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ON THE LIMITS OF POTTERY.
The Ohio State University, Ph.D., 1971
Fine Arts

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ON THE LIMITS OF POTTERY

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of the Ohio State University

By

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* * * * * *

The Ohio State University
1971

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Studies in Painting. Professors Hoyt L. Sherman, Charles A. Csuri, and Robert D. King

Studies in Art Theory. Professor Franklin M. Ludden

Studies in Aesthetics. Professor Morris Weitz
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INTRODUCTION

This study is an attempt to clarify the position of pottery, as the most characteristic product of ceramic art, within the field of the visual arts as a whole; to examine some of the theoretical internal limitations of pottery as an art form; and to apply the findings to criticism of pottery.

There is a human tendency for a specialist in any artistic medium to assert, and sometimes to believe, that his medium is capable of everything worthy of being done in art, and the assertion is usually made at the expense of other media. The assumption here is that there are logical and practical limits to what any mode of art production can do well.

It must be born in mind that all the visual arts have undergone and are undergoing enormous changes, that they are seen today in many combinations, and that their creators make frequent and sometimes successful attempts to push aside the pre-existing limits. This essay, however, does not concentrate on the outer limits of what pottery can or might become. That is too shadowy and shifting an area to deal with in more than vague speculation or listing of examples. It is, rather, the persisting inner characteristics structuring the pottery.
field that must receive most attention, since these provide
the field with its most stable limiting influences.

The attack on the problem is largely through art theory. It
requires an examination of facts and values inherent in
concepts concerning the nature of pottery as an art, in the
works of art themselves, and, in a limited fashion, in the
producers and perceivers most directly concerned with these
works. As distinguished from philosophical aesthetics, art
theory is centered on less general questions. It is more
concentrated on the concrete features in art than on the re­
lations among abstractions from these features. The main
discussion in the study begins, however, with a consideration
of assumptions derived from philosophical aesthetics. It
should serve to identify the basic position from which the
rest of the discourse is written, as well as to lay out the
ground in which pottery is to be located.

Art theory applied to pottery has been quite fragmentary.
The researcher is obliged to find his clues, for the most
part, in works other than those dealing specifically with
theory, or in theoretical books outside the pottery field.
Conversely, a great deal of work has been done in pottery
technology, mainly concerned with formulations of glazes and
clays or with methods of forming pottery. To the extent
that these concerns become instructional doctrine they are
part of art theory; instructional doctrine is incidental,
however, to the present study.
The idea of art theory may suggest objectivity, and perhaps neutrality. One must, however, proceed from assumptions not necessarily shared by all the people involved in the field, and the choices of what to examine and how to examine them imply evaluations that preclude pure objectivity (if any such thing exists) or neutrality. A reasonable objectivity remains an ideal. We try to see without our vision being clouded by personal preferences. On the other hand, the point of view taken by the theorist is what gives form and significance to his work, just as it is with the artist. Meaning arises only when relationships among the available facts are seen to exist, which itself constitutes a basic judgment.

It is doubtful that the impulse to consider pottery in the terms of art theory would have arrived with any force before the end of World War II. This is certainly not because of any lack of production of aesthetically meritorious pottery, which has been going on from the dawn of civilization, but because of attitudinal changes in the whole art world. These include the realization that some of the traditional distinctions among the arts are logically indefensible, and also that with the continuing technological revolution considered, studio pottery could continue existing only at the level of the traditional fine arts. Pottery has, in this sense, emerged at a time, and in a position, of crisis. It is not the same, and cannot function the same, as any other
art. To see what are its limits and what it can do best is our task.
I. AESTHETIC ASSUMPTIONS

In order to discuss the place of pottery as an art form, it is necessary to consider the visual arts as a whole. No attempt will be made to offer an exhaustive definition. That is a perennially vexing problem filled with pitfalls, and it has been rejected as a logically impossible task by some aestheticians. A skeletal model will do very well as a working base; getting that is problem enough, since the very foundations of art have been repeatedly assaulted from the advent of Dada to the present. We must try to say what we believe to have been true of art generally, without pretending that it will meet every possible contingency.

Art is commonly thought of in at least two ways: as a psychotechnical process informing some sensuous medium, and as the end product, the work of art, resulting from that process. Both usages will be found in this essay. A third, in which art is taken as an evaluative term, will be avoided. The assumption here is that an object may be a work of art, but at the same time be bad or indifferent in quality. Yet there is a connection between what we say constitutes art and what we say is the value of an art work, since some evaluative

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criteria grow from any descriptive definition or become tempered by it.

Art is a specifically human activity. We make aesthetic responses to many objects that are produced by non-human means, and occasionally such objects are exhibited in the same way that works of art are. We also incorporate into works of art items of aesthetic interest that are not themselves made by man. Respighi's use of recorded bird song in musical composition, the choice of beautiful stones for mosaic, or pre-Columbian Peruvian use of intrinsically gorgeous bird feathers in banners and ceremonial cloaks are cases in point. But art constitutes only one class of aesthetic events. Even though we may be unable to tell from the physical evidence of an object whether it was made by art or came to be by some other natural agency, the fact of human will and action remains a characteristic feature of art. At the very least, we can expect an act of selection from the artist, some willing of what is to be considered as an aesthetic object, some placing of it into a context permitting or demanding aesthetic attention.

Art produces objects with physical presence directly available to the senses. Some of these objects reveal the process by which they came into being; some do not. In works

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of visual art it is usual for those physical features of the work that are directly given to provide the form from which essential sense, significance, import, content, idea, or meaning of the work is derived by a viewer.

It is ironic that at a time when most features of Crocean idealism in art seemed to have been laid away, some now arise again. But they are in forms that would hardly have been expected, let alone desired, by Croce. In particular, his insistence on the comparative irrelevance of the physical manifestations of art is being revived. For him, "the work of art" consists of ordering and clarifying mentally the experience of "intuitive knowledge." The physical production of an object is unnecessary to art, which is all happening in the artist's mind. Regrettably, the object is needed to allow others to grasp some semblance of the artist's original experience. The revival of a similar point of view is to be found among the practitioners of "conceptual art" specifically, and those of "impossible art" generally. In the work of some of these people the art object is downgraded through the evanescence of material or of its formal properties--melting ice, moving water, or objects freely floating on water--or through use of "ordinary" materials, natural or industrial, without transformation.

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3Benedetto Croce, "Intuition and Expression" in Weitz, pp. 93-107.

4The term "impossible art" appears to have been coined by the editors of Art in America. Several authors discuss its manifestations in vol. LVII (May-June, 1969).
Others attempt to do away with the art object altogether. The usual procedure is to outline a proposal for an event without necessarily expecting the event to occur, just raising the idea of it. Even so, to raise an idea beyond one's self requires a medium. What often happens, to the extent that these conceptual exercises are works of art at all, is that they become literary or dramatic works. Most of these efforts evolve from the neo-Dada conviction that if one could only get rid of the trappings and underpinnings of established art practices and beliefs, something fresh, new, and important would surely emerge. It is a romantic, none-too-rational conviction, but quite persistent. It is closely related to the feeling that the structures of Western society are worn out, though the artists involved do not always think of themselves as social activists. Whatever the outcome of these attacks on the most basic conventions, artists have not been able to do without the physical work of art, schematic though it sometimes is.

We have brought up the relation between the organization of the art object and what it can convey. Of the several more or less synonymous terms suggested above for "what it can convey," "content" is perhaps most useful because it is broad and ambiguous enough to include the lot of them. Similarly, we speak of organization, structure, design, composition, or form as though they are interchangeable, and "form" tends to be most used because of its generality. The
concepts of form and content raise a multitude of aesthetic problems because they suggest the questions of why and how art functions. From Plato to the present the greatest controversies in art have been over these questions, or over why and how art ought to function.

Form and content are conceptual distinctions useful for talking about art, and sometimes for seeing it. When confronted by an actual work of art, however, it becomes clear that they are aspects of the same thing. It is possible to attend to either aspect, but not to compare them visually, to attend to them separately but simultaneously. Here, of course, we are talking about art rather than producing or directly experiencing it, and the form-content distinction is used for the analytical advantage it provides. It is a convenience to regard content as a function of form. By extension such further features as aesthetic perceptibility and subject matter are functions of it. This view does carry a danger: that one may be tempted to regard those functions as subordinate to form in all works of art, and to downgrade works in which they are, in fact, dominant. By aesthetic perceptibility is meant the heightened visibility, cohesive unity, and sense of viability which invites aesthetic attention, or, if you will, the contemplative attitude. It is so clearly tied to the concept of form that it is not likely to suffer in the formalist context. But it is not always so obvious that aesthetic perceptibility is already content, too,
that its mode of organization is suggestive of states of being at a primary, generalized level. Subject matter consists of images of those objects outside art whose visible aspects are represented in art works, with widely varying degrees of fidelity to those aspects depending upon the culture and often the individual artist producing the work of art. It has been difficult to get people outside the professional fields of art to see that something other than subject matter can be content, so difficult that artists and some critics are now prone to forget the important role that subject matter often plays in the revelation of content. It is true that the mere presence of subject matter in a work does not warrant the assumption that it is necessarily of importance to the content of the work. Subject matter is clearly form. It has the same physical status as any other visible material in art. It does not, though, have the same perceptual status. The fact that subject matter is always at least potentially recognizable gives it a focussing power that is matched by few other classes of form, and it has the capacity for psychological impact that only a known physiognomy can impart.

The manipulation of form, in whatever guise, is the stock-in-trade of the artist and his central interest. He may think that, finally, form is everything, is all art has. In a sense, that is right. This is the position on which the "minimalists" appear to have taken their stand, often with the declaration that their work has been purged of "meaning"
and that its being is all-important. But, though the content may be as minimal as the form, it is there. At least as much of an act of will is required to refuse to see content as to see it, if one is accustomed to "reading" works of art.

While the artist may be enthralled by form, content is what has drawn others to it for all these millenia. Indeed, the artist himself may well have been originally attracted to his field by content. Artistic content comprises not just one sort of significance or idea, but many. Even so some modes of content, such as quantitative general abstractions or laws, can only be dealt with aesthetically through their effect on embodiments; they themselves are not amenable to being cast in aesthetic form. Of those modes that are, not all are equally effective in every artistic medium. A considerable part of this essay is devoted to showing what area of content pottery has best dealt with, and why.

Critics, especially in our time, tend to criticize on the basis of form when they are writing or speaking evaluatively. One suspects that more often than not they are in fact evaluating the content—supporting the points of view they like, denigrating those they do not. Taking the formal aspect of content as the base for argument tends to make the enterprise look more objective, therefore more convincing. The pretense is that the argument is about how something is being "said," not about what. A great deal of criticism is, of course, really about the artist's means. The avoidance
of dealing directly with content is quite understandable, and sometimes the approach to it as form is justifiable as the only practical way to get close to the content verbally. Content tends to be elusive and subjective. It is "there" in the work only as a function of the interaction between the work of art (the form) and the viewer, who brings with him a bewildering variety of past experience in the form of taste preferences, prejudices, and expectations, all of which color his vision. If we consider form and content as aspects of each other, it follows that form is not the stable, settled matter it may appear to be, since the viewer brings to it what he brings to content. This ambiguity of form, in and out of art, has been explored brilliantly and at length by Ernst Gombrich, particularly in his Art and Illusion.5

A work of art obviously is not, despite our subjectivity, a neutral screen onto which we can project anything we happen to have in mind. The style of a work—its form, its system of internal relations and relations to its fellow works—does put limits on what can be seen in it. The more clues the artist gives us in a code for which we have the keys, the greater the limitations on how we can interpret the visual evidence. According to Rudolf Arnheim the gap between the integrative levels of perceived physical objects and the patterns that are seen "can be bridged by a reference to the projection area in the cerebral cortex which . . . can be

assumed to translate retinal patterns into configurations of field forces." It is unnecessary to enter the Gestalt-behavioralist controversy; whether our keys to the code are biologically built in, learned, or both matters to theory of perception, but does not affect the need for the keys. The source escapes my memory, but somewhere I read an exchange in which the question, "Who is art for?" was asked. The answer was, "For whoever can get it." The meanings of both acquisition and understanding are, of course, implied. "Getting it" in terms of understanding, finding the necessary keys, has undoubtedly always had its problems, and never more than today.

As the directions of content in art are many, so are the functions of art. It has ritualized, sanctified, and mystified. It has glorified, flattered, and otherwise pleased. But perhaps most importantly it has revealed and enlightened, and has done so amidst all its other functions. For in satisfying the requirements of those functions, art lets us know what it is like to feel in their situations. The assumption here, clearly, is that what we mainly care about in works of art is inextricably related to matters outside them, that strictly speaking an "art for art's sake" is not possible. As Frank Sibley notes, "the links between aesthetic qualities and non-aesthetic ones are both obvious and vital. Aesthetic

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concepts, all of them, carry with them attachments and in one way or another are tethered to or parasitic upon non-aesthetic features.\textsuperscript{7}

In speaking of "what it is like to feel" we must avoid a too-narrow conception of feeling. It need not imply highly charged emotion; indeed many works of art do not seem at all emotional in the ordinary sense of the term. Feeling is meant here in a quite general sense: the human experience of a state of being or becoming. It is conceivable that there are classes of such experience that do not lend themselves to artistic treatment, in the same way that not all modes of content can be so treated. Art does not ask us to experience the feeling with which it deals, nor to do anything about the feeling. Rather, it offers something of the quality of the feeling for our cognizance.

It still remains to suggest some of the ways in which form becomes content. Quite apart from any involvement with art, we have a very considerable amount of practice at making analogies among things sensed in different modes, or embodied in different materials or at different scales. We are also practiced from our earliest days at interpreting the physiognomic clues of faces, whole human bodies, and sometimes animals. We not infrequently metaphorically transfer these qualities to inanimate things. Table tops, the taste of food,

musical tones, and the speaking voice can all be flat. Rivers, athletes, hosiery, and political office-seekers all tend to run. Strings, days, and faces may be long. Terrain, language, and drafts of written material can be rough, and so on. One way for the artist to arrive at content, then, is to organize his visual elements: line, shape, color, texture, and space into forms that promote our tendency to make analogies by associating similar qualities. He may also bring into the work symbols with values agreed upon by convention, or the entire work may be such a symbol. These symbols have, of course, "built in" metaphorical properties, but they may be altered by the context into which they are placed. Subject matter incorporated into a work may be conventionally symbolic, may be employed for its intrinsic associative properties, or may be used for its organizational possibilities. It is by no means uncommon for all these usages to appear in a single work.

Content emerges all along a scale from the ambiguous and cryptic to the too-obvious. We do not know it in the same way that we know what is on a grocery list or what is in a mathematical equation. We know it, rather, in the way that we know people. We become acquainted with works of art, have first impressions of them, and sometimes make snap judgments of them. Surveying the works of art at an exhibition opening is rather like meeting strangers at a cocktail party: too fleeting, but often yielding enough for us to know
whether we wish to deepen our acquaintance. Unless a work
is shallow, it takes time and attention to know it well. We
tend to make judgments of art works in terms strikingly like
those we use for people. That, however, belongs to the area
of criticism.
II. POTTERY AS ART

Thinking of pottery as an art form has never been problematical in terms of the fundamental characteristics of art. That it is made by man, has physical presence, and possesses formal properties translatable to expressive content is not in dispute. In most early cultures little, if any, distinction seems to have been made between classes of art based on medium, method of manufacture, or function. As the arts proliferate and become more specialized, however, the status of pottery as an art form is quite varied from culture to culture. In some cases when a bronze age emerges metal vessels are more prized than clay ones, a fact that is notable in the influence of metal forms in pottery in many parts of the world. The ubiquity of clay has made pottery a standard feature of settled societies everywhere, but it has meant that pottery is not often valued for its rarity in the culture that produces it. Pottery was born of practical necessity, but from the earliest times seems to have functioned on other levels at the same time. Its ties to practical function, though, have always been a distinguishing feature of pottery, even in those periods, like our own, that tend to move deliberately away from practicality. And it seems likely that the eventual Renaissance tendency to classify the arts
and to divide artists from artisans was largely based on this relation to the practical and to clay as a material.

The thinking about the relations among the arts that arose in the Renaissance West undoubtedly had many sources, but they tend to be epitomized in the doctrine of Neo-Platonism as expounded in the *Enneads* of Plotinus. He had written the essays which make up the *Enneads* in the third century, but their great influence on the arts came some twelve hundred years later, culminating in High Renaissance production. The structure of the Neo-Platonic world-view is unitary, hierarchical, and may be thought of as a pyramid with the One Principle, or God, at the top. Soul and Intelligence occupy the middle region, deriving their virtues directly as a kind of outflow from the One. Matter makes up the lower part of the pyramid, being valued to the extent that it possesses unified form, given to it either by nature or by the intelligence of man. Only nothingness has no potential value. Goodness, Beauty, and Truth thought of as absolute, disembodied principles are synonymous with the One. Further, light, actually and as symbol, is directly associated with the One and is an outpouring from this Principle. Thus the hierarchy is from the immaterial down to the increasingly material, though Renaissance thinkers and artists assumed that the disembodied higher principles could be understood through material objects, specifically works of art, embodying those principles. Works of art have a greater value
than other material objects because they contain some of the artist's soul.¹

The Renaissance artisan and his products occupy a lower level of value because the artisan is presumed not to be an originator of form—he doesn't put as much of his soul into his work as does the artist. The practical, utilitarian basis for his products seemed to this age to preclude their sharing in goodness, truth, and beauty in large measure. The architect was thus above the building craftsmen, he being a creator. Even so, the Neo-Platonic position does not cope effectively with architectural utility and materiality in the artistic scheme of things. Or, perhaps more to the point, there is a lack of consistency in the application of the doctrine between the "minor arts" and a "major art" such as architecture.

Where pottery is concerned, it is not just the value status to which it is relegated that places it apart from painting and sculpture, however. Changes in artistic style resulted in the tradition of more or less naturalistic representation that dominates Western art from the late middle ages through most of the nineteenth century. The characteristics of the style, or rather a related group of styles, are not amenable to the fundamental form qualities

¹Plotinus, The Enneads, trans. Stephen MacKenna (London: Faber and Faber Ltd., 1930), I, 6, 1-9; V, 8, 1, 5.
that arise from the materials and methods of constructing pottery. Most of the "artistic" pottery, then, of Europe for some five centuries may really deserve to be called "minor." Detailing the basic properties of pottery belongs to a later section of this essay.

Less pretentious European pottery of the same period, pottery that today is thought of as folk art, is usually aesthetically stronger and more convincing than the fashionable production because it is better integrated and less "forced" in design. The distinction between "poetry" and "prose" in pottery is sometimes linked to the distinction between luxury wares and those produced for ordinary use, or, in comparatively complex civilizations, between "fine" or "serious" art and folk art. Arnold Hauser, writing on folk and popular art in his The Philosophy of Art History, repeatedly insists that the themes and forms of folk art are handed down from an elite class. The time lag between the two is often quite long. He regards folk art generally as backward; it is "naive, crude, clumsy, and old-fashioned." Worse, "genuine art is used up, disintegrated, and simplified by folk art."² A quite different tone is sounded by Sherman Lee, though he does not deny many of the details of Hauser's statement on folk art. Lee notes that a folk art, as such, exists only when "fine art has been removed from a common

tradition to a more sophisticated plane," and that "folk art is a submerged continuation of powerful early tradition, primarily religious in nature, while the contemporary sophisticated art of the higher social levels will be found to be more advanced, secular, aesthetic, and refined." For Lee, then, folk art need not be derived from an upper social level at all. This is tacitly admitted by Hauser in his consideration of the persistence of neolithic style into later periods. He is notably antipathetic to the qualities of the style, however, whenever and wherever it appears. The judgment is heavily colored by his consciousness of class, and of social relations in general.

The question arises as to whether these distinctions have much point when applied to pottery. No neat line usually occurs between poetic and prosaic pottery. Folk pottery does indeed often appear, but it is mainly in connection with regular production for practical use—a situation rather different from folk painting or drama, for example. If considerations of social class are ignored, along with the exigencies of novelty, and the emphasis is upon the inherent qualities of pots, it can be seen that aesthetic quality may belong dominantly to either folk pottery or luxury wares in

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4Hauser, p. 311.
a given period, and often both types have aesthetic merits of different kinds at the same time.

While consciously artistic European pottery tried to absorb elements of landscape and figural work, or became frivolously decorative, (plate I), there was a long tradition of utilitarian pottery such as the Rhenish salt-glazed wares and English slipware (plate II) which seems much more serious and rewarding to modern eyes. On the other hand, Chinese pottery of refined types produced for the courts of the nobility and cruder wares for the everyday use of peasants during the T'ang and Sung dynasties both strike us as being worthy of attention.

Most cultures of both the Near and Far East have taken their most refined, skillful pottery as art without mulling over the question. The development of a taste for offhand, casual, even crude pottery is less common. It is perhaps best exemplified in Japan, where the most ancient tradition is in works having very little nicety of finish, but much exuberance and expressive intensity. Such a taste was strengthened by Zen Buddhist spontaneity, the demands for austere plainness in the tea ceremony, and the highly developed aestheticism nurtured by these interests. Tea masters and other aesthetes collected Korean peasant wares, a practice which encouraged the subsequent development of the rough, porous, spontaneous ware known as raku. Later Japanese collectors have had a keen appreciation for a wide
English teapot, porcelain, about 1820, 6.25" high*

English slipware dish, 18th or 19th century, 13" diameter*

variety of unpolished folk ware. A somewhat similar aestheticism has grown up in the West in recent decades, related in several ways to the Industrial Revolution. It has also been influenced by the ideals of first China, then Japan, influences sometimes superficial but of great importance in the development of twentieth century style in pottery.

The gradual breaking down of the Renaissance tradition in art and the building up of the means of mass production of consumer goods are well-known phenomena of the nineteenth and early twentieth centuries. That they should have occurred more or less simultaneously is not accidental. The relationship has been explored at length by Lewis Mumford, perhaps most succinctly in his *Art and Technics*. Both events are significant for the development of modern pottery, and for the ways in which we view all pottery. That is the point of considering them here. All large, complex societies foster specialized craft groups before they become industrialized. Indeed, it is not uncommon for division of labor to occur within a single craft in such societies. Even so, the direct human handling of materials, with little intervention of machines, is a very different matter from mechanical production of large quantities of pottery or any other goods. The replacement of rather slow hand processes by much faster mechanical means meant the death of every major handcraft for

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everyday use. Most, including pottery, remained in limbo for nearly a century. Occasional small enclaves of hand production potters, similar to the Jugtown potters of North Carolina, remained, and a few studio potters existed almost unnoticed until the emergence of pottery as an art form began to be evident in the nineteen thirties. Neither had the capacity for any notable influence on either industrial production or contemporary art forms before that time. Mass-produced pottery has itself undergone extensive technological changes, though a few hand processes remain. Designs for dinnerware are offered in bewildering complexity. Industrial production of pottery quickly lost the feel of clay, deriving its details from metal, glass, and tapestry, among other sources. Most of it is still made of mixtures, and by processes, that remove it from the mainstream of ceramic tradition.

There has grown up, especially out of the influence of the Bauhaus, an aesthetic of industrial design based jointly on utilitarian function and suitability for machine production. There is a considerable amount of pottery available which, judged on this basis, must be regarded as elegant and beautiful. Porcelains produced for scientific use are among the handsomest of this type, and there are a number of dinnerware designs that emulate the spare simplicity

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characteristic of this ware. Expressively, the effect is usually of cool, detached, intellectual perfection. Several factories in Europe and the United States now produce stone-ware in plain shapes with a depth and richness of glaze rivaling studio production. This is much warmer and more romantic in quality than the porcelains and their associated chinas. Most, though not all, well-designed industrial pottery is rather expensive, but still is much cheaper than hand-produced ware would have to be. A few studio potters do regularly produce utilitarian ware, some disclaiming that they are artists. But their work is bought by people who are interested in its aesthetic qualities, which need not be at all pretentious. There is no escaping that today's serious individual potter must exist as an artist, whatever he calls himself. The conditions for being a pre-industrial craftsman are not present and cannot be expected to arise, barring, of course, the wholesale destruction of the means of industrial production and the social structure of which it is a part.

If, as we have suggested, Renaissance art styles were in conflict with the nature of pottery, then the breakdown of the Renaissance tradition could be expected to change the relation between pottery and the traditional fine arts. The Renaissance tradition was one dominated by painting. Its pictorial space is usually three-dimensional and complex. It is either figural or concentrates on landscapes suggesting
comparatively deep space. It tends to "camouflage" the materiality of its surfaces, especially in painting, so that one sees only virtual images, not actual surfaces. After impressionism, the increasing desire to return to what were conceived as the fundamentals of art brought about a renewed respect for the picture plane and for the actuality of surfaces in general. The role of representation in art was drastically altered, and in some cases abandoned altogether. Pottery is among the most "material" of the arts. It cannot abandon its actual surfaces without losing its character. The Renaissance tendency to involve deep space in art destroyed the surfaces of pots whose makers attempted to borrow this aspect of style from painting. Cubism, in many guises and under a number of different names, has dominated much of twentieth century art insofar as underlying formal properties are concerned. Its shallow space, sometimes amounting to two-dimensionality, and its tendency to reduce represented images to components of form did a great deal to reveal the potentialities of pottery as an art. It is a revelation which amounts to a revival of major aesthetic interest in an old art. At the same time, the hiatus of major interest in pottery among Europeans for at least five centuries clearly points up the inability of pottery to adapt to some stylistic conditions.

We have mentioned the emphatic material quality that characteristically belongs to pottery. The concept of the
honest use of materials is one that has often been applied to all the arts as a standard for making judgments about individual works or sometimes the production of a whole era in a particular art. Its conscious or unconscious application to pottery seems to be particularly frequent, and, considering that the materials of pottery are both evident and relatively constant, this is unsurprising. The question of "honesty" here operates on several levels distinguished by more or less objective logic, or by relative subjectivity. Section IV of this study discusses clay and its handling at some length. It is done out of the conviction that such an analysis does indeed contribute to a logic of value in pottery, and rests upon the assumptions that the materials of pottery are expressively important and that permanence in pottery is not merely a convenience for collectors or practical users, but also a frequent aesthetic value. There appears to be a direct connection between the characteristics of clay in its plastic and fired states on the one hand, and the methods of forming and resultant shapes on the other. Demands that wheel-thrown ware show finger marks in the finished piece; that clay bodies not be covered with glaze or anything else; that their covering must be ceramic as in a glaze or slip, not allowing pigmented natural resins or epoxy; that pots should look like stones because fired clay chemically and physically resembles stone—all these are frequently found in modern ceramic art. They are all connected to the concept
of honesty in use of materials, but their relation to the essential character of clay is neither very direct nor rational, so that they are difficult, if not impossible, to defend except as subjective preferences.

Another concept that particularly belongs to pottery is that of containing. It is not simply that pots are, by definition, literally containers. It is the idea of containing, the senses in which an object can contain and the qualities that containment is capable of suggesting, that concern us here. The aesthetic features of containing have been of evident concern to Daniel Rhodes. Repeatedly, the theme comes up in his Stoneware and Porcelain, and it is treated with poetic sensitivity. He insists that pots come into being "by a process of growth from the inside," and that "one feels the inside, the unseen hollow, as the essence of the design." One thinks of those pieces which are closed and mysterious (plate III), while others, often bowls, have a quality of open generosity. Pottery also gets attached to it the feeling of importance to man of what can be contained in it, things of both practical and symbolic importance such as foods, liquids, and grave furnishings. Again, quite apart from what they may actually contain, "some of the most exciting pottery forms have the look of containing a slight pressure within as if they were puffed out like a balloon." In this

7(Philadelphia: Chilton Co., 1959)
8All these quoted fragments from Rhodes, p. 172.
Toshiko Takaezu, bottle, 6" high*

context, an ancient Egyptian pot becomes an irresistible example (plate IV). It not only has the swelling quality to which Rhodes refers, but its repeated S-shapes allow us to read the decoration as a letting off of this internal pressure, as though the pot might slowly collapse. A closely related sense of containing is one that in some measure belongs to all utensils, tools, and instruments. Each such object possesses a specific function, and at the same time represents that function generically, "containing" it "by means of an external aspect which has to assume a more or less constant characteristic and which amounts to an 'aesthetic' aspect." It is the sense in which an object means what it does, and has the capacity for expressing it. Again, it is part of the aesthetic of industrial design, but it applies readily to non-industrial and pre-industrial objects whose connections to utilitarian function remain intact.

Could a mode of pottery totally divorced from such function exist? Probably not. Many potters in recent years have attempted to accomplish just that. They aim at something which, like much modern painting and sculpture, has only an expressive function, and end up making ceramic sculpture and painting.

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Gerzean jar, Egypt, c.3200 B.C., 11.5" high*

*Charleston, ed., World Ceramics, p.18.
III. POTTERY AND OTHER ARTS

If the potter, in his efforts to escape some of the limitations of pottery, sometimes turns his work into other arts, it is worth examining them to see in what ways they are similar to and different from pottery. We can perhaps best make this comparison in terms of those arts which, in the Western world at least from the Renaissance up to our time, have been regarded unquestionably as fine arts in the visual field. They are architecture, sculpture, and painting. To make such comparisons should serve to clarify further the nature of pottery.

Architecture has been, and no doubt continues to be, a very problematical art for critics and theorists. The positions taken on what is its essential nature and how it can best be seen are quite various. The most dominant current view, and the one most useful in the present context, is that of Bruno Zevi. In this view architecture is best understood as internal space, and as a kind of space which can be grasped only by moving about in it. When triumphal arches, obelisks, and other monuments without internal space in the usual sense are considered, they are regarded as elements in a city, or some similar environmental space which can be understood in the
internal sense. How is pottery like architecture? They are both rooted in utility, internal spatial considerations are quite fundamental to both, and they are both containers. Pottery shares structural characteristics with some building methods, but by no means all. Some buildings are, in shape, structure, and material, remarkably like pottery (plate V). The utilitarian bases of pottery and architecture constitute a real similarity; it is implicit in the judgments we make of both arts, and is nearly always an element in the aesthetic effect each produces. But to say this is not to imply that utility is, in and of itself, an aesthetic phenomenon in either architecture or pottery. When they are arts, they are visual arts, and the contributions of utility to expressiveness must come about through transformation of what we know about utility into visual terms suggestive of our psychic states. The point to be made in linking architecture and pottery in this way is simply that both normally exist in a direct relation to utility, however inconvenient either may be in actual or imagined use. A Frank Lloyd Wright house may convey the sense of shelter better than it actually provides it, and Middle Jomon cooking pots often have rims of such extravagant complexity that they must have been hindrances, but the relation to the function is clearly present in both.

Despite the emphasis on internal space in pots and

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PLATE V

West African native houses, Nigeria*

*Craft Horizons, October, 1957, p.9.
buildings, the two come to a parting of the ways in the organization of space, its scale, its use, and its feeling. The modes in which they are containers is different except in that aspect of containing shared by all works of art: that they hold expressiveness. It is not only unnecessary, but usually impossible to move physically through the space of pottery. Indeed it is not even necessary to see all the internal space of a piece of pottery to grasp its significance; the very enclosure of this space, its hidden quality, is sometimes the key to its aesthetic effect. The internal space of pottery is, more often than not, a single, unitary one unmodulated by projections or other divisions in it. Architecture, on the other hand, usually gains much of its effect from the more or less complex relations among its internal divisions. Even in an architectural space intentionally related to pottery (plate VI), the difference remains. The difference in scale between architectural and pottery space is obvious, but nonetheless important. We tend to measure them against our own size. Pottery space is known, as it were, from the outside looking in; architectural space may be suggested from the outside, but it is known from our ability to move within it. This ability is also influential in the varying relations between internal and external space. Even though a piece of pottery may have many openings in its walls, the primary feeling is one of containment rather
PLATE VI

Studio of Salvatore Fiume, Canzo, Italy*

*Craft Horizons, July-August, 1958, p.41.
than that of movement in and out which often occurs in architecture (plate VII).

Susanne Langer's *Feeling and Form* contains a section dealing with distinctions among painting, sculpture, and architecture, based on the differing uses they make of space.\(^2\) The distinctions are particularly useful in allowing Mrs. Langer to develop what she calls the "primary illusion" of each of these arts. The primary illusion, the basic creation, of architecture is "virtual place" as, for painting and sculpture respectively, it is "virtual scene" and "virtual kinetic volume." The "virtual" in each case is an indication that, while each art involves the manipulation of an actual two-dimensional or three-dimensional space, the final effect is an apparition of space other than the physically measurable. Virtual place is the sense of "an ethnic domain," the feeling of the transformation of an environment through building, even when it is as temporary as a gypsy camp or a circus tent. This taking possession of geographical identity through appearance is quite unlike anything we would expect of pottery. In the present context, the mode of pottery would be virtual containment. The space contained by a pot may seem to be more or less than the measurable capacity of the piece. An open piece may seem to contain a spatial sphere or similar shape several times its physical capacity. But the aesthetic importance of virtual containment is in the specific quality of

"Earth house," Paolo Soleri, Paradise Valley, Arizona*
containment embodied by given pieces, not in the mere fact of spatial illusion.

We have paid little attention thus far to the outsides of pottery, but it is in the shapes and surface qualities of pottery that it has its closest connections to sculpture and painting. We often see almost nothing of a pot except the outside, from which the internal spatial order must be inferred. Indeed, the fundamental shape of a piece is what is given first to vision, and it must carry the major burden of the expressive character of the piece. One feels that this shape not only is actually made before it receives glaze, painted pattern, carving, clay additions, or other surface treatment; it is also prior perceptually. If a conflict develops between surface and shape, it usually seems that the surface is unsuited to the shape, not the other way around. And it seems so despite the fact that our visual information about shapes comes from the reflection of light off surfaces. We know more about shapes and surfaces, of course, than light alone tells us. We have a considerable store of past experience, in which especially, the tactile and kinesthetic senses have played a large part, to bring to bear on our visual impressions.

The tactility of pottery is one of its links to sculpture; another is its three-dimensional occupation of an actual space and domination of an apparent space. This they share with architecture, but architectural domination is, as we have seen,
in terms of the sense of place. The surfaces of both pottery and sculpture invite touching, perhaps to test the nature of the substance and because volume is closely associated with tactile feeling. Though the materials of sculpture are quite various, their textures are like those available to the potter, and are sometimes those of clay itself. The tendency to a distinct awareness of substance, a material insistence on "being" is common to both. Sculpture has the quality of a living, organic presence. That is why Langer says its primary illusion is virtual kinetic volume. A sculpture appropriates to its uses more space than it physically occupies, and psychically activates that space. It demands a volume of space for its own, commanding that volume even though its surfaces may be of a sort to resist the illusion of interaction with surrounding space (plate VIII). A strong piece of pottery behaves somewhat similarly. The kinetic quality is likely to be more subdued, but the sense of presence may be fully as intense. The similarities of pottery and sculpture are close enough for it to be no accident that those potters who become frustrated with the limitations of their art most often turn to sculpture. Sculpture, however, unlike pottery or architecture, has very little traffic with the qualities of interiors. The volume of a very open work such as a Calder mobile is defined by the actual and potential movement of its parts at their greatest extent, and its parts suggest articulation inside that volume. But again it
Mezcala stone figure, Guerrero State, Mexico, 10½" high*

is the kinesis, the illusion of organic life, that occupies our attention, not the qualities of that internal volume as illusion of place or containment. In another direction, certain "environmental sculpture," of the sort done by Edward Kienholz, have all the attributes of architecture rather than sculpture. They constitute an art of place, creating a small world as outgrowth of a function, usually limited, and are often astonishingly like tomb architecture of the past with its ritual accoutrements all in place.

There are many works in our time hovering about the border between pottery and sculpture (plates IX and X). In the illustrations, the Lichtenstein piece, though it is assembled from plates, cups, and saucers, retains very little of the sense of containment. Attention is drawn to the total assemblage and its patterns, not to the potentialities of, say, an individual cup. The Picasso piece, however, is clearly a container despite its sculptural exterior. Even when its opening is not visible its capacity for containing is emphasized. Thus the most obvious aspect of each piece is transformed. The stacked pots become sculpture; the sculpted bird-animal becomes a pot.

Still another example (plate XI), a sculpture by Dan Rhodes, who is better known as a potter than as a sculptor, reveals some of the similarities and differences of pottery and sculpture. The medium is clay, and the several scales at which one becomes aware of its textures build up that com-
Roy Lichtenstein, Glazed ceramic sculpture, 10" high

Pablo Picasso, Two views of a double-image vase, 26" high*

*Craft Horizons, May-June, 1958, p.18.
Daniel Rhodes, "Seated Figure," 16" high*

*Craft Horizons, September-October, 1958, p.17.
pelling materiality common to both arts. The piece has con-
cavities deeper than those of most plates, but there is no
invitation to contemplate spatial holding; these concavities
have a more biological aspect. They have to do with the life
of the figure. There is nothing in the appearance of the
piece that suggests the swelling, internal insistencies of
pottery. Its surfaces are not walls, not shells, they look
as though they belong to a solid all the way through the
piece. The shell-like form of pottery invites an essentially
tactile judgment other than that of surface texture. We like
to pick pots up, to heft them. We want to know the relation
between weight and appearance, which is rarely a concern in
sculpture. The variations in the wall of a pot, especially
the distribution of mass, is often evident through handling
the piece; the character of the wall--its fragility or
massiveness, as well as its shape--is a component in its
quality of containment.

The relations between pottery and painting seem self-
evident. The manipulation of color to develop a coherent
surface is not present in all pottery, but it has a very long
history and an overwhelming majority of pots have surfaces
that are painted, glazed, or both. In the Near East slip-
painted pottery appears very early. Examples from Hacilar,
in what is now Turkey, and dating as far back as the seventh
millenium, B.C., are painted. It appears that the practice
derives from the painting of house walls and floors that
antedate the making of pottery in this region. Where painted walls and pottery are found at the same archaeological levels, the wall painting usually is more fluent than that of the pots. Later, professional painters apparently decorated pottery of this area, as was certainly done in Greece and China, as standard practice in some periods, and as at least occasional practice at many times and places. It has had quite differing effects on pottery, and will be examined momentarily.

The apparently close relationship between pottery and painting is deceptive. If the primary illusion of painting is in fact virtual scene, and, as we have suggested, that of pottery is virtual containment, the reasons why painting on pottery is, with some frequency, at odds with the pottery should begin to become clear (plate XII). The shape of a piece of pottery, as emphasized previously is what carries the sense of containment. To become an organic, working part of a piece of pottery, the surface treatment must be subordinate to the shape, must enliven and heighten the visual awareness of the shape. It is true that a considerable quantity of modern painting makes a point of retaining awareness of the painted surface, and some, like the works of Dubuffet, emphasize the quality of the surface. Most pre-Renaissance painting does not obliterate its surfaces. Yet there is a large body of painting, including most which relies heavily

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PLATE XII

Faience ewer, Nevers, France, late 17th century, 17.8" high*

*Klein, Keramik aus 5000 Jahren, p.175.
on a realist approach to representation, that either ignores its actual surfaces as such or positively destroys them as part of the process of creating the painted image. And image, or "scene" as Langer has it, is primary in painting. Even Dubuffet's earthy surfaces and Rothko's fields of color present to their viewers surfaces that are essentially illusion. They are apparitions of scene in the sense that they are fields of vision. Other works of art exist within a visual field or, like architecture, constitute a visual environment. Painting is normally understandable from a single position, but pottery, sculpture, and architecture are best seen by the moving eye.

The act of painting is clearly not the art of painting, and in fact works such as collages and some woven or stitched pieces may be "read" quite effectively as paintings without the involvement of a single stroke of paint. Conversely, the application of pigmented materials to the surface of a pot may have almost nothing to do with painting as an art genre. Plate XIII exemplifies this sort of painted pottery. It brings to the pot surface an intense liveliness—somewhat surprising in this formal geometricism—while clarifying the nature of the three-dimensional shape to which it is wedded. Many pieces have brushwork or areas of color that are closer to what we expect of relationships in painting without, however, becoming painting (plates XIV and XV). It is a matter of hierarchy of importance in the modes of perception by
Lucy Lewis, Acoma Pueblo, New Mexico. Hand-built pot with painted slip decoration, 6" high*

Robert Sperry, Slab-built stoneware bottle, 12" high*

Richard Bampi, Stoneware vase, 4.7" high*

which it is possible to see these pieces. The comparatively spontaneous brush strokes and the dribble of iron from the shoulder of Sperry's piece relate it to abstract expressionist painting, and its slab sides are not unlike a painting ground. But the painted shapes are directly related to the underlying pot form which, even in a photograph, reveals itself as something to be seen from all sides and as having an internal hollow to be considered. The Bampi piece similarly brings an organization of color fields into play without yielding any of its aspect as container.

Let us return to the consideration of pottery painters who are not the constructors of pots. As suggested, it is not an unusual situation, and its effects are variable. The earliest pottery production seems to have been at the hands of individual family members, but as demand increased, specialized groups, often whole villages, produced the pottery. Specialized function within a potters' group often occurred, including the functions of decoration. In the Near East and later in Greece, itinerant painters of pottery seem to have been common. In the Far East pottery painters apparently were associated with a single kiln site. They knew the process of pottery intimately, and may well have had backgrounds as potters. In Chinese painted wares, great freedom of handling is the rule through the Yuan Dynasty. Yet these painters very rarely violate the basic character of the pots on which they paint. Aside from the tradition of brushed
calligraphy, the considerable speed of production at major kiln sites contributes to the unlabored quality of the painting. It is done with highly developed skill, with respect for the inherent values of pottery, but without any air of preciosity. It is only in later Chinese pottery, from the Ming Dynasty on, that over-refinement and a split between the pot and its painting becomes frequent. The traditional painter of pottery was as anonymous as his fellow potters, and occupied the same social stratum.

The Greek painter of pottery, on the other hand, though belonging to a large class of artisans, occupied a position superior to that of potters. He is often known by his individual style, and sometimes by name, even today. The relation between the painting and the pot, from the sixth century B.C. on, is tenuous at best. The paintings persist as a separate art. The bodies of the pots are treated as painting grounds, even though they may have rather insistent shapes (plate XVI). In the example shown the curve of the pot has been countered, apparently quite consciously, by the horizontal portion of the architectural fragment pictured. The result is a partial visual destruction of the underlying pot shape. The character of Greek pottery compared to that of the Chinese is, of course, not determined merely by the social relations between painters and potters in the two areas. The entire mental climate of classical Greece is quite different from that of classical China. Synthesis,
Attic hydria painted by "Arrow Painter," 5th century B.C., Collection of Joseph V. Noble*

the ability to absorb diverse influences, emphasis on the common ground between opposites, and metaphorical generalization of language are tendencies and influences in Chinese thought. Analysis, the desire for clear distinctions, and a consequent dependence on the use of opposites characterizes much of Greek thought and that of subsequent Western cultures as well. The traditional Greek pottery forms, even if their painting is ignored, are comparatively mechanistic and stereotyped. They seem far less organic than typical Chinese examples. Admiration for Greek pottery usually centers on the painting as painting, and rightly so, though some Greek shapes are pristinely handsome.

In considering the similarities and differences between architecture, sculpture, and painting in comparison to pottery, the question of medium is always hovering in the background and occasionally coming to the fore. These other arts are made from an enormous variety of materials. Pottery, by definition, is always ceramic and its basic material is always clay. Surface treatment may be ceramic in the form of glazes, slips, or clay as texture. It may be aceramic as in the use of resins, varnishes, or, recently, synthetic plastics. Whatever the surface, it is the clay shape which dominates the containing character of a piece of pottery.
IV. MEDIUM AND METHOD IN POTTERY

The nature of clay, and how it can be manipulated reasonably, constitute what is probably the most important limitation in pottery as art. That is to say that the other limiting factors result from clay as a material. The kinds of form most common to pottery derive, as we shall see, from its structural properties.

The treatment of the modes of pottery making in this section will be elementary and, indeed, cursory. The intent is not to explain how to go about making pottery, but rather to explain how, and partially why, pottery arrives at its typical shapes. It should, then, serve to suggest why the expressive characteristics discussed earlier as belonging to most of the world's pottery should have arisen.

Wet clay is man's original plastic. It is common and easily taken for granted, but astonishing in its ability to accept and retain a seemingly endless variety of form characteristics. This versatility is at once its fundamental value and the source of critical problems in the medium. These problems arise principally from the radical changes that occur in clay through drying and firing—the only way for the material to become permanent and ceramic.

All mineral solids possess crystalline structure. The
most important crystalline compound in ceramic clays is kaolinite. Kaolinite crystals are hexagonal in shape, though often irregular. They are quite small, averaging about one-fifty thousands of an inch in length. They occur as flat plates, an important property since, with water between them, they slide over each other easily. It is this, in combination with the small crystal size, that gives clays their fundamental plasticity, though the presence of other minerals than kaolinite and some organic materials also influence plasticity.¹

As clay dries, the kaolinite crystals of course lose their lubricant, and the clay its plasticity. Instead of bending, it is increasingly likely to crack or break. Furthermore, the evaporating water causes the clay to shrink. Unless the drying is reasonably even, internal strains will be set up. They may cause cracking, breaking, or warping during either drying or firing. "Bone dry" pottery is quite fragile, having very little of either tensile or compressive strength. It has lost all its plasticity, so it is already a very different material from wet clay.

Firing produces still further changes, and they are profound. Depending upon the type of clay used and the temperature to which it is heated, fired pieces become more or less hard and impervious to water. They no longer can be dissolved in water. In a sense their career as clay is over. They have been turned to stone. That is not just a metaphorical

statement. The chemical makeup of clay, aside from its chemical water, is quite close to that of a number of stones. Clay is, indeed, the result of the breakdown of "rotted" feldspathic stones, mainly granites. But its return to the stoney state is not a simple one. In firing, first the atmospheric, or free, water is driven off. Then, at about the stage where the ware becomes red hot, the chemically bonded water is lost. Silica, the dominant compound of clays, changes in crystalline structure several times during a normal firing. Most of it, as the temperature reaches about 1850 degrees fahrenheit, begins to be stabilized in mullite crystals where it is combined with alumina, as much of it was in the kaolinite. Mullite crystals are needle-like and interlocking in apparently random order. As temperatures rise higher they grow longer and become surrounded by glass. Earthenware, because of its low firing temperature, has short mullite crystals or none at all, and there is little or no glassy adhesive in its makeup. Thus most earthenware pieces are porous, somewhat soft like many sandstones, and comparatively fragile. The higher-fired stonewares and porcelains contain longer mullite crystals and more glass. They are much tougher and harder than earthenware, and their absorbency is very low. Not surprisingly, they are comparable to igneous stones like basalt in hardness and, to a lesser extent, in internal structure.

\textsuperscript{2}Norton, p. 214.
Though fired wares are much stronger than merely dried clay, and have quite high compressive strength, they share with stone the characteristic of being low in tensile strength as compared to wood or metal. This has, as we shall see, important consequences for a consideration of the morphological properties of pottery.

For the moment, let us return to clay in the plastic state and examine the ways in which it is manipulated to become pottery. It has often been speculated that the earliest pots resulted from lining baskets with clay. However that may be, the use of various forms that serve as molds has a long history. Such molds may shape either the interior or the exterior surfaces of pottery pieces. Using the mold on the outside is more common due to the shrinkage of clay as it dries, but the use of interior molds is not rare. Traditionally, clay for this type of mold is a stiff paste which is smeared or beaten onto the surface or the mold, or it may be rolled out into a sheet which is then fitted into or onto the mold. Clay in this state may need the support of the mold for only a short time, since it will quickly dry enough to support itself unless the piece is quite large.

Casting in molds with liquid clay slip is, by comparison, a recent development, though it was practiced to a limited extent by the Chinese as early as the T'ang Dynasty (618 to 906 A.D.). In Europe bisqued clay molds for slip casting were in moderately extensive use by the beginning of the
eighteenth century. Gypsum plaster was developed in the middle of the eighteenth century, and soon replaced bisqued clay as a mold material. It was a contributing element in the advent of industrial mass production of pottery. Only a few studio potters use slip casting as a forming method. This is partly because it is practical only for multiple copies of the same shape, partly because of its unfashionable connotation of industrial production, and partly because it tends to produce impersonal, often "dead," surfaces. Yet these very same properties assumed importance in painting and sculpture during the decade of the nineteen sixties, and it would be surprising if they did not cause some resurgence of slip casting in pottery designed as art.

Jiggering and press forming are mechanical adaptations of the old use of stiff plastic clay in or over molds. They are industrial methods so rarely used by the individual potter that they will not be discussed here.

In cultures all over the world, before invention or adoption of the potter's wheel, handbuilding by coiling long, rolled-out ropes of clay up to form the walls of pottery is the most common working method. It is often accompanied by hand modeling for small pieces, or sometimes as a base to begin larger coiled pieces. Hand modeling is most direct. If the piece is small enough to be easily controlled while holding it in the hands, great manipulative freedom is pos-

\[\text{\textsuperscript{3}}\text{Nelson, Ceramics, p. 251.}\]
sible. Such direct handworking is quite frequently used in conjunction with not only coiling, but other methods as well.

Coiling lends itself readily to great variety of form--to asymmetry, complication, and eccentricity. But early pottery made by this method overwhelmingly tends toward simple profiles and symmetrical shapes. It is a tendency that is countered by instances such as the zoomorphic and anthropomorphic pots of pre-Columbian Central and South America (plate XVII), and the extravagant treatment of surfaces and rims on Jomon ware in Japan (plate XVIII). These instances are, in pre-wheel potting, rather rare. Not only do symmetry and simplicity prevail, but close similarities occur in styles widely separated by time and space. Robert Ehrich notes the similarity of neolithic bowls of the Middle Danube to those of the American Indians along the Mississippi River, and that the likeness is not explainable on the ground of utilitarian function. Beyond the obvious consideration that plates are poor receptacles for liquids, and the like, there are numerous ways of meeting these needs. He thinks the pots are alike because of the limited possibilities arising from the mode of production. This may seem to contradict saying that coil and modeled construction offers potentially wide shape variety, but in fact it does not. The pots in question from both cultures are quite without aesthetic pretension,

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Covered jar figure, Central Mexico, c.400-500 A.D.*

*Natural History, May, 1970, cover.
Middle Jomon pot from Asahi, Toyama, 14.8" high*

and that enters into their mode of production. Coiling does tend to be easiest and most efficient in rounded shapes of uncomplicated profile, and the practice of working on some sort of base that can be turned contributes to this tendency. There are further reasons why so many pots of varying provenance have quite similar basic shapes, though decorative treatment and details such as handles, spouts, and rims may be different. Structural strength is a major influence. Possibly secondary, and in some respects related to structural considerations, is the conservatism of potters. These will be discussed following the further review of manipulative modes.

Two extensions of coiling may be mentioned, both mainly related to the production of large pieces. In the first, clay ropes up to the thickness of a man's arm are coiled up into a hollow cylinder; then they are beaten together and stretched into the desired shape with paddles and blocks, usually wood. The second is referred to as slab-coil. As the name suggests, the rope-like coils, again of comparatively large size, are flattened to make what are essentially very long slabs. They are stacked up and joined as round-sectioned coils would be, but the walls rise much more rapidly. There is some loss of fluency in control of shape, so that the method works best for large pieces or simple smaller ones.

The use of clay slabs has already been mentioned in con-

nection with the use of molds. When used as a construction method in its own right, clay slabs are rolled out and allowed to stiffen sufficiently for handling and shape retention. Sections are cut and joined in any combination. Surfaces to be joined are scored and coated with thick slip before being stuck together. Slab pottery tends to be cylindrical or composed of flat facets. It has little resemblance to work made by other methods, and, molds aside, is the most practical way of constructing box-like shapes. These often have structural defects, but have a long history of attraction for potters. Slab pottery hardly figures in prehistoric production, but from the Han Dynasty forward, Chinese potters produced a rich array of slab pieces. Some appear to have been based on bronzes, others are distinctly architectural in origin. The Japanese also used the slab method with some frequency, but in Europe and the Near East its use is sporadic and rare until modern times. It is currently enjoying something of a vogue among potters, partly because it offers a means of rapid construction of large pieces, partly because it lends itself to some of the stylistic departures now taking place.

For many, pottery made on the potter's wheel is the epitome of the art. The process is called "throwing." In essence it consists of sticking a mound of plastic clay on a disc capable of being spun constantly at a rate varying between perhaps 50 and 350 revolutions per minute; centering and opening the spinning clay with pressure from the hands;
and, with one hand inside the opening, the other outside, squeezing the clay upward into a cylinder until the walls are sufficiently thin for the size of the piece. The walls are then pushed inward or outward, with the pot still turning, until the desired shape is attained. This description is, of course, skeletal in the extreme. Technical details vary considerably from culture to culture and even from potter to potter, as do types of wheels employed. Despite these variations and the refinements that have been made in potter's wheels, the maker of wheel-thrown pottery of four thousand years ago would clearly understand the process as it is practiced today.

In the Old World the potter's wheel eventually replaced handbuilding processes, though never entirely. It may have been man's first true machine, and it made it possible to meet the demands for pottery at a time when potting was becoming, in larger communities, a specialized occupation rather than an occasional activity of nearly every household. Throwing and the potter's wheel are based on the procedures of coiling and modeling. It is obviously easier to apply and join coils, and to control the shape of the growing piece, if that part of the pot being worked on can be moved into position with regard to the potter, rather than having the potter position himself in regard to the pot. If a pot is larger than can be held in one hand while being shaped and turned by the other, it must be placed on some firm surface such as the ground, or
a floor or table. In order to facilitate turning, a variety of objects have been used to mediate between the pot and this surface. They include woven or braided mats of reeds or grasses, banana leaves, stones more or less rounded on the bottom, pieces of wood, and broken sections of older pottery. Some of these turning bases are still in use today, but where the potter's wheel developed they are the prototypes for it. The standard utilitarian shapes, such as cooking pots and storage jars, that had been built in coiling technique were readily adaptable to wheel throwing. Throwing not only increased the speed of production, but also contributed a fluency and refinement of control not quite like that of any other potting method. From the viewpoint of the history of style, the use of the potter's wheel has the effect of broadening the geographical area in which a style is found, and of causing that style to become more uniform within the area. On the other hand, when pottery styles change in wheel-using cultures they do so more abruptly and with less persistence of conservative traditions than is the case with handbuilding pottery groups.\footnote{Ehrich, Ceramics and Man, p. 9.}

The advantages of wheel-thrown pottery were enough to have caused it to dominate most of the world's production before the era of industrial mass production, but it must be clear by now that any production method imposes limitations by its very nature. Throwing strongly reinforces the tendency to
axial organization that the preponderance of pottery, regardless of mode of production, already had before its time. The motion of the wheel tends to be preserved in the pathways of the fingers. Though the pot may have a strong upward thrust, or be painted with the liveliest of linear patterns, it is that underlying movement around the major axis that has the greatest persistence. Thrown forms can be altered to a considerable extent by adding to them, removing portions of them, or by pushing in or stretching out local areas of them after the throwing is done. All these may be done for practical or aesthetic reasons; even so, the centralized nature of throwing nearly always remains very much in evidence.

Since the notion of axial organization has been raised, an explanation of the context in which it is being used, along with its implications, is due. This organizational mode is one of four archetypal ones in a conceptual model borrowed from my teacher in art theory, Franklin Ludden. The four modes are (1) axial, (2) closure, (3) perspective, and (4) movement.

As the name suggests, axial organization places emphasis on the location of axes. They control the visual field, a part of it, or a form within it. The gravitational principle is quite important to axial organization, most obviously in works concerned with volume as exemplified by the aforementioned pots, the Parthenon, or Egyptian sculpture. Objects in both nature and art take positions to overcome the force of gravity.
Trees are an example. Bilateral or radial symmetry occurs frequently in axially organized objects, sometimes both in a single form seen from different points of view. This organizational mode looks simplest, and is probably the easiest for the mind to grasp and hold. It suggests stability, dependability, and endurance.

The closure mode of organization tends to emphasize the total visual field rather than any particular focus within it. It is concerned with the expanse of either two-dimensional or three-dimensional space. The variations that occur within a two-dimensional field define the limits of the field without destroying the "all-overness" of it. Three-dimensional space is dealt with in terms of interiors rather than exteriors so that cave-like forms and the Hagia Sophia exemplify the type. Two-dimensional examples are landscape paintings without emphasis on figural aspects of the subject matter, and Romanesque relief sculpture—though the buildings on or in which this sculpture is found are usually organized axially. Closure in nature especially relates to sensing open space. Topological considerations and their connections with maps belong to this category; so do astronomical and cosmological structures, either felt as projections on "the vault of the sky" or as relations within three-dimensional cosmological space. Motion over or through these spatial extents is implied, but is not dominant as it is in the movement mode. Feelings of expansiveness, vertigo, security, or claustrophobia—those that derive
from the spatial sense—are common in the closure mode.

Perspective as an organizational mode implies the selection of a point of view which dominates the structural relations among the parts of a work. The optical illusion of three-dimensional space on two-dimensional surfaces is the commonest manifestation of this mode, but it may also be seen in the adjustment of proportions in sculpture or architecture when they are to be seen from a restricted point of view. Apart from a physical point of view one also takes a mental stance in art. Unlike the closure mode, perspective assumes a comparatively distinct hierarchy of importance among the objects occupying the field of vision. The choice of emphasis, or indeed inclusion, in the apparent world structured by perspective is governed by the mental attitude of the artist. Painting and still photography offer the best opportunities among media for the exploitation of perspective. It was used as early as the Hellenistic period in Greece, but has received its fullest development thus far in representational painting with figural emphasis from the High Renaissance to the advent of impressionism. This period, of course, includes a great deal of painting organized primarily by other modes as well.

The mode of movement depicts or suggests motion, or includes actual motion. The sense of "happening," of before and after, becomes important. In many examples, such as mesolithic cave paintings or Myron's Discobolus, there is an
attempt to capture the feeling of "life." The mode of movement shows up in rhythmically organized repeats or progressions. It is even more obvious in the gestural treatment of line, or occasionally shape; we feel that the movement of the hand that produced it is revealed, and even that we can estimate the speed by which the mark was made. Sometimes implied movement becomes narrative, as in Trajan's Column, comic strips, and cinematography. The mode of movement has become dominant in several areas of twentieth century art, and may finally turn out to be its most striking characteristic. Futurist art features it, as does some cubist work, action painting, and a number of recent developments.

The assumption is that it is possible to see any work of visual art by one or more of these modes. Quite commonly more than one, not infrequently all, will be found in a single work. As is usual in classification, there will be borderline cases in which a firm decision about what mode dominates cannot be reached, but generally one will dominate. It may be noted that these modes range from the sense of "being" to that of "becoming," from permanence to transience, as we move from the axial through movement. Further, as the movement mode is gestural, and the perspective and closure modes optical and spatial respectively, the axial is tactile.

While these categories have been used mainly in reference to the variations of art style in historical periods, the justification for using them here lies in the conviction
that the axial mode is peculiarly applicable to pottery as a medium— not just in some periods, but in all of them. The mode of closure is nearly always important to pottery in its aspect of internal space, though it rarely dominates as axially does.

The reasons why pottery should be so consistently axial are several, but they all tend to relate back to the basic material, clay. We have seen that the working methods that have dominated pottery production contribute substantially to axially. Though plastic clay can take almost any shape, it cannot be extended horizontally far into space without considerable support that is essentially external to pottery. It needs to take forms that will resist gravity without the need for much tensile strength. If a wall goes up to any appreciable height and also moves out laterally from its base, that lateral movement must be gradual enough to avoid collapse from the weight of the superstructure. To return to the nature of fired clay discussed at the beginning of this section, it is like stone, unreinforced concrete, or, obviously, brick, as they are employed in architecture. In order to traverse much space they must assume forms that will keep the material in compression and avoid tension. The most efficient structural system that has been devised for such materials is that of the arch and vault. If vaults made of many comparatively small pieces of material, as is the case with stone or brick, were turned upside down they might well
come apart, since they are dependent, to keep the material in compression, upon the combination of gravity and the fact that their surfaces on the outside of the shell are larger than those on the inside. Pottery pieces are, however, like "monolithic" concrete, and stick together in similar fashion. Even so, they, quite often in vault form, withstand pressure from outside better than from inside. The cylinders and quasi-spheres that are found in endless combinations since the beginnings of pottery must, then, persist not only because they evolve naturally from handworking but also because they survive where other forms would break. They combine the spatial economy for containing and the structural strength of natural forms like eggs, gourds, and human skulls, (plate XIX). Early potters did not know the theoretical reason for the strength of particular shapes; they knew what broke and what didn't.

Clay figurines and other ritual objects appear to have preceded pottery vessels in some areas of incipient pottery development. As pottery emerges, however, it is nearly always in the form of cooking pots first, with storage pieces following soon after. Early cooking pots sat in the middle of a fire with their strongly rounded, sometimes even pointed, bases partly embedded in dirt or ashes. Often they must have been propped up by stones. They had to offer as much heat-absorbing surface to the fire as possible, one of the governing factors in shape development. Early storage pieces are
Venda girl with water pot, South Africa*

often similar to cooking pots, but with flatter bases. In a number of cultures, notably the Jomon, cooking pots themselves assume flattened bases after a time.

Tradition and conservatism play a strong role in maintaining forms when they have once developed, and this seems to have occurred with more than ordinary force in pottery. Indeed, George M. Foster believes that potters, as a class, tend to a conservative personality structure. It should be said that he is not applying this judgment to modern artist-potters, but, in the main, to artisans in peasant societies from the distant past into the present. His studies have been concentrated in contemporary Mexican potting villages, but he lists other sources too. Though his original reference is to personality structure, Foster deals with the cause of potters' conservatism in terms of economic risk and social status. Noting the numerous things that can happen to ruin a pot between its beginning and its final removal from the fire, he feels the production process puts a premium on strictly following the known methods; otherwise economic catastrophe is likely to result. This caution is said to carry over into the potter's entire outlook on life. Furthermore, while in some groups the potter has held an honored position, this is not the usual case. His is regarded often as simply a dirty job that must be done, and potters will leave it to take up another occupation if the opportunity

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arises. It is true that within these craft groups potter-artists are occasionally found. They derive aesthetic satisfaction from their work, give it devoted attention, and sometimes produce innovations in it. They are recognized in the group as being especially good, but are rarely emulated. Adjacent pottery groups, often as single villages, sometimes as larger units, may be in constant contact with each other over a period of decades with surprisingly little interchange of stylistic influence other than at the general level.

Another approach, less purely economic than Foster's, to the question of the "conservative personality structure" is suggested by C.D. Darlington in his article, "The Origins of Agriculture." It may help to explain why some early potters were not so clearly conservative, as well as why some were, though Darlington does not in any way concern himself with pots and potters. But the origins of potting and of agriculture have been intimately associated in many, probably most, parts of the world. Until recently it was the general assumption among archeologists that the presence of pottery in a culture meant that agriculture was practiced, and that the culture had reached at least the neolithic stage. Only the growing of grain crops would permit the settled stability that is required for practicality in making and using that fragile but bulky commodity, pottery. Darlington points out that the cultivator of plants is not only doing something

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\(^7\) *Natural History*, LXXIX (May, 1970), 47-57.
which, unknown to him, is changing the conditions for natural selection of plants; he is continually being selected himself. The tiller of the soil, the peasant, is contrasted with the herdsman, the pastoralist, though each may share some of the activities of the other. The two are often in conflict, from the legend of Cain and Abel, the Bedouin shepherds and their peasant neighbors, the medieval English farmers and the Welsh drovers, to the ranchers and the "nesters" of the nineteenth century American West, and the contemporary struggle between the farming Kikuyu and the grazing Masai in Kenya. The peasant grain farmer knows, loves, sometimes worships his soil and crops. His life, like his ancestors', has depended on prudence and industry. He will accept serfdom rather than be separated from his land. He is inbred, conservative, and traditional. He is stubborn but peaceful. The pastoralist is equally attached to his animals, but they move and so must the herdsman. He is not only mobile, but alert and aggressive--the stealer of his neighbors' cattle and women. He is, then, relatively outbred. Both groups are descended from hunters and foragers, but in the millenia from perhaps 8,000 to 4,000 B.C. plant cultivation and animal domestication had their first real development and consequent separation of human types by the influences of occupation. It took place in and around the land corridors linking Africa, the Near East, and Europe.

It was, naturally enough, among the agriculturists that
pottery emerged in the Near East. The potters were very likely the women of these neolithic households. They shared the outlook of the community, and as it developed its conservatism, desire for permanence, and cautiousness toward change, they would produce work reflecting this outlook. Though aesthetic interest is soon demonstrated in painted decoration, which becomes elaborately developed by 4500 B.C., it is not of a sort that could be regarded as adventurous. It appears as symmetrical geometric abstraction or as simplified, conventionalized treatment of birds and animals. The repertoire of shapes and decoration continues with slow change until the first half of the second millennium B.C., when, under the influence of increased trading, shapes and decoration both expanded in variety. By this time urban influence also was quite strong; the cities, dependent on both the farmer and the herdsman, already were culturally apart from both. A great deal of early Near Eastern pottery is quite beautiful by nearly any standard, but its beauty is of a controlled, quiet sort largely eschewing expressive intensity. Its style was to continue, in some measure, in folk pottery in the Near East and Europe into the modern era.

The pottery of the long Jomon era in the Japanese islands is, certainly, traditional in that it has strong continuity in its underlying style. Ignoring some three and a half millennia of the so-called Subearliest period, it goes on for about 8,000 years. Yet the fundamental character of this
pottery, and of the culture in which it was made, it quite other than that of the ancient Near East. The beginnings of pottery in Japan occur in what Kidder regards as an upper paleolithic society, but the Jomon cycle proper is neolithic. He calls its five chronological divisions Earliest, Early, Middle, Late, and Latest. They are not simple linear divisions; they overlap each other, sometimes by more than a thousand years. The culture is not agricultural, though kitchen gardens of root vegetables, and possibly transplantation of seedlings of nut and fruit trees, appear to have come into use by Middle Jomon. It was a hunting, fishing and foraging culture, with communities consisting of never more than a few hundred people. These communities were somewhat isolated as a result of the typical Japanese terrain, but contact would have been frequent because of the food-gathering expeditions on which these people largely depended. Stability and permanence of living sites sufficient to support the making and using of pottery was possible because of the benign, invigorating climate. In the fertile valleys, plains, and coastal areas where rivers empty into the sea, it was enough to provide for something beyond a hand-to-mouth existence.  

Whether it is the natural vigor, alertness, and fullness of life resulting from a very demanding, but not really perilous, mode of existence that produces the qualities found in Jomon ware may never be provable, but seems a likely explanation.

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Taken as a whole, the work is astonishing. We are not used to seeing early pottery so deeply concerned with aesthetic considerations. From the Earliest period, when hardly anything but cooking pots was produced, surfaces are quite fully treated texturally. This may have had its practical side in making the pot easier to hold. In the Earliest period, texturing is nearly all done with the cord-marking from which the whole era derives its name. But the textures are quite varied, and their execution reveals a sensitivity to rhythms that eventually culminates in a controlled complexity of shape and surface in Middle Jomon pieces that possess an expressive intensity remarkably like that of Shang bronzes in China a thousand years later. Late and latest Jomon pieces retain much of this feeling, but they become increasingly refined and lose some of the insistence of the Middle period. Middle Jomon pots are often large, sometimes exceeding two feet in height. Technical competence to produce more refined ware would seem to have been present, but a positive desire for an element of crudity—of "naturalness," perhaps—is more dominant. It is a trait that resurfaces again and again in later Japanese pottery (plate XX).

Jomon pots are to the bulk of Near Eastern pottery as Dionysian is to Apollonian, as Romantic is to Classic. For all that, they rarely depart from axially. Pieces that from one side are asymmetrical become symmetrical from another. Intensity is centralized and frozen; movement is turned in
Teruo Hara. Ash glazed stoneware jar
upon itself and not allowed to dissipate. That is what gives these pieces their enormous presence and sense of inner power, that concentrated energy which characterizes so much of the best of Far Eastern art.

If the foregoing pages help to clarify what pottery is like as an art form, what are its aesthetic concerns and how it relates to other arts, what are the qualities that give it its limitations as well as its potentialities, then the main purposes of this essay have been served. It is certainly far from being exhaustive in any of the aspects treated. It is an introduction to a field where art theory has yet to be much applied.
V. A CRITIQUE

The previous portions of this essay have touched on criticism from a general point of view and in a fragmentary fashion. In this one the effort will be directed to an examination of the writer's own works in the light of the assumptions that have been stated, the background from which the works were produced, their relation to contemporary pottery, and, to the extent that they are known, the more or less specific motives influencing these pieces.

The pieces illustrated were made over a period of perhaps six years while doctoral study was in progress. The majority were done during the 1964-1965 academic year when continuous study in residence was undertaken. A considerable number of them were done in response to interest in technical problems that are various, yet the underlying character of the pieces seems to me to be relatively constant.

Discussing one's own work is, no less than talking about the work of others, a matter of theorizing after the fact. It is not unusual to produce an object or a group of objects to satisfy some set of conscious criteria, though it is less frequently done today than formerly. The criteria, however, are not normally of the sort that we think of as theory. They are practical or technical. Many artists, certainly including
this one, seem to have had the experience of trying to work from theory at some stage in their careers. If the theoretical direction has been arrived at through verbal conceptualization, the visual results are so frequently disastrous that one tends to avoid mixing conscious theory and practice. That is not to say, of course, that theory is not present in the act of making art works. It is; but we seem to require that it be well in the mental background in order to be able to work without undue restraint.

There has been no consciousness in the production of these pieces of working for a specific "audience", but in looking over them as a group it seems clear that they are meant to appeal to an unspecialized spectrum of taste. Viewed in relation to other American pottery of the last six years, particularly as presented in the pages of the periodicals Craft Horizons and Ceramic Monthly, they are more conservative than experimental. They tend, on the whole, to be quiet, lyrical, and finished. A large percentage are done in porcelain, that most refined, but often recalcitrant, clay body.

Perhaps a third of recent American pottery accepted for major exhibitions could be categorized as belonging to the experimental vanguard, but it is difficult to get beyond that generalization because of the variety of individual styles employed. Two large groups seem evident, however. One is characterized by loose organization of the visual elements and casual handling of materials. It is romantic and expressionist
for the most part, and includes most of the "funk" pottery
initiated by West Coast potters and the derivations from ab­
stract expressionist work which was at its height in the later
nineteen fifties and early sixties. The other group is precise,
often hard-edged. It is classicist in form, but not classical
in relation to the central tendencies in pottery as discussed
in earlier sections of this study. It is sometimes closely
related to hard-edged color painting, sometimes to the minima­
list movement. There has appeared recently a noticeable
amount of pottery which is politically oriented or otherwise
directed to topical concerns. It may belong to either of the
above groups, sometimes to neither.

My expressive concerns are aimed at the more nearly time­
less, not the issues of the day. They offer an alternative
state of mind to the tendency towards the worried, frenetic,
violent, and novel by aiming at the balanced, orderly, and
calm but lively aspects of pottery. Much of this is the re­
result of connections to a somewhat detached and retiring per­
sonality, though I do not wish to overstress the self-expres­
sive characteristics of art. They are, I think, inevitable,
but not in need of special emphasis or glorification. I share
with many colleagues an interest in new approaches to color
in pottery, and in the revival of pottery values such as the
unpretentious spontaneity of raku ware. Thus my work seems to
me to fall between the two main categories of the preceding
paragraph, not at the leading edge of either.
The consideration of specific works and groups of works begins with the "ritual" vase of plate XXI. In its details it is outside the mainstream of my work, but its overall character is not. It came into being under unusual circumstances which account for its differences. During the 1964-65 academic year William Parry came to The Ohio State University as one of several visiting potters who presented workshops. One of the projects he urged upon students in attendance was the making of a piece based on ritual functions in an imaginary culture outlined by him. The piece was to rest in a cell, lighted from above, with an ambulatory around it from which the piece could be viewed through slits in the wall. It would stay there except for an annual outing during which it would be carried about the island on which this small civilization existed. Ashes of the dead would be contained in it for scattering over the island during its tour. Mr. Parry described the foods from the sea and the land on which these people depended for their livelihood. The sun was an important element in their religion, and the piece was to symbolize the god-goddess Lo. I believe this divinity was specified as having the form of a bird. I had not intended to involve myself in the project, believing that no good could come from attempting to deal with symbolic material in which no conviction was invested. However, the day before the deadline arrived with none of the graduate students appearing to have made any approach to the problem. I feared we all might
Stoneware ritual vase, 2\(\frac{1}{4}\) inches high
be embarrassed by apparent lack of interest, and decided to undertake the project. A few preliminary drawings were made—a rarity for me—and the work got under way. It is done in two thrown pieces with added slab construction. To my surprise I became quite engrossed in the piece, and as it neared structural completion I found it aesthetically believable despite the fact that its subject matter was symbolically external to me. As matters turned out, about half a dozen students made pieces for the project, but the lesson was valuable to me. I feel the piece has the sense of ritual significance even though the nature of the prescribed ritual is as foreign to my experience as animist African rites would be. The bird type is still something of an enigma to me. It now occurs to me that it resembles certain pre-Sung Chinese images of phoenixes, but whether similar ones had been seen when it was made is not clear.

A large portion of the works shown here have painted surfaces. It is largely the result of interest and practice in painting preceding my first pots and continuing to the present, and a curiosity about color in or out of art. At times work in pottery has influenced painting more than the other way around. For example, some fifteen years ago when I did much more painting than at present, the semitransparent depths of certain high temperature glazes were a distinct influence in the production of a rather long series of paintings done in the encaustic medium, or sometimes in oil glazes built up in
a number of layers with very little opaque underpainting. An old and persistent influence on the paintings and drawings has been the work of Paul Klee; occasionally it also shows up in the treatment of pottery surfaces, mainly in organic and rather linear forms like those on the bottle of plate XXIII and in the bowl of plate XXVIII. A more direct and frequent source of surface pattern is natural objects, often as seen from the close-up view. The patterns in polished stones are the beginnings of the pottery decorations of plates XXVI, XXX, and XXXIII.

By any reasonable standards these pieces with overglaze painting must be regarded as decorative. Decoration is, of course, a more neutral term to potters than it is to those critics who speak of "mere decoration" in the sense of emptiness of content. To the potter any surface treatment beyond whatever texture is left by the constructive process is decoration. It may be subject matter; it may be perceptual organization. Its value in any given case depends upon its capacity to heighten and enliven the shape of the piece to which it belongs, to be expressive in unity with that shape. The pots shown in plates XXII through XXXIII were made partly in response to an old effort to devise ways of handling color directly on pottery while achieving as permanent a surface as possible, but most grew out of the technical problem of developing as wide a range of hues as possible in the fewest low-temperature glazes. Some earlier attempts were made to
paint with stable pigments, usually glaze stains, in ethyl silicate solutions. There were numerous technical failures in forming a paint film, and the successful films had inadequate adhering qualities for pottery. Epoxy mixtures, diluted with alcohol for painting purposes, were also tried. They work quite well as paints, show high resistance to water, and have fairly good resistance to abrasion. They have been used rather extensively by potters in the last few years. Epoxy paint surfaces are destroyed by cooking temperatures to which some pottery is subjected, but this is also true of the paints bound by natural resins which have been used on earthenware from New Guinea and South America. The footed piece at lower left in plate XXII is the only epoxy-painted piece I have kept. In this case the color is often smeared and thinned at one edge of the shape it makes, creating a "come-and-go" effect. This saves it from the raw, opaque surface effect usually produced by epoxy paints, and which constitutes my main objection to them on pottery. The painted shapes on this pot are more biomorphic than geometric, through some straight lines emphasize the axiality of the piece. The internal surface of the piece is covered with a cracked, rough ash glaze, washed over with the epoxy mixture used on the outside. This roughness, combined with the almost spikey rim, tends to produce a space that seems forbidding and protected. Both the expressive quality and the technique are unusual in my work, and partly derive from having thrown the piece upside down,
leaving a thicker rim than is normal and encouraging manipulation of the extra clay.

Bowls and plates dominate this group of painted ware. Unlike the piece just discussed, most of them have generous open spaces obviously related to the utilitarian functions with which they are associated. Where the painting occurs on the inside, as is often the case, the painting is served up as food for the eye. With the exception of the epoxy-painted piece and some strokes of underglaze colors, the painting on the pots of this group (plates XXII-XXXIII) consists of low temperature overglaze colors fired onto a previously matured high temperature glaze. Of the pieces painted in glazes and stains, only the one shown in plate XXIX approaches the combination of freedom and control with comparatively brilliant colors that was originally attempted. It is done with underglaze slips, mainly in dark, cool colors, and completed with overglaze painting in black and several vivid warm colors. The problem is not a technical one. Overglaze colors have been available in considerable variety since the sixteenth century, and they have been sold commercially in this country for at least fifty years. Their use by chine-painting hobbyists was widespread thirty or forty years ago, and is not uncommon today. The problem is aesthetic. The colors usually seem to detach themselves from the pot as a shape. They are too ready to assume a life of their own,
Stoneware pots. Overglaze, glaze stains, and epoxy painting
Group of pots with painted overglaze
PLATE XXIV

Stoneware jar with overglaze painting, 12 inches high
Porcelain group with overglaze colors
Porcelain bowl, 5 inches wide
Stoneware and porcelain group
Stoneware bowl with painted overglaze, 10.5 inches wide
Porcelain plate with underglaze and overglaze painting, 10 inches wide
Porcelain plate with overglaze painting, 8.75 inches wide
Porcelain bowl with overglaze painting, 9.25 inches wide
Stoneware plate with overglaze painting, 8.25 inches wide
Porcelain vessel with overglaze painting, 4 inches high
destroying the aesthetic unity of the piece. Fully free
painting needs comparatively neutral surfaces for its dev-

evelopment, and pottery is not well suited to providing them.

Plate XXXIV illustrates a lidded porcelain jar with a
reduced copper glaze. It represents a rather large group of
pieces employing this red glaze. I had, like many other
potters, become intrigued with the possibilities of the some-
times brilliant, but elusive copper reds. They are elusive
because of chemical instability, during the firing cycle,
of the copper compounds used. Variations in the timing and
degree of reduction, the thickness of glaze application, and
apparently even the construction of kilns make differences
in the final color and its distribution. Before coming to
Ohio State I had worked with locally reduced copper reds,
but not with atmospheric reduction to any extent. A friend
gave me a new recipe for such a glaze, saying that it had
given brilliant cherry red color. In my first trials of
the glaze only dull, grayed reds resulted. Purely on a
hunch, I decided to try a thin coating of a high-alkaline
zinc crystalline glaze over the original glaze. It worked
remarkably well time after time in the Ohio State kilns,
varying somewhat from kiln to kiln. The color ranged from
the cherry red mentioned to something between a tomato red
and salmon pink. In the gas kiln at Madison College, where
I teach, the same combination of glazes yields cooler, dark-
Porcelain covered jar, 9 inches high
er reds, or occasionally brilliant purples. The piece illustrated was done in this kiln, and its color is close to maroon. The piece at lower right in plate XXVII gives some idea of this color, though the print is not accurate in color.

Plate XXXV shows a porcelain bottle covered with small, delicate zinc crystals. It is the same glaze, used alone and much more thickly, as that used as an overglaze for the copper reds. The recipe came from Priscilla Todd nearly twenty years ago. It is extremely close to the ones used by Herbert Sanders and Marc Hansen, who have specialized in the production of crystalline glazes. Crystals, like copper reds, present a distinct technical challenge to the potter. The growth of large crystals requires carefully controlled cooling of the kiln. The piece illustrated has small but distinct crystals, achieved without any pyrometric devices other than cones to measure the top temperature of the firing. They are, I think, appropriate to the piece, which is classically simple, pristine, and all white excepting the small flash of red just inside the mouth.

The basic, simple shapes that dominate my work are in some measure dictated by a continuing interest in color, its variations, and glaze texture, as distinguished from clay texturing and patterning which becomes important in comparatively few works. Strong color patterns tend to "fight" strong texture, each demanding full attention even when one is consciously fitted to the other.
Porcelain bottle with zinc crystals, 7.5 inches high
Unlike their most typical Japanese predecessors, the raku pieces I have done (plates XXXVI and XXXVII) are, for the most part, wheel-thrown with much of the cool precision of my other work. Their spontaneity is nearly all in the glazing and, more importantly, in the accidents of firing, smoking, and cooling common to this type of pottery. Both pieces shown have metallic lustered surfaces. The sphere is silver, subtly changing to a pale rose on one side. The silver in the glaze tends to come to the surface, and gradually tarnishes to a warm gold. The bowl uses copper in the main glaze, which, after smoking, has iridescent greens, blues, and purples. The rim and splashed pattern inside the bowl are the silver of the spherical piece. While it is obvious that the surfaces of these pieces, like that of the crystals, are their most notable feature, it is nonetheless true that the pieces are rather quiet and unpretentious. They have the glow of pearls, not the fire of diamonds.

Plates XXXVIII, XXXIX, and XL illustrate slab-built stoneware pieces, though the pedestal of the first is wheel-thrown. This piece is one of the few I have done in which clay texturing plays a major role. It is also rare in that this treatment is consciously related to features in an art form of the past, in this case Chinese bronze vessels of the late Shang and early Chou periods. The textural details in this clay piece are actually quite unlike those in Chinese bronzes, but the complex all-over treatment in addition to
Raku sphere, silver luster glaze, 5 inches high
Raku bowl, copper and silver luster, 7.75 inches wide
Stoneware pedestal bowl, 22.5 inches wide
Stoneware "Shield" pot, 15 inches high
Stoneware double bowl, 15.25 inches long
the toothed flanges gives it an appearance similar to them. The flanges especially tend to give the piece a grip on surrounding space. This quality is of particular interest to me because of a desire to express the interconnected relations among objects, both living and non-organic, and their environments. It may herald a more baroque direction in my work.

The "Shield" of plate XXXIX as well as the bowl part of the piece just discussed, was made from sections formed in large plow discs which I found discarded in Texas a few years ago. The piece is a large, irregular envelope, quite dark and with subtle variations from gray to brown in the color. It has a leathery character in keeping with its organic folds towards the bottom of the piece. When the piece is seen at about eye level it seems to me to have a kind of brooding presence intensified by the boss in the middle of each side, which takes on something of the feeling of a cyclopean eye. The color variations are due to differences in thickness of the glaze, the brushwork being quite free on this piece. It is one of several that reflect the influence of quick practice drawings done on the surface of a cylinder in the Flash Laboratory at Ohio State during the academic quarter when I was an assistant there.

The double bowl (plate XL) was formed over two plaster hump molds, and is glazed only on the interior surfaces of the bowls. It underwent a considerable amount of beating and scraping, emerging as a quite organic shape. The glaze tex-
ture is the result of granular vanadium pentoxide. Inevitably, I suppose, this piece has been seen as being distinctly mammary, though that aspect of it became evident to me only after it was pointed out by someone else.

The bowl illustrated as plate XLI is large and practical, but its rather heavy, sagging base curves make it an uninteresting shape. It is included here because its combination of glazes offer good possibilities for free brush handling. Both glazes on the outside are rather stiff. The ground coating is thin but it covers well; the dark brushed glaze retains its character with almost no softening at the edges. Unlike the low temperature glazes considered earlier, however, little color range is afforded by these glazes. This may be for the best in that wide hue variation is always a threat to the integrity of shape in pottery. But the challenge of attempting to make color operate well will not soon be abandoned.

The floor bottle of plate XLII is perhaps most notable for its organicism which may be seen as either plant-like or penile. It belongs, in this respect, to the group which includes the double bowl considered above and the last piece illustrated here, the shell-form bottle (plate XLIII). Though the influence of seashells on pottery form is very old, it is recent in my work. I was given a book on seashells which contains many photographs of extraordinary beauty. Not only
Stoneware deep bowl, 9.25 inches high
Stoneware floor bottle, 27 inches high
Stoneware double-glazed shell-form bottle, 15.5 inches high
the shape of shells, but also their markings and colors seem appropriate to pottery in a great many instances. Obviously there are close structural analogies between these shells and pottery. The bottle illustrated is not based on any particular type of shell, only on the fundamental idea of shells. I had explored the use of double glazes to produce partially-controlled mottling and spotting nearly twenty years ago. It seemed ideal for some of these pots based on shells, so it has had a revival in a number of recent pieces.

I do not believe that I have given a full accounting of the nature and sources of my pottery, nor that it would be possible. There is too much hidden even from one's self, too much complexity in every background for anything approaching full analysis. It is generally accepted that the values and beliefs of an era are reflected in its art. Quite possibly our era will look simpler a hundred years from now, but from the near view it seems fragmented and contentious in regard to its values. I feel that my work is clearly in the mainstream of pottery tradition, and that it is indeed reflective of my values and doubtless those of a large segment of the population of this time and place. There are other, sometimes radically different, directions in contemporary pottery, and I accept the validity of many of them. One, or some of them may represent the wave of the future. I must, however, work within my own limitations, such as they are for the present.
APPENDIX

A List of Pottery for the Ph.D. Exhibition
December 11-17, 1970

1. Stoneware ritual vase. 24 inches high. (Collection of Mrs. Harry Range).

2. Stoneware footed bowl, epoxy painted. 7.25 inches high.

3. Stoneware plate, painted. 9 inches wide.

4. Porcelain plate, overglaze painted. 7.5 inches wide.

5. Porcelain bottle, overglaze painted. 12 inches high.

6. Stoneware jar, overglaze painted. 12 inches high.

7. Porcelain bowl, overglaze painted. 5 inches wide.

8. Porcelain shallow bowl, overglaze painted. 9.5 inches wide.

9. Porcelain plate with underglaze and overglaze painting. 10 inches wide.

10. Stoneware bowl, overglaze painted. 10.5 inches wide.

11. Porcelain plate, overglaze painted. 8.75 inches wide.


14. Porcelain vessel, overglaze painted. 4 inches high.

15. Porcelain covered jar. 9 inches high.

16. Porcelain plate, dull red. 11.5 inches wide.

17. Porcelain red plate. 12.5 inches wide.

18. Porcelain red plate. 7.25 inches wide.

19. Porcelain red bowl. 5 inches high.
20. Porcelain red beaker. 7.25 inches high.
22. Porcelain bottle, zinc crystal glaze. 7.5 inches high.
23. Porcelain bowl, zinc crystal glaze. 5 inches wide.
24. Porcelain plate, mixed small crystals. 7 inches wide.
25. Raku sphere, silver luster. 5 inches high.
26. Raku bowl, copper and silver luster. 5.75 inches wide.
27. Raku spherical bottle, silver on black body. 6 inches high.
28. Raku bottle, silver on black body. 5.5 inches high.
29. Stoneware pedestal bowl. 22.5 inches wide.
30. Stoneware "Shield" pot. 15 inches high.
31. Stoneware double-bowl. 15.25 inches long.
32. Stoneware deep bowl. 9.25 inches high.
33. Stoneware bowl with black drawing. 9.75 inches wide.
34. Stoneware bottle, glaze line drawing. 8.5 inches high.
35. Stoneware shallow bowl. 15.75 inches wide.
36. Stoneware punch bowl with fish. 17 inches wide. (Collection of Mrs. Harry Range).
37. Stoneware floor bottle. 27 inches high.
38. Stoneware shell bottle, double-glazed. 15.5 inches high.
40. Stoneware vase, double-glazed. 9 inches high.
41. Stoneware jar, double-glazed. 12 inches high.
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Books


**Articles**

