Chapter 1

Toward a theory of structural style in art
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Introduction

This volume presents a set of papers which represent a collective effort to examine the structure of art and its social relationships. The authors focus on the systemic aspects of art and how these relate to and reflect the larger social system. Art forms are seen as belonging to a system just as other behaviours and objects in other aspects of culture are parts of systems. Systems produce consistent patterns of activity and are built of parts that fit together neatly and economically. They are long-lived, to the extent that they may be recognized and observed by investigators. They may encompass great variability, yet it is variation which, I argue, can be accommodated by the basic structural organization of the parts of the system. Thus, while art forms in a given culture may, in one sense, be specifically iconographic or functional or decorative, on a more basic level, they share fundamental similarities which are structural in nature.

The authors in this book seek to delineate the presence, articulation and, where possible, the contextual meaning of the structural systems in various types of art forms. Although each of the authors examines different aspects of this problem, all focus on understanding the nature of consistencies in a given art form — how best to define them, what they might mean, and how they relate to their larger cultural context.

Culture and system are used here as general concepts.

As we feel our way in the business of showing how art structures are part of the larger cultural structural system, we speak generally first and, we hope, more specifically later as we refine the concepts. Thus, while we know that there can be many cultures, and thus, undoubtedly, many art structure styles in a society, we speak here in the singular. We want to simply establish the presence of structures in art, and later, building on this basis, to offer studies of the diachronic and synchronic nature of these systems.

I begin not by offering the usual review of style studies to date, for this has been done recently, for example by Silver (1979). Rather, I want to look ahead and offer some ideas about perception, categorization and structure and how these concepts may in some way help us to understand the structural consistencies in art forms.

I rely heavily on the work of Rudolf Arnheim, who has extensively discussed art and perception (1969, 1974). Arnheim shows us how physiology conditions how we see, but culture conditions what we see and how we organize what we see into a given image. It is useful to review in some detail Arnheim's work because his discussion of perception suggests that it is possible to understand that some aspects of the structure underlying art forms may be a result of the perception process, while others are the result of cultural factors.

The structure in perception

Vision is not a mechanical recording of elements but rather the apprehension of significant structural patterns (Rudolf Arnheim 1974: 6).

Perception consists of three stages: (1) filtering and selection of information necessary to focus on the general character of objects – especially their shape and structure; (2) recognition of the shapes in their cultural context and categorization of the shapes into general classes of things; and (3) filling in details of the shapes from prior knowledge and visual experience. Each stage will be further described with emphasis on its relevance to art forms.

First, perception is selective. The eye and mind cannot absorb everything in any given visual field. In order to protect the mind from being swamped with more information than it can handle, the process of perception involves constant filtering and selection.

During this filtering process, the eye most easily recognizes general characteristics, rather than particular details, particularly qualities which differentiate one thing from another. Results from numerous studies indicate that the eye sees shape as the most important of these essential features. Because perception involves organization of the generalized shapes into culturally recognizable forms, the structural features of a given shape which underlie the organization of its parts into a culturally familiar whole are essential not only for its formation, but also for its identification and categorization.

Arnheim uses the example of a person, asked to describe a winding staircase, who responds by tracing a spiral in the air with his finger. By this action, the person is simplifying and abstracting the staircase to its most essential structural feature – a spiral. It is this feature which is most easily recognizable to everyone familiar with spiral staircases and which allows us to interpret the gesture as a spiral staircase.

There is a common misconception that realistic or naturalistic art representations are exact mirror portrayals of a given scene or object. But, since we do not see all the details as in a photographic image, all renderings are actually reworkings of the individual artist's own perceptions of what he sees when looking at a scene. Depending on his cultural biases, some aspects are emphasized while others are minimized or omitted.

In this sense, the basic structure underlying an art form may be seen as a summary of the perceptions the individual artist had about his world through his culturally tinted glasses. His visual faculties perceived general shapes which were interpreted and elaborated into a whole by his cultural preconditioning and memory of things past. For him, it is a meaningful restatement of what he thought he saw. It reflects his world and serves as a guidepost to present and future action.

These differences between what is, what is seen, and what is represented have important bearing on our under-standing of art. Preconditioned by previous cultural experiences, the eye selects and processes only that information which is considered important for a given activity. This reduces the visual overload and focuses the thought processes on organizing the information received. It is thus irrelevant whether the image accurately represents the object perceived. Rather, the representation is a summary of certain aspects of a culture's world which everyone in that world recognizes as being fundamental to everyday activity, both sacred and secular. The art form thus projects a statement about the focal points of a culture's world.

Second, perception involves categorization of ever-changing phenomena. In a given cultural environment, visual perception always proceeds from a baseline of known concepts. From these, the individual can elaborate the general shapes perceived. He can also, most importantly, confront and adjust to variation, because his powers of abstraction enable him to generalize and categorize these variations within the basic concepts underlying his culture. Every culture, by virtue of its cognitive integrity, has this baseline of conceptual premises which promote and perpetuate appropriate cultural activity. Further, the relational aspect of perception and categorization causes people to see shapes always in juxtaposition to the things around them and not as isolates. From this comfortable reference point, a given individual can perceive how a myriad of changes and variations relate to the general ordered precepts underlying his culture.

Third, this cultural essence is represented as basic shapes which the memory, with its bank of knowledge derived from prior encounters within that same cultural environment, distills and organizes into images that are recognizable, and meaningful to the observers. The essence of an art form, then, is a visual embodiment of the regularities which represent the culture bearer's generalizations about important parts of his world. The shapes and their organization are thus representative of aspects of the several ordering (rule) systems basic to a given culture which operate to maintain that culture as a cohesive, ongoing whole.

The backlog of cultural tradition and the individual's personal experiences in that cultural milieu enable him to respond to observed images with the 'correct' behaviour in specific situations. Thus, perception does not depend totally on just the information received by the retina at a given time. Rather, the brain receives generalized images and quickly 'fills in' the details from this backlog of prior visual experience.

A good instance of this process is Arnheim's example of the visualization of the head and chest of a person looking over a wall and the mental completion of this partial image with a torso and legs. From prior knowledge we know that human beings have a set array of features. Thus, the mind not only recreates the whole form, in this case the human body, but also recreates it in its proper configuration; i.e., placing the torso and legs in the proper position relative to

the observed head, arms and chest. In other words, the human memory bank of prior knowledge and experience can thus organize parts into wholes, and this reorganizational ability of the brain is central to the process of perception. The reliance on a reservoir of cultural experience thus signals how a thing is to be perceived and slotted into the whole system of ongoing activity.

The culture in art structure

. . . we need to look for systematic relationships among diverse phenomena, not for substantive identities among similar ones (Clifford Geertz 1965: 106).

It is useful to look at efforts by anthropologists who are seeking to define the system underlying other spheres of culture to see if and how aspects of the perception process are incorporated into the classification systems they develop.

Ethnoscientists, for example, focus on discovering classification systems of folk categories which reveal how a given people organizes items in their world. These folk classifications persist because the relationships among the units have meaning for their users. The classes, whether they be kin terms of plant names, are functional because the system of the named classes offers a meaningful way to organize the world. Each category has a function and meaning only because it is a part of a larger system. As each new generation of category users grows up within the culture, its activities basically revolve around the business of learning and using categories which represent how that culture organizes its world. Indeed, these 'categories . . . reflect deeply the culture into which [man] is born' (Bruner *et al.* 1972: 177).

Similarly, symbol systems also derive their meaning from their relationships to the other parts of the system. Mary Douglas reminds us that 'A symbol only has meaning from its relation to other symbols in a pattern. The pattern gives the meaning. Therefore, no one item in the pattern can carry meaning by itself isolated from the rest' (Douglas 1973: 11).

A number of studies have demonstrated how symbols are structured within the ritual system (cf. Reichel-Dolmatoff 1971; Thompson 1945; Vogt 1976); are structured as status indicators (Faris 1972); or how their structure transmits oral histories and traditions (Munn 1973). All these forms of abbreviated representation are 'attempts to provide orientation for an organism which cannot live in a world it is unable to understand' (Geertz 1973: 140–1). In other words, despite their differing levels of abstraction, all types of symbolic representational systems seem to operate to categorize information as an aid to the regulation and direction of appropriate behaviour.

So, folk taxonomies and symbol systems categorize, organize and reveal the structure of specific aspects of a cultural world. They make explicit the organization of the inherent structure behind the series of names or symbols verbalized by the participants and perceived by the observers. They organize the world by relating items in terms of the meaning that the similar and different properties of those items have for each other. Furthermore, because these categories are shared among members of a given culture, they form the basis for communication about the items in question.

Similarly, it should be possible to define art systems by describing the consistencies in their formal organization. However, too often the classifications are too culturally specific to allow cross-cultural comparisons or their units cannot be easily used for diachronic studies of change (cf. Watt's grammar of Nevada cattle brands, 1966, 1967). Furthermore, the structure outlined is often one unconsciously seen and modelled through a Western perspective and value system.

For example, Deregowski (1972: 84) attempted to show how certain African tribes lacked the ability to represent images in central perspective. However, central perspective, introduced in the Renaissance, describes art of the Western world and therefore is not an unbiased reference point for the analysis of art of non-Western representational systems. In fact, central perspective organization of the picture plane is far from being an accurate representation of the real world. Central perspective actually requires 'violent and intricate deformation of the normal shape of things' (Arnheim 1974: 283). In a sense, central perspective makes things look right by representing them wrong.

In much 'primitive' art, two-dimensional images are often simply presented in side or front view outline. It is interesting that studies (Ryan and Schwartz 1956, cited by Haber 1980: 377) have shown that such simple flat outline representations are in fact easier to recognize than detailed three-dimensional realistic representations. Subjects given four different representations of a human hand: a black-on-white photograph, a detailed scientific drawing, an outline sketch, and a cartoon, most quickly recognized the cartoon as a hand. The last image to be recognized was the photograph which provided the most detailed information. Thus it appears that the simplicity in 'primitive' representation actually conveys the necessary information perhaps even more effectively than detailed realistic representations.

Caricature is another way in which images are simplified and key features are emphasized. Consider how quickly and infallibly everyone recognizes cartoons of politicians which emphasize familiar facial expressions or mannerisms. Such caricatures almost invariably distort or alter the actual image, yet they are almost always identifiable. This is because exaggerations of facial features are purposeful distortions of essential, distinctive features that everyone who belongs to that cultural group recognizes. Perhaps for non-literate cultures, such forms of representation are specifically chosen because they focus on critical features as systems of signs which enable all viewers to identify the images as belonging within their own cultural sphere.

Indeed, outline simplification or caricature seems to define certain types of style, just as central perspective

defines others. The critical aspects of a thing which are emphasized may be exaggerated, distorted or represented in a way which, while not maintaining photographic reality, serve to capture and communicate the essence of the object or concept. But, however particularistically we describe these styles, they are all ultimately based on specific *structurings* of the essential features, whether they be emphasized, repeated, exaggerated, distorted or realistically represented. It is this structuring that we are seeking to delineate and understand.

The interest in classifications of structure in art forms is actually not unlike extant studies of structure in other aspects of culture. For example, Lomax has developed the methodology of cantometrics to describe features and their organization within song systems. He argues that 'each song performance is a symbolic reenactment of crucial behaviour patterns upon which the continuity of a culture hangs' (1968: 8). Dundes argues that there is patterned structure in folktales (1964) and Hymes (1964: 386) and Bauman (1975: 296) have shown how speech is equally conventionalized and peculiarly organized within communities. Indeed, Hymes points out that the very structured nature of a speech community is a boundary maintaining mechanism. It not only serves to enhance the community's distinctive sense of self, but also operates to exclude those who do not participate in that system (1964: 388).

The very organization inherent in these other verbal and visual representational systems suggests that art styles also can be analysed by structural principles. In fact, there have been an increasing number of studies which have attempted to demonstrate that structural principles, such as symmetry, underlie art forms. As early as 1932 Lila O'Neale discovered that Yurok—Karok basket-weavers followed well-defined rule systems for vessel shape and design proportion. Mills (1959) found that Navajos, and Salvador (1978) found that Kuna have definite ideas about balance, filling of space, and symmetry of design. Indeed, the structures in their designs seemed to reinforce these peoples' conceptual order of their world. Statements by artisans that they plan their design structures in their heads before execution (cf. Wood for the Tzeltal (1975), and Roe for the Shipibo (1980)) strongly suggest that proper organization of the parts of an art form is of fundamental importance to these peoples.

Furthermore, some analysts have sought to show that the structure they find in art is similar to that in the other cultural subsystems. Fernandez enumerates aspects of the dual balance in Fang sculpture which he feels is also reflected in village layout, in procedures for settling disputes and even in establishing genealogies (1966). Cunningham finds the Atoni house structure a symbolic visual of their properties of classification (1973), and Glassie finds that cognitive concepts which Middle Virginians brought from England are expressed in the layout of their houses (1975). Adams' analysis of Sumba ceremonial mantles reveals similarities between the structure of the design and village organization,

ceremonial language, and aspects of ritual (1973). Perhaps Munn best summarizes these efforts to show how art structure can be an accurate mirror of cognitive models of the natural world.

> I would stress in particular that a structural analysis of the representational system is essential not only to an interpretation of the dynamics through which the forms are generated, but also to an explanation of the relations between the graphic system and the wider sociocultural order.   (Munn 1973: 3)

In essence, art structure refers not only to a set of distinctive features but also to the organization of those features. Further, the structure of these features seems to embody the way a culture perceives, categorizes, and organizes a particular segment of its world. The relating and classifying processes in effect organize, i.e., give structure to the images seen.

We can most easily describe the system in these images by describing the consistencies in their structure. Thus, just as the critical features of perception concern the way the parts seen are organized, similarly the consistencies in art structure may be interpreted as the units carrying cognitive import.

Art structures so described do not communicate particularistic information only because they are part of a larger system. In other words, what is communicated has a formal organization and, as such, is 'larger than life'. It becomes a representation of the whole system of which it is a part. In this sense art is redundant — it communicates and repeats information expressed in other subsystems. As Bateson reminds us, it is the quality of redundancy wherein the same message can be pronounced in a number of different ways which unites each of the subsystems of culture into a functional whole (Bateson 1973).

Ethnographic studies of the structure in art

The papers in this volume focus on defining the structural/conceptual systematics of art. Five are studies of ethnographic situations which use informant testimony, participant observation and document research to define structural grammars of art and how these grammars can be meaningful statements about the place of an art form in a particular cultural situation.

Hardin's study (Ch. 2) of the structure of decoration on Tarascan greenware ollas is a highly formalized dissection of a particular design style. Borrowing her approach from linguistic anthropology, she proposes that: 'A design structure is the cognitive system underlying a particular style.' She takes advantage of her privileged position as an ethnographer to draw on verbalized comments from the potters as well as her own observations to define the series of rules Tarascan potters seem to follow when laying out their designs. Her observations a decade ago (Friedrich 1970) that the con-

figuration is the cognitive unit appear even stronger and more meaningful juxtaposed to the other papers in this volume.

Whereas Hardin explicitly shows us the consistency underlying Tarascan design, Lathrap (Ch. 3) focuses on the variability within a design system, and uses this approach to test the earlier premises of Deetz (1965) and Longacre (1964), who proposed a relationship between residence rules and design variation. Lathrap's work is a superior example because his data base combines the ethnographic present with 4,000 years of prehistory along the Ucayali River in eastern Peru. In this paper, Lathrap's observations about contemporary Shipibo—Conibo pottery-making show how adoptions, yearly family visits, personal experiences of individuals, competition among potters within a tightly knit potting family, and ostracism of a potting family from the rest of the village, can be sources of design variation. What Lathrap has uncovered are individual micro-traditions within a village. On this level, where others predicted homogeneity, he has isolated sources of variability.

We can also see in this same data base an incredible amount of homogeneity that can be labelled, on another stylistic level, as the Shipibo—Conibo style. I have taken the liberty of analysing the data illustrated in this article (according to the method of symmetry analysis outlined in Washburn 1977) and find that, structurally, Shipibo—Conibo designs are consistently organized by two particular design layouts: all interior designs on bowls have finite vertical and horizontal reflection structures (211), and all banded designs on bowl and jar exteriors have one-dimensional vertical reflection structures (1−101). Vertical reflection predominates in all layouts, regardless of family, village, age of potter or particular individual situations. These structures represent the culturally recognized, appropriate, gramatically correct way to arrange design elements on a specific space to be decorated. Here is a culture's stylistic tradition, described by symmetry in an excellently documented ethnographic example.

On this level, within-village variation is obscured. The efforts of two sisters, Ana and Jesusa, to differentiate their output may be observed in differences in elements used, but because they both adhere to a culture-wide layout − 1−101 for bands and 211 for finite designs −− their output is structurally identical (Figs. 3.4b−f, 3.5c−f). Likewise, age does not seem to be a factor. The slightly irregular designs (Fig. 3.4a) of the matriarch Asunsiana, or the beginning efforts of seven-year-old Ermelinda (Fig. 3.5j) and ten-year-old Isabella (Fig. 3.5k) are all identically structured. Thus, element details will vary, but the structuring of those elements will be culturally consistent.

This culture-wide structural style does not negate Lathrap's observations or his objections to Deetz's and Longacre's original hypotheses. As Lathrap points out, stylistic variation can be observed on several levels. Cultural groups have unique styles which differentiate them from other cultural groups, and individuals have unique styles which differentiate themselves from other members of their potting family or village. Group styles are *structurally* different one from another, whereas individual styles employ uniquely different *element* combinations. Thus, whereas Lathrap's studies show how the variability of individual styles within a potting community relates to specific experiences and life schedules, it is also true that, on a culture-wide level, there is a structural style which relates to a much broader activity spectrum. Similarities in the outlook and activities of one people results in groupings we can distinguish as separate cultures. Each of these groups communicates to its members, by various media, its uniqueness. A culture's uniquely structured design style is one such way in which this information is communicated.

Arnold (Ch. 5) explicitly relates design layout of four pottery shapes to arrangements of environmental and social space in the contemporary village of Quinua, Peru. As an archaeologist, Arnold is concerned with discovering ways by which we might be able to define past interaction between groups solely through material culture remains. Taking off from Friedrich's (1970) work concerning how similarities and differences in design structure reflect interaction patterns of the potters, Arnold seeks to demonstrate that the structure of decorative space reflects basic structural patterns which organize other kinds of space use within a community. This goes beyond the problem of defining the interaction patterns of the people who made the designs, to address the problem of whether these consistent layouts in design reflect similar structuring in other, non-pottery-related activities.

Hanson (Ch. 6) shows clearly that a focus on meaning, form and content can often be misleading for some art, such as that of the Maori, which is largely purely decorative. This is not to imply, however, that its non-representational quality relieves it of meaningful content, for he shows us a number of homologous relations between art structure and other cultural patterns. For Hanson, 'the meaning of an object is located in the constellations of formal relationships in which it participates'. For the Maori the general pattern of dualism and complementarity is expressed, for example, in wood-carving designs with bilateral symmetry.

Adams (Ch. 4) relates the degree of form dimensionality to access to political authority. Sculpture in the round is found only in the royal sphere, while flat mats and cloths are found in all sectors of the population. In between are three-dimensional objects decorated with motifs found on flat two-dimensional pieces. These were used and worn principally by those competing for a place in the political sphere surrounding the royalty.

Faris' paper (Ch. 7) exemplifies another direction which structural studies may take in an effort to understand how art operates within the cultural constellation. Faris is concerned with three examples of art forms whose culturally accepted, grammatically correct structures are distinctively elaborated. But he is looking beyond the structures to the context in structure. He moves beyond his earlier position

(1972) of defining the organization of art forms and how they relate to the social context to an attempt to specify the ideology behind the art forms. Thus, Nuba body painting, for example, is read as the marking of man's productive specialization. But for some Northwest Coast art, Nuba body art, and Upper Paleolithic parietal and mobile art, excessive elaboration has compromised the functional meaning of the art so that, in fact, the meaning in the form can be read to be secondary to the elaboration of the form itself.

Archaeological studies of the structure in art

Given the current interest in defining interaction spheres in prehistory, this book began as an effort to develop a more systematic way of describing and interpreting patterning among sites in archaeological contexts. It appeared, however, that first we needed a more systematic way to *describe* the patterns observed before we chose statistically sophisticated techniques to *analyse* the patterns. Two criteria seem to be essential to systematic description: (1) the units of analysis must produce an objective description; and (2) the units of analysis must allow comparison between relationships in the system being described and those of other systems in the culture with which they are related.

Just as the relational character of perspective dictates that we see objects only as they relate to others around them, so does the position of art forms in a culture mean that they are not seen and used as isolates by their cultural makers and users, but as parts of a larger cultural system in which they are inextricably related. Thusly, our analytical mode should be one which facilitates discovery of those relationships.

In 1948 Shepard (Shepard 1948) and again in 1977 Zaslow (Zaslow 1977) and I (Washburn 1977) suggested that symmetry is an objective analytical unit which can be used to describe the grammar of art systems. As a mathematical concept symmetry describes the repetitive property of structure; that is, how a given part is moved a given distance along and/or about an axis to superimpose upon itself. This property can be used to describe all repeated patterns, whether on textiles, ceramics, tile, wood or other media. Because both the simplicities and the complexities of most primitive and Western art can be described using these geometric motion classes, symmetry is free of particularistic stylistic criteria such as central perspective.

It was clear, however, once recurrent patternings were discovered in cultural situations, that a greater understanding was needed of the nature of these structural consistencies before we could blithely apply this idea to study past behavioural patternings. Thus, I have gathered a series of papers in the first part of this volume by ethnographers, and archaeologists-temporarily-turned-ethnographers. These have shown how structural consistencies relate to and reflect other aspects of the cultural system. But, to close, I have included two studies which suggest the potential uses of this concept for archaeological material. These papers represent analyses

of archaeological situations where structural studies add new dimensions to well-known examples of change and continuity.

Kent (Ch. 8) identifies six distinct regional and temporal styles of weaving in the prehistoric American Southwest and, within these, is able to define two dramatic structural shifts in design which correlate with other artifact and population introductions. From this analysis, she is able to offer an archaeological case where the survival of a design style can be interpreted as a statement of cultural persistence in the face of radical change.

I use symmetry analysis to reanalyse and give new life to old data. Structural shifts in incised designs through 3,000 years of prehistory at Knossos are shown to correlate with the beginnings of outside contacts with other Aegean communities. Such sensitivity of design structure to temporal change can be matched by studies of the sensitivity of structural change through space. Painted ceramics from Early Neolithic sites on mainland Greece show distinct regional clusters that appear closely associated with major geographical barriers. In contrast, incised ceramics from Late Neolithic sites reveal that some centrally placed sites have all the patterns represented, while surrounding sites have only one or two. This is suggested to be an indication of the possible development of marketing centres, an event not surprising in view of the coincident opening of trading contacts throughout the Aegean during this period.

Toward a theory of structural style in art

The papers in this volume are concerned with the structure of art and how it operates as one of the organizational concepts that underlie cultural systems. Art structures describe aspects of the balance, harmony and order within a given culture that makes life comfortable and predictable for its members. Art structures are perceived, although perhaps not explicitly verbalized. For example, Lila O'Neale (1932) found that Northwest Coast California Indian basket-weavers identified baskets as 'good' if they had designs that were pleasing and properly arranged. Analysis revealed that all these 'good' baskets were consistently structured. In contrast, 'bad' baskets were those with designs copied from items external to their culture, and those designs were heterogeneously structured. Only 'good' baskets were worn and used by the Indians; 'bad' baskets were made to sell to tourists. Thus, just as Hodder suggests that aspects of social organization will have spatial expressions (1978: 211), we are suggesting here that social activities and cultural values will have graphic expressions as well.

But it must be emphasized that persons external to a given system may not recognize the structure that is perceived within, since what is an orderly world to those within a system may be perceived as chaotic and disorienting for those external to it. Further, we would not want to conclude, at this writing, that within a given culture the structure of art will necessarily always be the same as the struc-

ture of dance, political relations, or any other behavioural system. We have examined some cases where this is so, however, and we are endeavouring to understand what these congruencies may mean. We are presenting our first efforts to examine these structural consistencies so that we may study their relationships to other cultural behaviours.

In sum, we have sought to map the aesthetic component of culture in terms of its structural base. We have all, I think, moved toward more explicit statements about the internal grammar of a culture's art forms, which, in turn, enables us to understand more clearly how art relates to objects, ideas, and activities in other systems of the culture because those aspects can also be understood by the same grammatical principles. We do not pretend completely to understand at this writing why art is so structured, nor exactly how this structure relates to its social context. What we offer here, we hope, are more systematic investigations of art structures and related aspects, and some initial approaches to their contextual relationships within the larger cultural whole.

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Chapter 2

**The structure of
Tarascan pottery painting**
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Introduction

This paper presents a method for analysing the cognitive structures reflected in decorative art styles and illustrates it with a study of Tarascan greenware painting.[1] The procedure outlined is designed for ethnographic data; that is, the resulting analysis depends not only upon formal comparisons of representative craft products but also upon the statements of craftsmen. In its approaches toward these two sources of information about the structure of the style, the paper owes a double debt.

The framework used to describe the physical appearance of the style is essentially the same as that used for systematic description of decorative styles within the tradition of American anthropology (Boas 1955: 183–298; Bunzel 1926). More specifically, this paper draws heavily upon the detailed instructions provided by Anna Shepard (1956: 259–305) for the description of decorations on ceramic vessels.

The mode of analysis to be detailed rests upon the methods and assumptions of linguistic anthropology in both its use of verbal data and its overall aims. Although it has long been recognized that these methods are particularly suited to the study of material culture (Sturtevant 1964: 107), this field of interest has received relatively little attention in comparison with others, such as kinship and biological classification. Similarly, while the approach has been used successfully in studies of material culture, including technological aspects of pottery making (Conklin 1953; Arnold 1971; Kaplan 1976), studies of complex systems of decoration are lacking. This paper assumes that a systematically organized body of knowledge must underlie a productive decorative art style, an assumption, incidentally, that it shares with other approaches to the description of art styles that rest more heavily upon linguistic analogy (Muller 1966 and 1979; Faris 1972; DeBoer 1975; Mead *et al.* 1975; Green 1979; Roe 1980). The paper is not, however, committed to applying any specific model of language, but, rather, seeks to follow the sensible although brief injunction of Hymes that models of art styles should account for the units used by the artist, their classification, and the rules for their use.[2]

Framework: definitions and procedures

Two concepts are of central importance to this paper: decorative style and design structure. A decorative style is a system of design used to embellish the surface of an object. Such styles are essentially two-dimensional systems. Their organization is to a great extent independent of the object on which they occur although, obviously, the form of the artifact may place some restrictions on the size and shape of the decorated area. A design structure is the cognitive system underlying a particular style. It provides the artist with a

means of organizing the information needed to create objects in that style.

The analysis of a particular system of design structure and resultant decorative style is an attempt to organize systematically the information used by artists in embellishing objects decorated in that style. In the more specific case of decorative art styles, Hymes' basic framework for an account of the underlying cognitive structure can be stated in greater detail. These cognitive systems are best described in terms of four components: (1) a definition of the decorative problem; (2) a basic unit of design; (3) a system for the classification of these units; and (4) a set of rules governing the use of basic units in solving the decorative problem.

The procedures used in the analysis that follows rest upon the assumption that the picture of design structure that is built up should be based upon all available bodies of evidence. Because the account is based upon more than one level of evidence, the relationship of the resulting model to any one level of evidence is defined and limited in certain ways.

First, an account of design structure necessarily rests partly upon the evidence provided by material objects, but its aim is not simply to describe the appearance of the decoration. On the one hand, the account should describe the corpus of decorative style available correctly and adequately. On the other hand, because other data are also being taken into account, the analysis resulting may not be the most elegant description of the designs that is possible. In those cases where available data are largely limited to completed objects, it is possible, as the work of Holm (1965) and Rowe (1962) well demonstrates, to base an analysis that arrives at general principles underlying the style, largely or totally upon the evidence provided by the pieces themselves.

Second, the account of design structure may make use of evidence provided by observations of the ordered steps used to construct decoration. Here it must be cautioned that the processual order in which design structure is realized must be distinguished from design structure itself; that is, the fact that one element is painted after another does not necessarily mean that the second is structurally subordinate to the first. At other times, however, order of execution can provide information about structural relations between the various components of design. Sequences in which decisions about the form of a component of design restrict the possible forms of components executed later represent cases where order reflects structure.

Third, in building up a description of design structure, the analyst should take into account artists' verbalizations about design. The description should summarize the visual evidence without directly contradicting what is said by practitioners of the style. As is the case with San José green-ware painting, however, these often-repeated and somewhat standard ways of talking about design may focus narrowly on specific aspects of design. The framework provided by the physical evidence is thus needed both to interpret sets of statements and to relate them to each other. For this reason, the model of design structure need not be limited to the standard statements of painters. Rather, their most important use in analysis is to provide clues to the organization of design structure, which can then be elaborated from further analysis of a corpus of objects decorated in the style.

A model of the design structure associated with a particular decorative style is thus built up from the analysis and comparison of various categories of ethnographic evidence. Procedures for eliciting and analysing data necessarily vary from style to style, as they must be designed to fit both the formal properties of the style and the extent to which, and the ways in which artists customarily talk about their work. While there is no single detailed procedure appropriate for the analysis of all decorative art styles, further guidelines can be provided and illustrated with the analysis of a specific case. Components of design structure associated with decorative style and their relationships to various levels of data provide an outline of general features and alternate structures against which the information available for a particular style can be checked. The analysis of the painting in Tarascan green-glazed pottery from San José serves as an illustration of the complex interplay between categories of evidence and the alternative structural analyses. This is possible because common formal constraints on the organization of such styles limit their variability and thus make it possible to offer a general procedure that can be applied to any particular style.

Ethnographic context

The analysis presented in based upon fieldwork conducted from November 1966 to December 1967 in San José, a small village in the foothills of the Tarascan Sierra of northwestern Mexico. The village consisted of about forty households; total population was about three hundred people. Most people were bilingual, speaking both Tarascan and Spanish. The majority of households engaged to some extent in pottery making. Usually men and women shared in the work, there being no rigid assignment of any task to one sex.

A variety of vessel shapes and wares were produced. Moulds were used to form vessels, which were then finished by hand. Vessel forms were essentially of two kinds: (1) shallow, bowl-shaped forms, which were made in one piece on mushroom moulds; and (2) more enclosed forms with higher sides, which were made in two pieces inside two-part moulds. The most common kind of pottery made was a plain red utility ware, which was finished on some or all surfaces with a clear glaze. When these vessels were intended for cooking, their primary use, they were not glazed on the outside. Vessels intended for eating were either finished in the same way or glazed on both sides. The second most common ware was the green-glazed decorative ware which is the subject of this study. The most visible surfaces of these vessels were painted with a white slip in intricate designs. The painted area was then covered with a clear green glaze (Fig.

2.1). Because the fired clay was brick red, the result was bright green designs on a blackish background. The other surfaces were usually covered with clear glaze. These dishes served as kitchen decoration and drinking vessels; they were used, with some care, for food, but tended to be reserved for special occasions.

Pottery manufacture was conducted as a household industry, the income from which supplemented that from agriculture. Households varied greatly in the extent to which they engaged in and were dependent upon pottery production. Other factors affecting production and income included frequency of firing, size of kiln, type of ware made, and the kind of market in which pottery was sold. A household that depended heavily on pottery income would usually fire and sell a kiln-load of pottery a week. A medium-sized kiln held about thirteen dozen assorted redware vessels of small and medium size. Under normal market conditions, these would be sold at a profit of about $80.00 (in Mexican currency) at the local weekly market. A kiln of the same size held about twenty dozen greenware vessels of various sizes, which would yield a profit of $125.00 at the same market.[3] In addition to nearby weekly markets, a large number of San José potters made greenware for several important local and regional fiestas. Finally, some households sold pottery at fiestas in more distant towns within or near the Tarascan region; in these cases, family connections usually determined where a potter would go. A few households took their pottery to fairs or shops in more distant towns, in particular, Patzcuaro, Moralia, and Mexico City. These greenware pieces, some traditional, some more recent innovations, were designed for urban and tourist buyers.

An examination of the affinities of San José pottery in general and of the greenware in particular shows that the basic technique of manufacture, using one-part and two-part moulds, is common to most of the Tarascan region. Salient exceptions are the products of Comanja, Zipiago, and Cocucho (West 1948: 63). While the mushroom mould is thought to be pre-Columbian in origin, scholars are less certain about the two-part mould (Foster 1948: 360—2). In form and general mode of finishing, San José pottery is more closely related to the redware and greenware of the western part of the Tarascan region (that of the Eleven Pueblos and Patamban) than to that of the eastern part of the region (that of towns near and around Lake Patzcuaro). Within San José, the vessel forms used for greenware are much the same as those used for redware, although redware is made in larger sizes. San José greenware is most closely related to the greenware of Patamban, described by Pozas (1949), and of Sta. Thomas in the Eleven Pueblos. While the products of these towns can be distinguished stylistically, they share overall similarities of painting technique and organization of design. Historically, the three variants are closely related. The ware was developed in Patamban, was being made in San José shortly before the Mexican Revolution, and was subsequently adopted in Sta. Thomas. In contrast, the greenware made in Tzintzuntzan, which is relatively recent in origin

Fig. 2.1. San José vessels painted with the same design. The vessel on the left has been fired once (Field Museum 167550) while that on the right has also been glaze fired (Field Museum 167556).