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54

Pottery of Warren and Alix MacKenzie

Mendota Sculpture Foundry

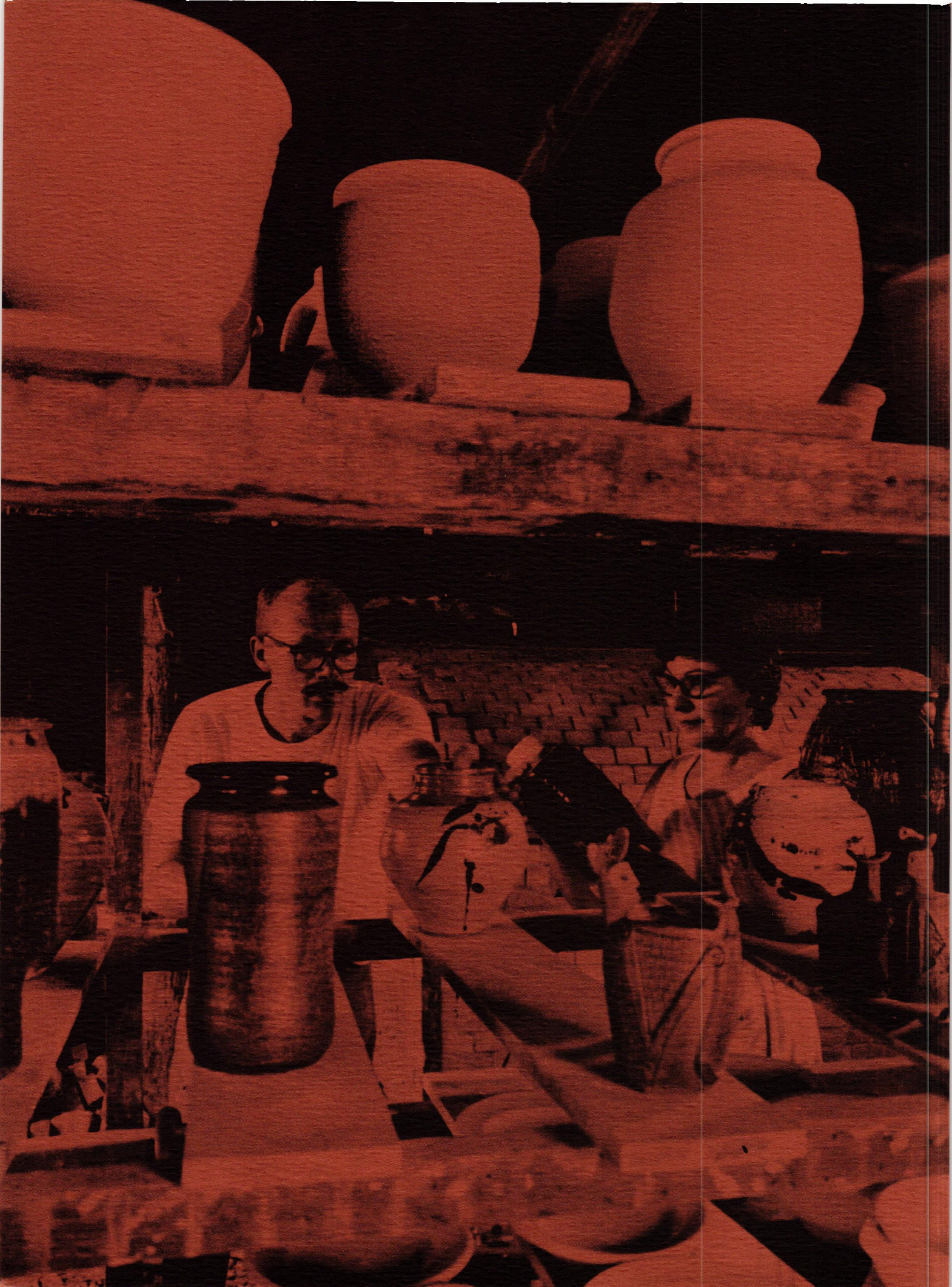
Art and business are rarely compatible, and when combined are seldom lucrative. Even though a few painters and sculptors raised on the shoulders of the critics are now wondering what to do about high taxes, it is still true that most art is produced out of compulsion or dedication without much concern for monetary reward. The two projects presented in this issue represent a rare combination of enterprise; they are completely dedicated to art, yet are pursued for the express purpose of sales.

For the MacKenzies, sales are an important part of communication. They keep their prices modest so that many people may use what they produce, and believe that a work of art is not complete until it has been accepted and enjoyed. Their involvement in pottery has always recognized this important aspect of creativity.

The Mendota Foundry was created because of a recognized need by sculptors in this area for a means to make permanent sculpture available to architects and to the community. They have made an excellent start, and if their plans mature they will contribute to other communities as well as this one through their teaching program.

Both the MacKenzie pottery and the Mendota Foundry are important manifestations of a healthy self-interest combined with social concern and responsibility. Museums, too, exist to make art more accessible to more people, so it is with pleasure that Walker Art Center presents these ventures and wishes them well.

M. T.



Some potter thoughts by Warren MacKenzie

A potter has to love clay—disinterestedly—just love the physical nature of clay; he can do anything with it, but freedom of expression, even the honest use of materials, doesn't necessarily make art.

Although one cannot completely reject technique, mechanical perfection has no value in terms of human qualities. It has no positive value, nor does it have negative value, it is not a bad thing, nor is it a good thing. It need not be sought, nor should it be rejected.

A potter working on a potter's wheel inevitably throws round pots due to the nature of the machine on which he works. Yet to emphasize this roundness, this geometric quality of shapes, as a positive thing is just as wrong as to emphasize the fact that it is not round or to artificially distort so that it is not perfect.

What one looks for is not whether the pot has deformed or not deformed, but for something else that has occurred in the process of working the clay—something that has happened as the potter presses and stretches and expands his material.

Over the years Alix and I have moved from an interest in careful and precise expression toward an interest in the organic relationship of shape, decoration, materials, and firing processes. Building from the clay surface, overlaying and creating a depth of fabric with visual interpenetration, has been our primary interest in the past two years, and in some of the pots it worked as a complete statement.

We have tried to express our thoughts about man's relationship to nature without imitating nature, at the same time keeping a balance of controlled and natural happenings, but with the final work still feeling man-made.

Our aim has never been to express "ourselves" but to create the best pieces possible in light of our current interests. If there is a personal image, it is there in relation to our life and times, and when successful it verges more on the universal than the particular.

Some of our best pots have resulted from pushing into something which we really didn't control. We had an idea of what we wanted, yet were not quite sure what we would get. We weren't blindly searching, we were going after something very definite. Theoretically we had an idea

of what a certain glaze formula would do, or should do. We wanted it to soften the surface quality and produce bubbles and a depth of glaze which would permit one to see through the glaze to pigment, to even the clay beyond. From this experiment the resulting pots were fifty percent scrap. The remainder have a glaze which is a glass, yet is not a glass. It is not a shiny surface, nor is it a matt surface. It is half-matt with just enough transparency to give depth to the surface. Some of the results of these experiments are evident in figures 1, 2, 4, 5 and 18.

In the final analysis it is our work that should communicate what we have to say about pottery, and if these words are more confusing than helpful, I can only ask that you examine and live with the pots to see what they can say to you.

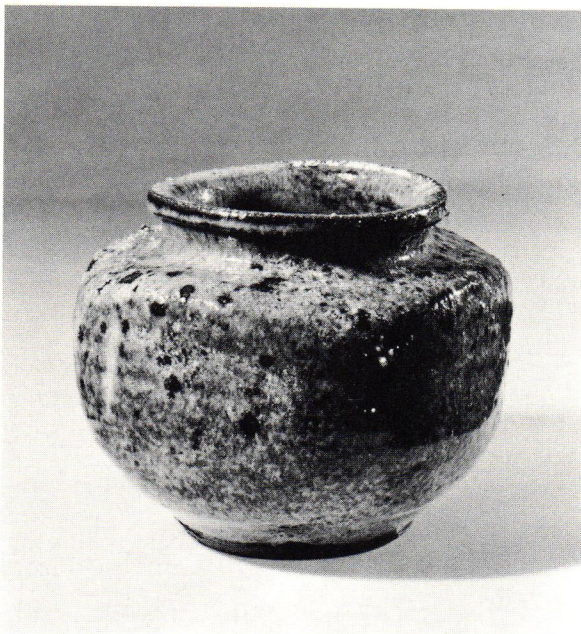


fig. 2

fig.

fig. 1 Our main interest was in the relationship of the squared form to the soft bubbly surface of the glaze. The flattened sides of the pot carry over into a deformation of the lip, producing a richness of form, humanistic in feeling and organic in nature. The red-brown tones in the pattern repeat the color of the exposed clay at the base of the pot and are a contrast to the cool gray glaze.

fig. 2 This pot is related to figure 1 but has a feeling of growth rather than of repose. We often explore similar shapes attempting to vary the feeling of the individual pot by subtle changes in structure. This pot has ordinary builders sand thrown on the wet glaze to produce both color variations and surface roughness.







fig. 3



fig. 4

fig. 5

fig. 3 This pot, about nine inches high with iron oxide brushed pattern, was purposely made with a neutral form so that the pattern, derived from weeds, could play freely over the surface. The yellowish brown ash glaze on top and shoulder caps or concludes the linear work on the body of the pot. Although natural objects were the inspiration for the pattern, the final judgment in developing this decoration was conditioned by the pot, the pattern remaining flat on the surface. Texture within the pattern picks up and repeats the natural irregularities in the clay body. The cover was designed with a broad overhang to emphasize the lidding.

fig. 4 and 5 On the shoulder of each of these pots, extra feldspar and wood ash were powdered over the wet clay. On pot No. 4 the glaze produced is almost pure feldspar, giving a milky, heavily crackled surface. The wood ash on No. 5 reacted in two ways, by melting into the glaze and, in some places, by resisting the fire and popping out as a dry surface. The watery, irregular quality of the glaze itself in contrast to the dry areas is related to natural relationships which most of us see every day such as rocks and water, or branch and leaf.



fig. 6



fig. 7

fig. 6 This is made of a very sandy clay which has been allowed to come through on the lip and in the combed decoration and is left exposed in the lower third of the pot. This sandy clay, torn by a stick used at the base of the pot, contrasts with the very smooth glaze of wood ash and clay.

fig. 7 Related to fig. 6 in basic idea, this pot, however, lacks the generosity of development and has a thin hard glaze. All in all, the self-consciousness of the potter in trying to do a variation comes through too much in this piece, and consequently it lacks the unity evident in the other pot.

fig. 8 Thrown and pressed to a triangular shape, this pot was dipped on its side into a blue glaze. A thin rust brush work trails from the shoulder band, and the whole pot is covered with an oatmeal colored glaze.

fig. 9 The wax resistant decoration was overfired and flowed and puddled in the bottom of the bowl. The dark inside and light outside are a means of setting off its contents.

fig. 10 The top part of the bowl, a large hollow form, is derived from a broad rim which has grown so that it is incorporated into the bowl itself. The interior is decorated with iron oxide brush work.

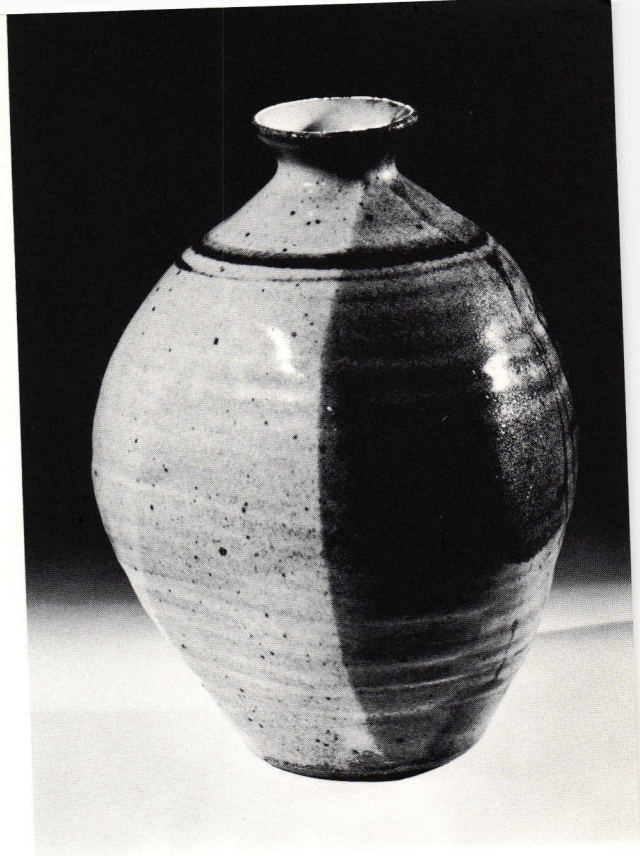


fig. 8



fig. 9 fig. 10

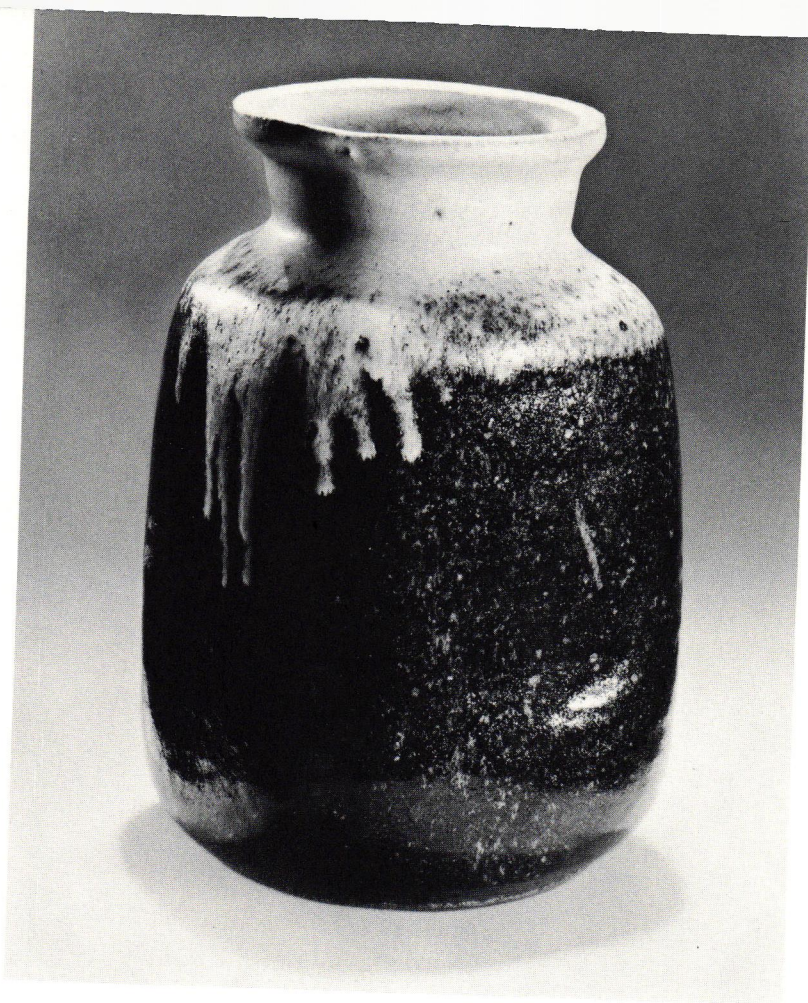


fig. 11

fig.

fig. 11 *A very dry white glaze melts into and flows over the mottled brown ash on the body of the pot producing a fusion of color as well as surface texture.*

fig. 12 *The flat form hooking up and abruptly stopped by the square rim confines the explosion of the poured wax resist pattern. Brown exposed clay and ink-blue glaze contrast with the oatmeal colored, overall glaze.*

fig. 13 *Starting from a full, bulging form at the bottom, waisting in, then moving slightly out again at the shoulder, and finally sweeping into the square cut lip, this pot is another variation on the simple cylinder vase. The iron oxide pattern is derived from tangled and broken grasses. At the base of the pot, the scraped and ridged clay provides both statement of work and a contrast to the softer finger work in the upper section of the pot.*



fig. 12



fig. 14

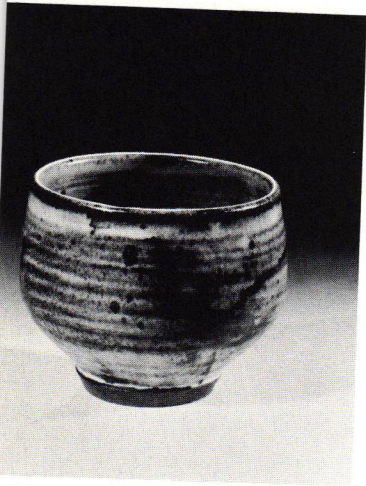


fig. 15

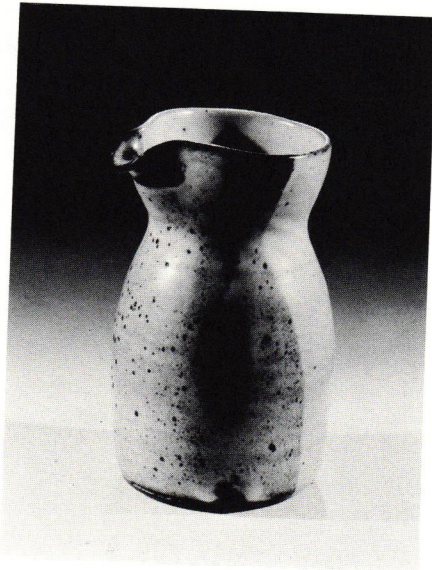


fig. 14, 15, 16, 17 These early pots lack the definition of form and crispness of articulation which are shown in later pieces.

fig. 18 The idea for this came from a form produced in the process of raising a cylinder of clay. Compressed and structural at the bottom, expanding into a soft organic form, and finally returning to the sharp definition at the lip, it is a form which embodies all the aspects of physically making a pot. The crawling and separating of the glaze, which fortuitously broke in straight lines across the central rounded form, unites the structural elements above and below.

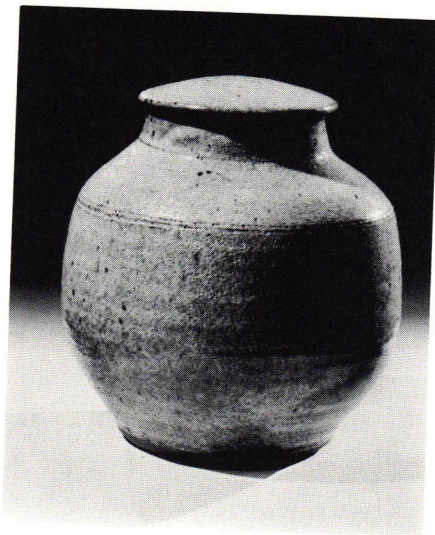


fig. 16

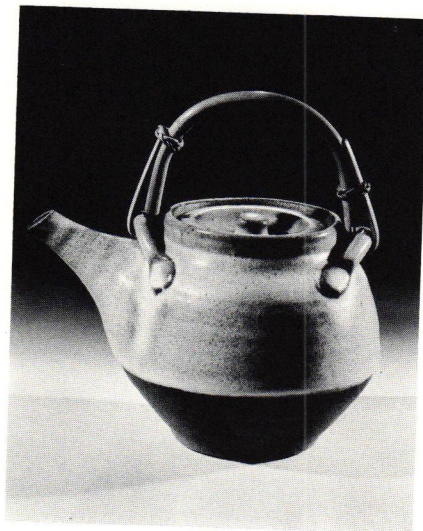


fig. 17

fig. 18



fig. 19 This is a case where the decoration too closely approaches a painting on canvas instead of relating to and embellishing the pot. The pattern is spread across the surface without consideration of what is happening three dimensionally behind it. This is not helped by the roughly brushed white slip which has the same nervous character that the pattern has. Possibly without decoration or with a much more obviously organized decoration, this would have been more successful.

fig. 20 These vary in their emphasis, but the two lower pots seem to embody the best fusion of form and decoration.

fig. 21, 22, 23 These evolved out of a group of small pottery whistles we once made. As our interest in three dimensional form developed, the banks became larger and more sculptural. However, they are still essentially a potter's expression. The main form in each case was turned on the wheel, then pressed, cut, slapped, or whatever was necessary to produce the basic shape for a figure or an animal. All of these were left without glaze so that the subtleties of the worked surfaces would have full impact.

fig. 20

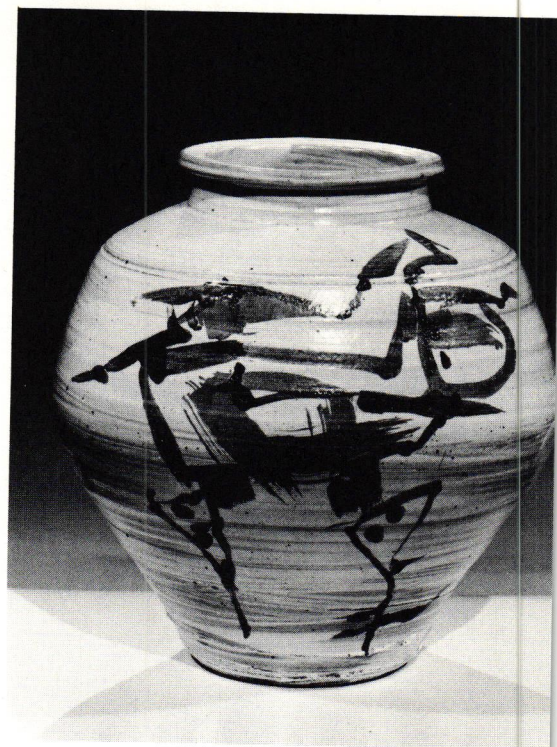


fig. 19





fig. 21



fig. 22

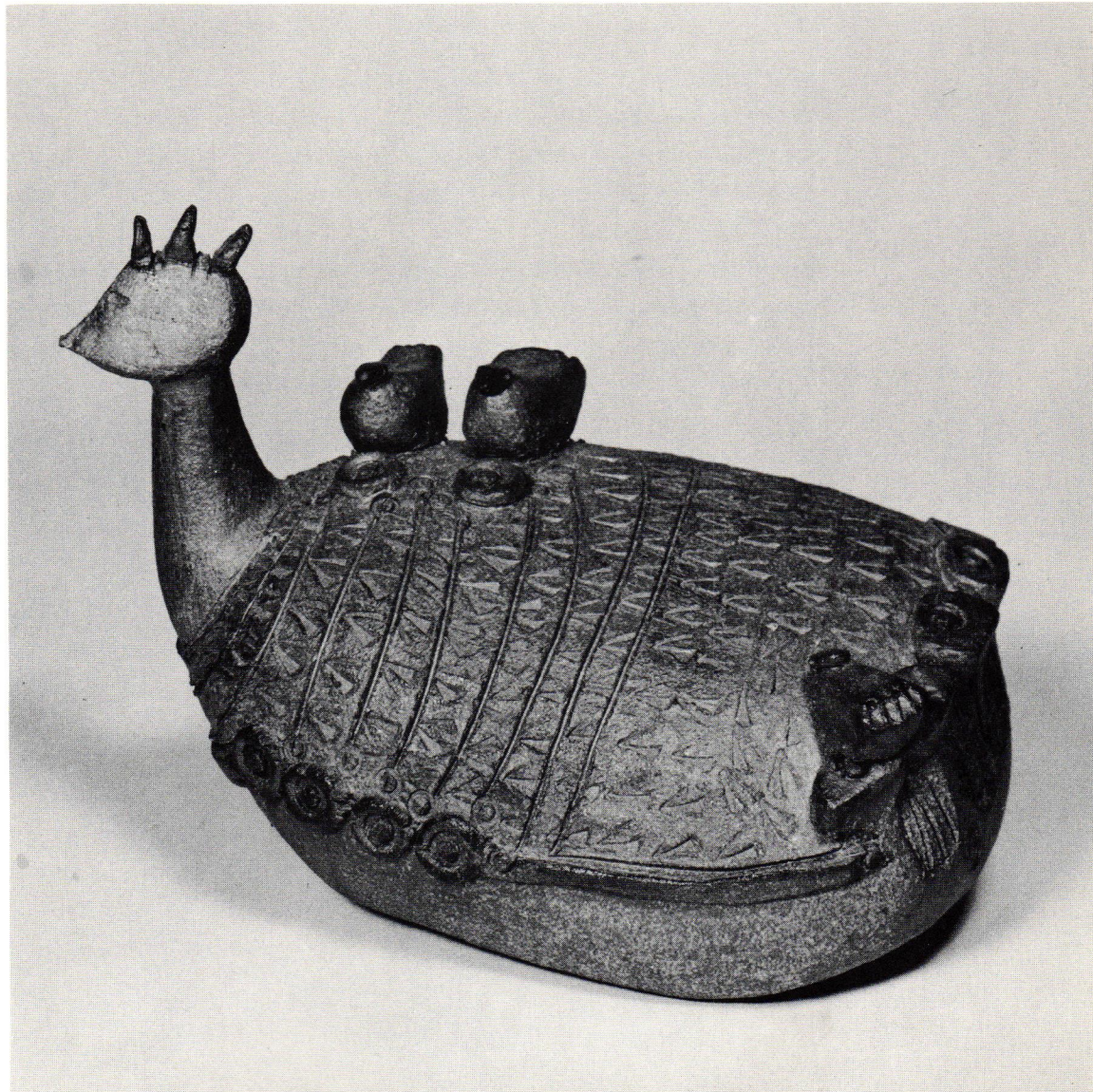


fig. 23



fig. 24

fig. 24 This very simple shape was used only as a vehicle for a rich surface decoration on the inside which is achieved by engraving the wet clay, wax resist, and painting and pouring the glaze. The whole color scheme is very close in value – blacks, browns, and a few yellow ochres. This bowl expresses one of our best fusions of form and decoration with the materials of making, each functioning to its fullest extent without impinging on the other statements.

fig. 25 Pots 1957. These pieces have a more formal feeling than have our recent works. There is a relative precision which indicates a self-conscious concern for beauty rather than expression. If beauty comes as a result of expression this is right, but I doubt if expression is ever the result of a concern for beauty. Of the group, I feel that the narrow necked vase and the bowl are the most successful.

fig. 26 These bowls of simple open shape have been roughly brushed with white slip to serve as a variegated background for the thin line pattern in iron oxide. The pattern tensions pulling and thrusting against the soft sweep of the slip provide a contrast in feeling as well as technique. In the iron brushwork each bowl was considered as an individual piece without attempting to repeat established pattern.

fig. 25

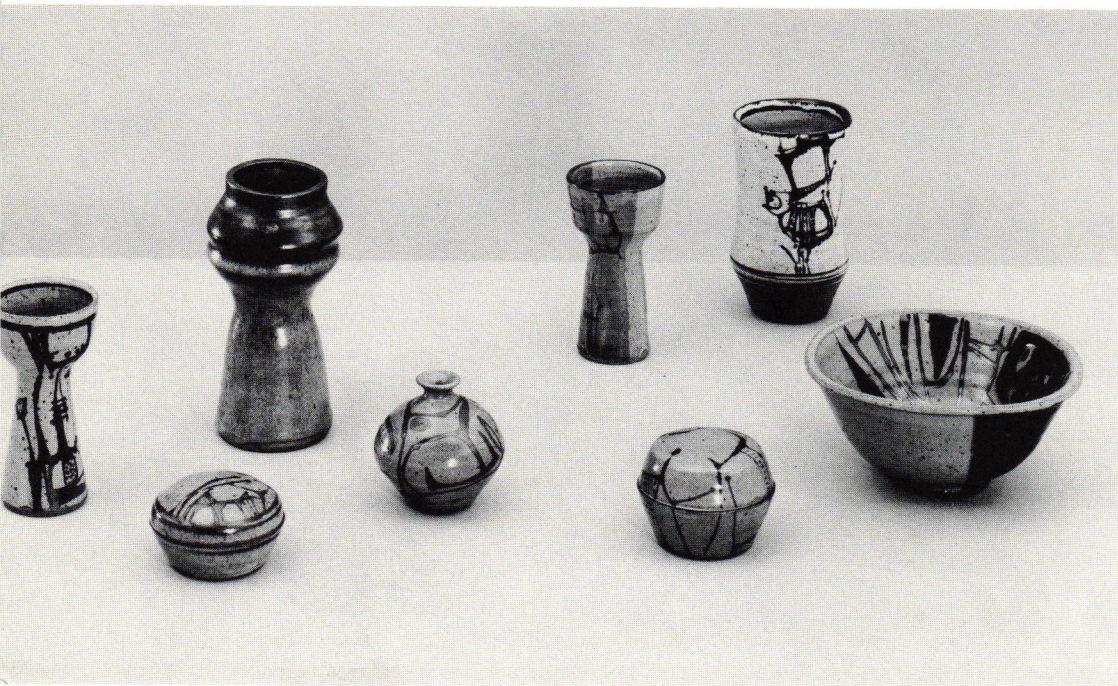






fig. 27

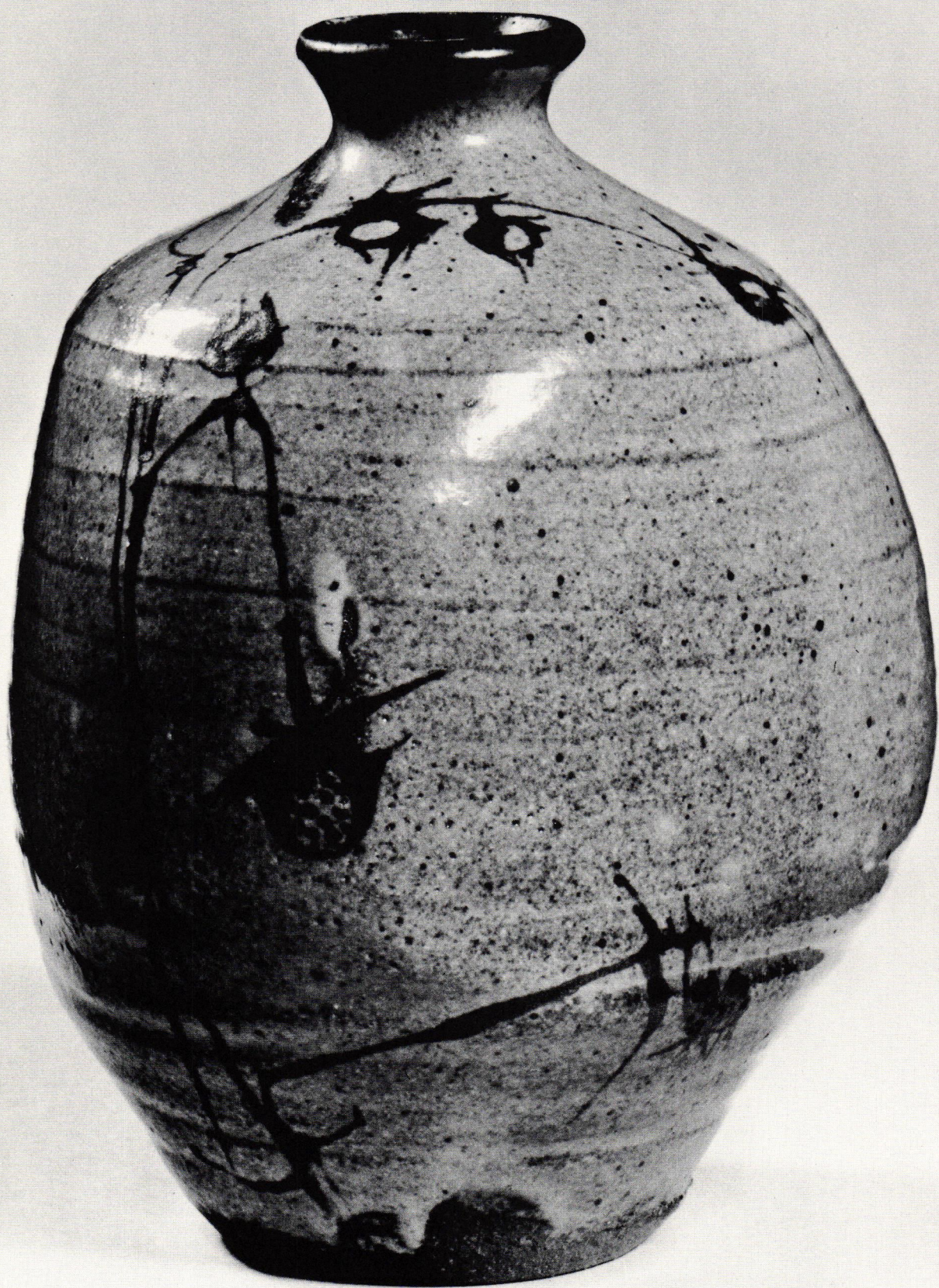
fig. 27 Dipped to varying depth in Albany slip, these plates were swiped with a kitchen whisk, then dipped in dry matt glaze.

fig. 28 After throwing, this vase was deformed while still on the wheel to produce a series of intersecting planes into which the pattern weaves. Instead of on a flat surface, the decoration was hung on a corner of the pot, reaching around, leading the eye of the viewer to the interplay of curves and planes in the pot form.

With a sense of great sorrow and immeasurable loss we announce the death of Alix MacKenzie on January 25, 1962. She is survived by her husband Warren, and two small daughters, Shawn and Tamsyn.

Warren and Alix MacKenzie met when they were students at the School of the Art Institute of Chicago; they married, moved to St. Paul in 1949, and taught pottery at the St. Paul Gallery and School of Art. In 1950 they went to England to work as apprentices in the studio of Bernard Leach. They returned to Minnesota in 1952, bought a farm near Stillwater, and built a studio and kiln where Warren, a professor at the University of Minnesota, continues to work.

Walker Art Center has set aside a portion of its acquisition fund for the "Alix MacKenzie Memorial Fund for Contemporary Crafts." Friends wishing to contribute to this fund may do so; it will be used to purchase contemporary crafts for the permanent collection of Walker Art Center.





MENDOTA SCULPTURE FOUNDRY by Huldah Curl

The Mendota Sculpture Foundry went into operation a couple of years ago and has already cast well over three hundred works. To my knowledge it is the only commercial foundry outside New York devoted exclusively to fine arts casting. The presence of the Foundry has already caused a small renaissance in cast sculpture in the Twin Cities area: artists who for years had not prepared sculpture for casting, or who never had, have been keeping the Foundry operating at full tilt. National attention has been drawn to the Foundry, and the owners have received letters from many sculptors who greet the establishment of this sculpture foundry in the Upper Midwest with unqualified enthusiasm.

The Foundry is housed in the bottom of a barn on ten acres of rolling farm land in the Minnesota River valley, about five miles from downtown St. Paul and about fifteen from downtown Minneapolis. It is owned and run by two artists: Richard Randell, a sculptor and instructor in sculpture at the University of Minnesota, and George Wright, a painter and studio assistant to sculptor John Rood. They have two assistants, both students at the University.

The design of the entire Foundry and much of the equipment has been Randell's and Wright's. Although they have received some financial assistance, the Foundry has been literally built by them. Often rather than purchasing commercial equipment, Randell and Wright have preferred to design and construct their own. As an example, the blower for their bronze melting furnace is made of a series of second-hand vacuum cleaner motors and achieves a quicker, hotter temperature than any commercial blower that they were able to find on the market.

The major part of the casting done at the Foundry has been in lost wax, from either wax or plaster originals, using piece mold or gelatine mold methods. This process is described in the photographs. Lost wax casting has been known since prehistoric times and until the last decade or so was the only method for reproducing a sculpture in metal. During recent years other methods have been devised: using chemically bound sand rather than investment plaster for the molds; using flammable originals such as styrofoam rather than wax; and using centrifugal or vacuum methods rather than pouring the bronze. The Mendota Sculpture Foundry has done considerable experimental work using flammable originals. By the simple invention of treating styrofoam as if it were wax, investing it directly and casting it by what might be called a lost-styrofoam process, the Foundry has cast works which were turned down as impossible by foundries in Paris and Milan.

The largest single job the Foundry has done was the casting of a decorative sculpture, approximately fifty feet wide and averaging four feet high, for a wall in a restaurant at the new Minneapolis-St. Paul International Airport. Only a sketch was supplied by the architects. The sculpture was sand-cast in 180 separate pieces, then welded together. This one project has opened up new possibilities for architects. They are now able to have cast and fabricated from their own designs work which requires more supervision and aesthetic judgment than ornamental iron and sheet metal fabricators are able to provide.



fig. 1



fig. 2



fig. 3

In November of last year, Walker Art Center held an exhibition of work cast at the Foundry with an accompanying photographic story of casting processes. Response to the exhibition was enthusiastic. The show is now circulating to museums, art departments, and art schools about the country, and a second version of the exhibition is being prepared to be sent overseas by the United States Information Agency. A color film taken at the Foundry has been made by Allen Downs and soon will be ready for distribution.

The problem of getting work cast is one which has always dogged American sculptors. For many the only solution has been to take up residence in France or Italy while work was being cast by foundries there. Although some American universities and art schools have casting facilities, these facilities are limited, and their use is restricted to teachers and students connected with the institution. There are commercial foundries on the East Coast, but the artist who does not live there is burdened with almost prohibitive shipping costs. And since fine arts casting is usually a side line with these foundries, there can be delays of as much as six months in getting work cast, and the work often receives far from close aesthetic attention. There is no question that the recent upsurge in welded sculpture has been in part an expedient solution to the problem of creating permanent sculpture.

Lost wax casting is the oldest known technique for reproducing sculpture in bronze. The principle is simple: if the original sculpture is in plaster or clay, a mold is made from it and used to cast a copy in wax. The wax copy is then encased in a second mold, melted out, and replaced by molten bronze.

The original sculpture is coated with oil, and the plaster mold is made in pieces, sufficient in number to accommodate extensions and undercuts in the original (fig. 1). When reassembled, the piece mold — an exact negative of the original sculpture — is held together by a plaster “mother mold” (fig. 2).

The interior of the piece mold is first brushed with melted wax to insure faithful reproduction of the most minute details (fig. 3), then filled completely with wax. When the wax cools and hardens, the mold is removed, leaving a positive wax reproduction of the original (fig. 4). To this copy, wax vents and sprues are attached which, when the wax is later melted, will leave passages through which molten bronze is poured (fig. 5). Several passages are required so that all cavities in the mold will fill completely.

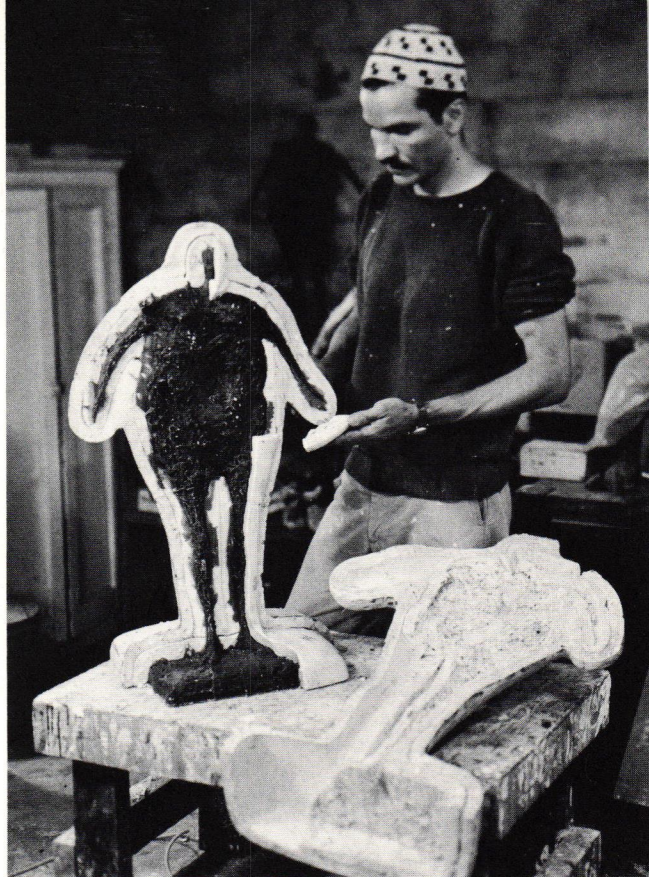


fig. 4



fig. 5



fig. 6

Quite aside from the overwhelming financial and practical difficulties in getting work cast, the lack of collaboration between artists and casters has stultified experimentation and has made it impossible for sculptors to really learn the process. Randell and Wright hope to establish a training-school workshop, the Mendota Sculpture Center, for the advanced study of casting. Here sculptors will be able to learn the craft by casting their own work under expert supervision. At the end of the three to six month training period, depending on individual background and experience, the sculptor would be equipped to return to his community with the knowledge of methods for establishing and operating a casting studio of his own where he and other sculptors could work. Having developed the concept of casting as an extension of the creative act rather than as a merely reproductive procedure shrouded in practically medieval guild secrecy, the sculptor will have complete control of his creative work restored to him.

Simultaneously with the program of instruction, a program of research in new casting techniques would be carried out. The recent decades have seen an astounding elaboration of metallurgical techniques; the entire concept of metal casting is undergoing rapid change, and sculptors must adapt their methods and thinking if they are to keep the craft vital and alive. The casting of difficult modern alloys, the use of flammable originals, and the use of the recently developed chemically bound sand



fig. 7

The wax sculpture is coated with investment material, a mixture of plaster and sand (fig. 6). It is then centered in a wire shell which has been similarly prepared, and the shell is filled to the top with investment material (fig. 7).

This investment mold is placed for 48 hours in the burn-out furnace, heated to 1000°F. to melt out the wax and harden and dry the mold (fig. 8). When removed from the furnace, the mold — now empty — is lowered into a pit where its sides are rammed with dirt to counteract the weight of the molten bronze when it is poured (fig. 9).



fig. 8

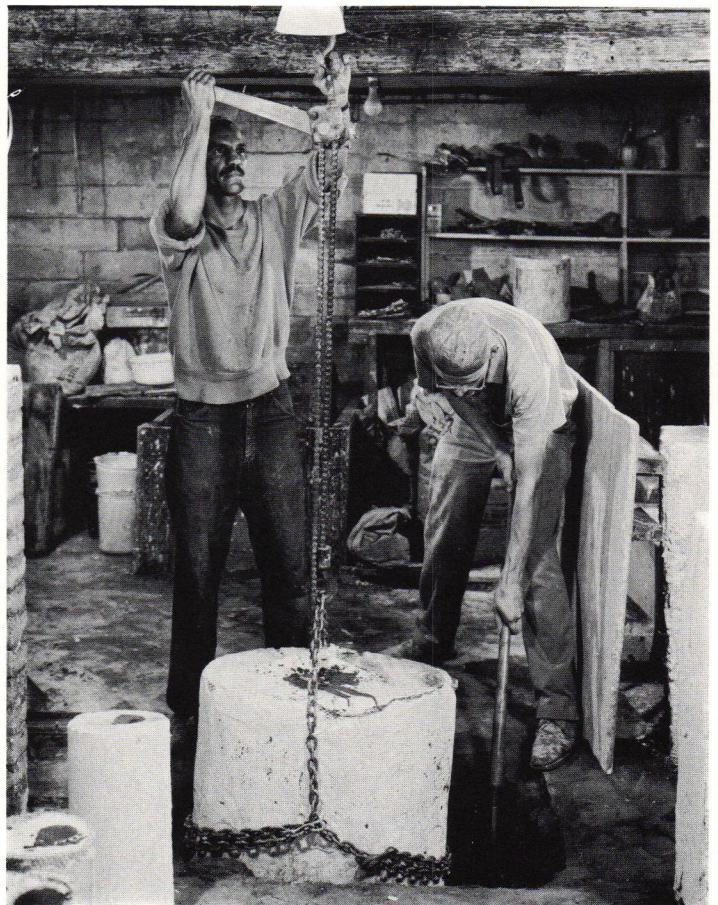


fig. 9

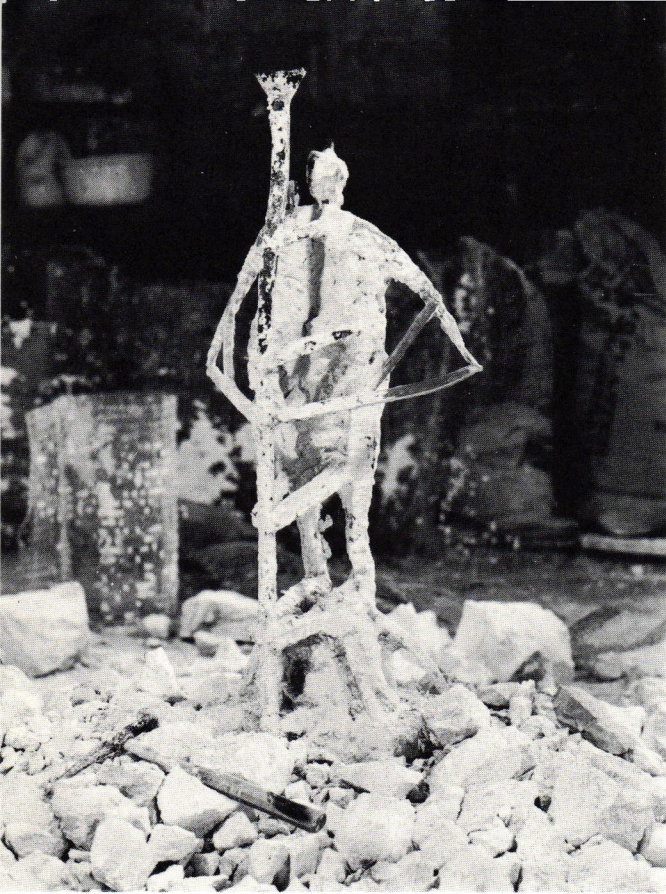


fig. 10



fig. 11



fig. 12

mold mixtures all present both opportunities and problems which, when solved, will permit the casting of any type of sculpture with few, if any, technological impediments.

The eventual goal of the Mendota Sculpture Center would be to build up a corps of highly trained sculptor-casters who would work in and serve their own communities. The establishment by these sculptors of a dozen or more foundries scattered throughout the country and their training in contemporary as well as traditional casting methods should contribute to increasing the expressive range of the medium and to the development of many diverse styles. The Mendota Sculpture Center is a long way from realization but, on the basis of the energy and imagination that have gone into establishing the Foundry, I have no doubt that it will come to pass. There is no question as to the need for it.

The present Foundry is ideally located: the Twin Cities are about halfway between Boston and Seattle. The establishment of the Foundry here is one indication of decentralization in American art that is long overdue. It is ironic that not more than eight or ten years ago "provincial" museums were gratefully announcing the demise of regionalism in art and demonstrating it through the international styles dominating their regional exhibitions. It is now apparent that the universal acceptance of an international style has produced a new set of drawbacks and limitations, and the establishment of an autonomous sculpture center 1200 miles from New York is one of many indications pointing the way towards diversification in American art.

The investment mold is now ready for the pouring of the bronze which has been heated in a melting furnace to 2300°F. It is poured at a temperature of 2100°F.

The bronze-filled mold is removed from the pit and allowed to cool until it can be handled. The investment material is knocked off, the bronze cast is washed, the vents and sprues are nipped and sawed off, and any remaining imperfections are chiseled and ground down (figs. 10, 11, 12).



fig. 13

fig.



fig. 14



fig. 16

The bronze is reheated slightly and coated with a patina of various metallic salts and acids (fig. 13). Some patinas are not merely coatings but become chemically fused with the bronze.

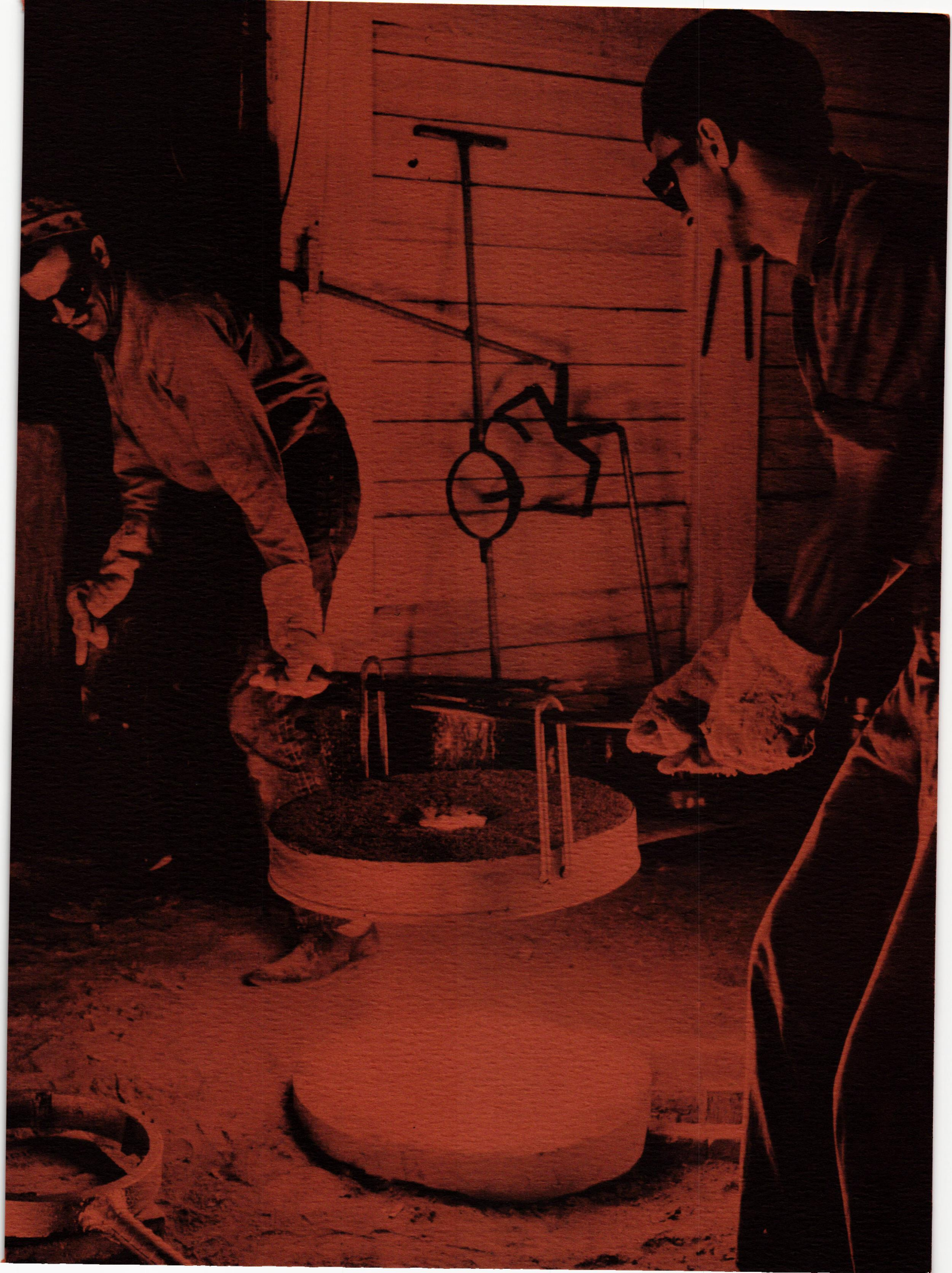
The preceding photographs show the basic procedure in any casting process. There are many variations. The gelatine mold method adds a step to the early procedure in that the mold itself is cast from the original sculpture, and then used to make a wax copy (figs. 14, 15, 16, 17). In sand casting, chemically bound sand is used as the mold rather than plaster or gelatine. Some sculptors work directly in wax or in flammable materials like styrofoam which can be invested without any intermediate steps and burned out in the burn-out furnace.

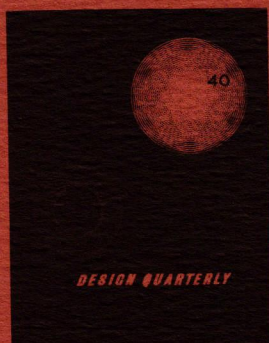
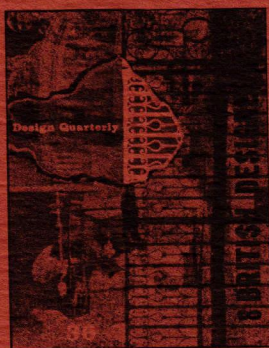
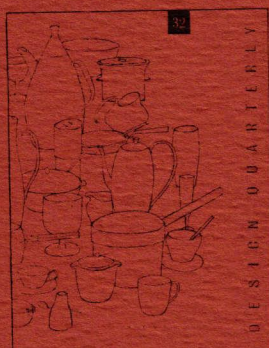
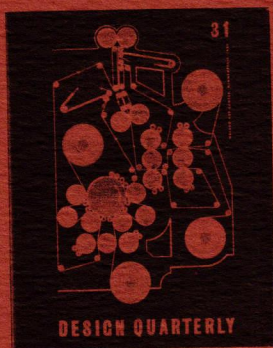


fig. 17

fig. 1

fig. 17 Plaster original with gelatin mold. fig. 18 and cover photo, casting the molten metal.





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