformation is a complex endeavor. Causal factors of several phenomenological levels, of several logical types, and that pertain to varying, current archaeological theories of style usually must be evoked. Ecological, technological, sociocultural, social-psychological, personal, psychological, physiological, and historical-contextual factors can all be relevant to explaining a style. In addition, it is usually insightful to study multiple media.

These diverse causal factors, and the current archaeological theories of style that pertain to them, can be integrated within more holistic explanatory frameworks at both the levels of high- and middle-range theory. At the level of high theory, the social interaction, information exchange, and social dialectics approaches can each, with translation, be subsumed, to some degree, as special cases under social psychological and selectionist theory. In turn, social-psychological and decision-making theoretic frameworks can be subsumed as aspects of selectionist theory. At the level of middle-range theory, different aspects of the formal variation of a population of artifacts, and different artifact classes within a material system, can be arranged hierarchically by explicit criteria and understood for the likelihood of their being determined by different kinds of factors of varying phenomenological levels and logical types. Thus, explication of a style requires multiple, complementary, integrated theoretical

approaches, in contrast to the single, supposedly competing theories of style, the relevance of which archaeologists have debated in recent years.

It is for the better that the student of style be a *whole anthropologist*, who understands and is capable of detecting the workings of a broad range of causal factors—social–psychological and psychological factors as well as technological, social, and ecological ones. Analysts will achieve richer interpretations of style if they are willing to cross disciplinary lines into biology, material science, cognitive and depth psychology, and art when studying a style. The advantage of such an expansive approach should be obvious. It reflects the complexity of the artisan as a human being, who is defined and lives at the portal between many levels of phenomena.

It is true that not all styles and archaeological records provide the quality of information that is necessary to reap fully the potential fruits offered by a more holistic approach. Nevertheless, an understanding of the workings of all potentially causal factors at all levels is required if one is reasonably to accomplish the fundamental tasks of evaluating which factors are more likely to be important in any particular case, and assigning appropriate interpretations to the various formal attributes of a population of artifacts or to the various artifact classes within a material system. A holistic understanding is also necessary if one is to conclude what cannot be said about those attributes or classes. To consider fewer causal factors, to operate within the agenda of a single paradigm, is to facilitate misinterpretation. Moreover, taking a single, paradigmatic view of material style can only restrict appreciation of the endeavors, lives, and beauty of the past peoples we study.

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Style, Society, and Person

Archaeological and Ethnological Perspectives

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