

AN INVESTIGATION OF LOWFIRE GLAZES AND MODIFIED PRIMITIVE  
FIRING TECHNIQUES AND THEIR APPLICATION AS THEY  
PERTAIN TO MY WORK,

by

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A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

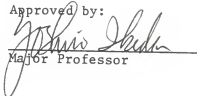
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## LOW FIRE GLAZES AND MODIFIED PRIMITIVE FIRING TECHNIQUES

### INTRODUCTION

As an introduction to my Master of Fine Arts thesis I would first like to comment about my early influences and work. Some of the same elements and influences that apply to my earlier work are applicable to my Master of Fine Arts studies.

Obtaining a college degree had been a dream of mine since I graduated from high school, but marriage and family prevented my doing so. In 1977 I began to fulfill this dream by enrolling in college. This was also the beginning of my art work.

One of my first classes, Design I, taught by Professor Gerald W. Deibler, (Fig. 1) a minimalist painter, stressed attention to detail and encouraged his students to read and find out what was going on in the art world. Though I knew Professor Deibler only a few months before he died, he made a great impact on my life and my art. I try to keep his concepts in mind with each piece I execute.

By 1978 many people began to influence my life, teaching me to deal with change and to be flexible, while maintaining some control over my existence; the very things a ceramic artist tries to accomplish in the studio.

In the fall of 1978, another very important person entered my life, Professor Yoshiro Ikeda. He came to Kansas State University to teach ceramics and I just happened to take his class. As he began to

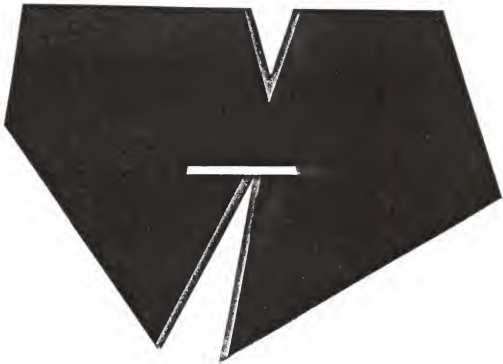


FIGURE 1: GERALD WILLIAM DEIBLER (1927-1977), "DUO," 1976, acrylic on shaped vinyl support, 45" x 64"

lecture, I began to wonder, "what have I gotten myself into?" But as I sat there and listened to Professor Ikeda's lecture something "clicked" and I knew that this experience would become very fulfilling. I learned under his teaching various methods of handbuilding such as pinch, (Fig. 2) coil, (Fig. 3) and slab (Fig. 4) methods. The following summer semester I continued under his instruction learning to throw on the wheel. (Fig. 5) With this immersion, I decided that my area of concentration in art would be ceramics.

The summer of 1979 also introduced me to "Raku" a low temperature glaze firing technique. [1] Raku excited me because of its immediacy and potential for controlling the media.

## Steps in the Process of Pinching a Pot

- A Make a depression with the thumbs in the ball of clay.
- B Gradually thin the walls with gentle pressure between thumb and fingers.
- C Smooth with thumb to eliminate small cracks.
- D A coil may be added and joined to form a foot.

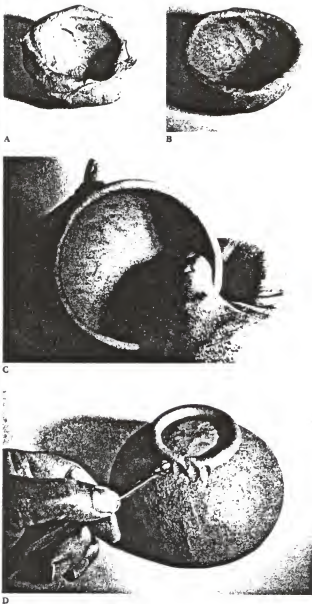


FIGURE 2: PINCH METHOD OF FORMING CLAY.

## Steps in Coiling a Pot

A A flat slab of clay serves as a base for the coiled pot. Coils must be uniform and joined every three coils.

B The inside should be finished completely as the form rises. The exterior needs only a rough scraping.

C Large pots need a slight drying at the halfway point or the soft clay at the base will become deformed.

D Irregularities may be leveled out by patting with a block of wood.

E Coils may be smaller as one approaches the neck and flaring rim. When leather-hard, the surface may be finally scraped and slip or other decoration applied: height 24" (60 cm).



FIGURE 3: COIL METHOD OF FORMING CLAY.

Square slab box with beveled edges scored and slipped. Seams are reinforced where possible.

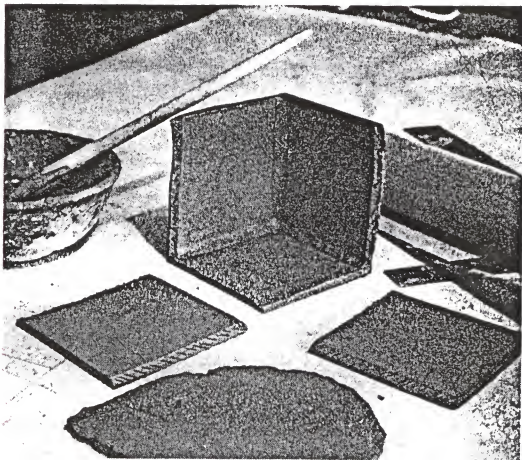


FIGURE 4: SLAB METHOD OF FORMING CLAY.





## Throwing a Cylinder

**A** A small cup form can be opened up entirely with the thumb and fingers; a large form needs the pressure of the entire hand.

**B** The hands are now reversed, the inside fingers held steady, and the clay is pulled up with the knuckle of the right hand.

**C** A cut-away section shows the action of the clay as it is pulled upward.

**D** Another cut-away section shows the increasing height of the form.

**E** The form continues to grow as it is pulled upward.

**F** The form is finally refined.

**G** The throwing usually results in a slightly uneven top, which is cut off with a needle set in a dowel.

**H** The rim is then moistened and smoothed with a soft leather.



F



G



H

FIGURE 5: WHEEL METHOD OF FORMING CLAY.

## ALTERED WHEEL THROWN SERIES

Clay is a very seductive media. At this time my forms were sculptural, formed from cylinders thrown on the wheel and then altered with a kidney-shaped tool. (Fig. 6) These forms resembled tear drops or gourds. This technique of forming clay was a direct influence from Professor Ikeda [2] (Fig. 7) but the meaning of the forms was a response to the death of my father, the feeling of "loss of identity," and from what I felt was a severed relationship with my Cherokee heritage.

These forms were glazed and fired with a variety of methods. On an early piece, titled "Tears Along The Trail," (Fig. 8) I used a burnishing technique (Fig. 9) and smoked the work in a pit kiln. (Fig. 10) These techniques were used by the potters of San Ildefonso for their black polished wares. [3] (Fig. 11)

Another work titled "Cherokee Sunset" (Fig. 12) was glazed with stains and metal oxides and then saggars fired. (Fig. 13) Saggars are clay or metal containers used to protect the clay form when firing it in a kiln. [4] Many cultures use saggars to fire clay. For example, Japanese potters used saggars with their sixteenth century Raku ware. [5] (Fig. 14) The ancient Anasazi Indians of the southwest United States also used the saggars technique for firing. [6] (Fig. 15)



### **FINISHING RUBBER**

Kidney shaped of soft, durable rubber.



### **SMALL HARD FINISH RUBBER**

3 $\frac{1}{8}$ " long

FIGURE 6: KIDNEY SHAPED FORMING TOOL.

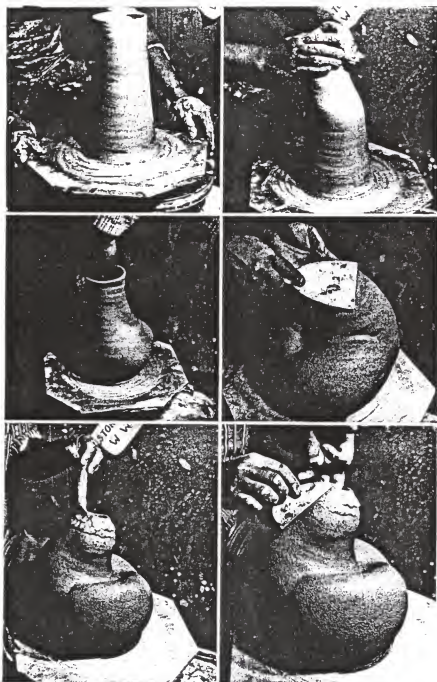


FIGURE 7: PROFESSOR YOSHIRO IKEDA MAKING AN ASYMMETRICAL THROWN FORM.



FIGURE 8: "TEARS ALONG THE TRAIL," 1981, BURNISHED STONWARE, PIT  
FIRED, 9" x 6½' dia.

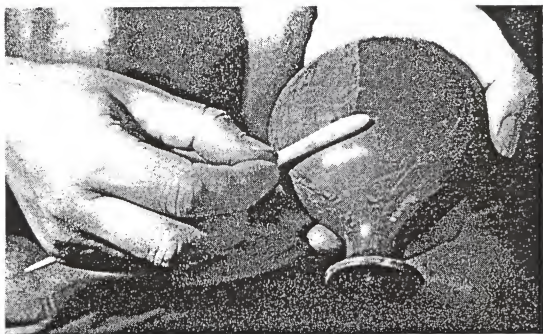


FIGURE 9: BURNISHING OR POLISHING TECHNIQUE USED ON THE SURFACE OF THE CLAY FORM.

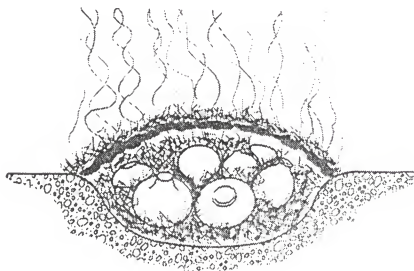


FIGURE 10: PIT KILN METHOD OF FIRING CERAMIC FORMS.



FIGURE 11: BLACK BURNISHED/POLISHED WARE BY MARIA MARTINEZ, PUEBLO POTTER FROM SAN ILDEFANSO, NEW MEXICO, c. 1925-1950.

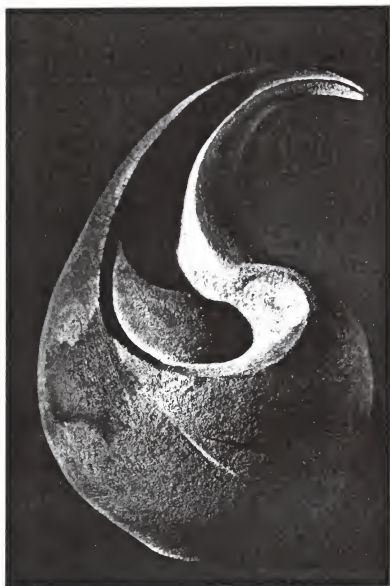


FIGURE 12: "CHEROKEE SUNSET," 1981, STONWARE, SAGGAR FIRED,  
14" x 9" dia.



Raku saggars, lid, and plug. Note grooves for soft iron wire reinforcing.



FIGURE 13: EXAMPLES OF SAGGARS USED BY JAPANESE POTTERS FOR THEIR RAKU WARE.



FIGURE 14: SIXTEENTH CENTURY RAKU TEA BOWL, BY RAKU CHOJIRO.



FIGURE 15: EXAMPLE OF SAGGAR FIRING USED BY THE DESCENDANTS OF THE ANCIENT ANASAZI INDIANS OF THE SOUTHWEST UNITED STATES.

## "GARBAGE" FIRED SERIES

As I gained more confidence in my ability to manipulate the clay, I began to use the coil method of handbuilding combined with the altered wheel thrown forms. A 1982 work titled "Kissing Newts and Nematodes" (Fig. 16) was made of highfire cone 10 (2381<sup>o</sup> F) stoneware clay and bisque fired at cone 06 (1845<sup>o</sup> F). I used metal oxides and lowfire glazes on this piece and it was glaze fired. The process used for this glaze fire was "garbage" firing. [7] In this primitive firing technique a trash can was used for a saggar. The trash can or saggar was filled with wood, straw (soaked for several days in a brine-salt solution), garbage (produce trimmings from a local grocery store soaked in the same brine solution as the straw), and copper wire mixed in the straw and garbage or wrapped around the form. The can or saggar, was then placed in a "Top Hat" Raku kiln [8] (Fig. 17) and fired to approximately cone 06. After most of the material (straw, wood, garbage, etc.) had turned to carbon the kiln was turned off, the lid raised, and more garbage and straw put in the saggar. The kiln was closed and sealed to create a reducing atmosphere, where the oxygen in the kiln was depleted by the burning garbage. [9]

A series of pieces resulted from my study of saggar fired ware. This work dealt with the landscape of my native Oklahoma, its adopted people the Cherokee, and the Arbuckle Mountains in the south central

part of Oklahoma. Artists who also influenced these works were: Ruth Duckworth, (Fig. 18) whom I met at Kansas State University in the Spring of 1982, Paul Soldner the father of Raku in the United States, [10] (Fig. 19) and painter, Georgia O'Keeffe, who loved the desert landscape of New Mexico. [11] (Fig. 20)

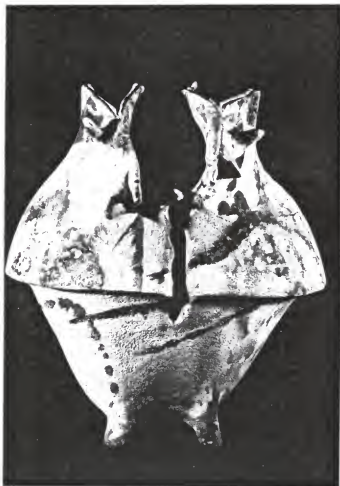


FIGURE 16: "KISSING NEWTS AND NEMOTODES," 1982, HIGHFIRE STONEWARE, "GARBAGE" FIRED, 14" x 12" x 8".



FIGURE 17: AN EXAMPLE OF A "TOP HAT" RAKU KILN.

*below:* Ruth Duckworth, U.S.A. *Clouds over Chicago*. Stoneware mural constructed of slabs each 24" (60 cm) and decorated with washes of iron, copper, nickel, and four glazes, 25' x 9'7" (7.2 x 3.2 m). Dresdner Bank, Board of Trade Building, Chicago.

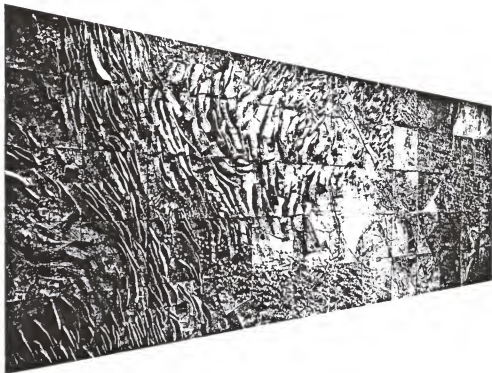


FIGURE 18: RUTH DUCKWORTH, "CLOUDS OVER CHICAGO, STONEWARE MURAL, 25' x 9'7".

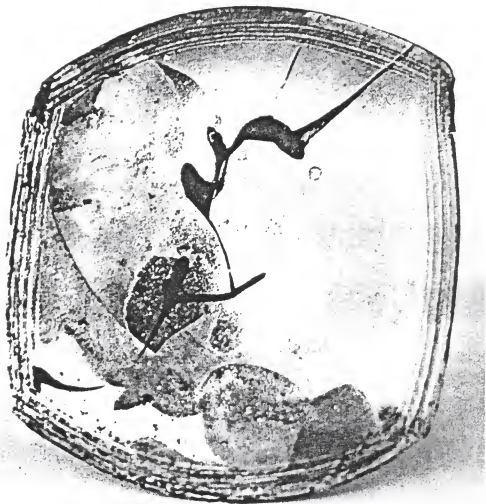


FIGURE 19: PAUL SOLDNER, RAKU FIRED SLAB PLATE, 10" x 11."



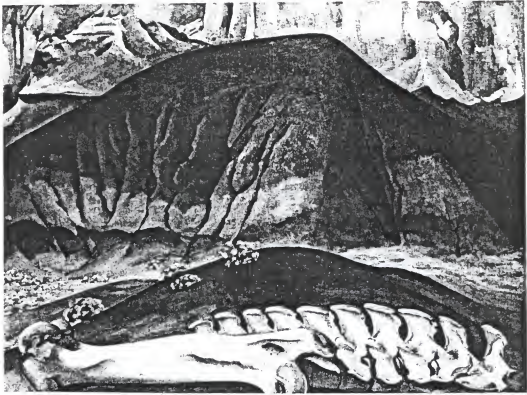


FIGURE 20: GEORGIA O'KEEFFE, "RED HILLS AND BONES," 1941.

## "FLINT HILLS" SERIES

As my work progressed and I tried new forms, firing, and glazing techniques, I turned to the local landscape; "The Flint Hills" of Kansas for inspiration. Large circular slabs of clay attached to a wheel thrown base became my canvas. (Fig. 21) My work became flatter. (Fig. 22) Fluted and draped folds of clay with rolled and pinched protrusions were added to the slab form. (Fig. 23) This series of approximately twenty works were fired in an electric kiln using many lowfire stains, glazes, oxides, and lusters. These were glaze fired between cone 018 (1328<sup>o</sup> F) and cone 06 (1845<sup>o</sup> F) and glaze fired more than one time in order to build up the color and texture.

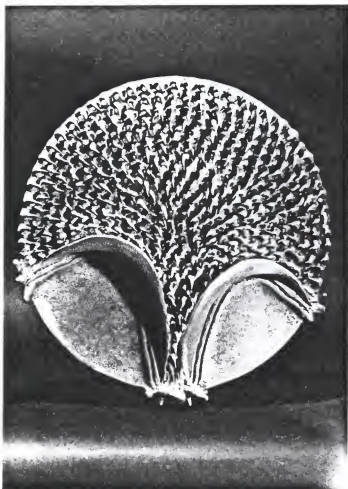


FIGURE 21: "FLINT HILL'S BOIS de' ARC II," 1984, HIGHFIRE STONE-  
WARE, MULTIPLE GLAZE FIRINGS, 18" dia.

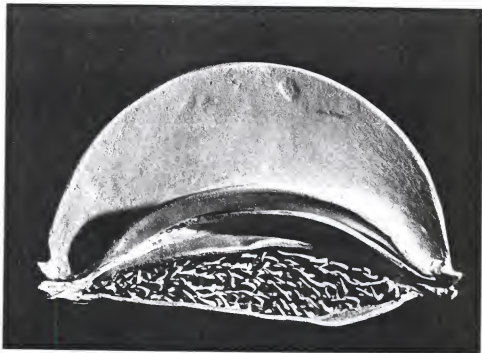


FIGURE 22: "WHITE FURY ON THE FLINT HILLS," 1984, HIGHFIRE STONE-WARE, 18" x 10" x 6".

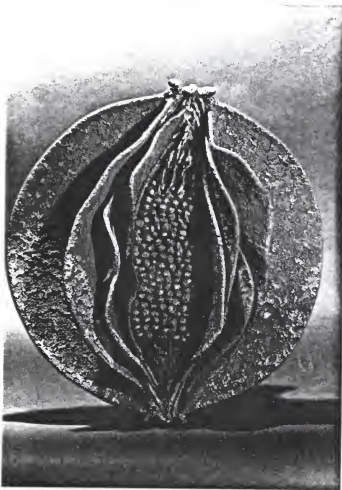


FIGURE 23: "BLACK MOON RISING OVER THE FLINT HILLS," 1985, HIGH-FIRE STONEWARE, MULTIPLE GLAZE FIRINGS, GOLD LUSTER, 16" dia.

## "CRUCIBLE" SERIES

These flat wall pieces or platter forms presented me with a problem. They were difficult to ship to exhibitions without the small pointed projections breaking off. To solve this problem; the platter format was cut in half, and shaped into a cone by the coil method. The cone forms were eighteen inches tall and made of stoneware or porcelain clay. The cavity of the cone contained the small pointed projections of the wall pieces and they were protected by the outer surface of the cone. (Fig. 24) But the cone form presented another problem. The cone was not a stable form and in order to display it I used an old burner stand from the Chemistry Department. (Fig. 24)

The patina on the burner stands complimented the surface treatment of the cones which featured rough textured glazes with rich, subtle earth tones. (Fig. 24) This surface was achieved by using variations of Raku, "garbage," and primitive or saggar firing methods.

These experimentations with forming, glazing, and firing would become endless lessons to be explored, recalled, and reflected upon during my Master of Fine Arts graduate studies. Along with technical aspects of clay, I would continue to draw upon the human resources that were important to me during this time.



FIGURE 24: "SUNSET ON THE FLINT HILLS CRUCIBLE," 1986, HIGHFIRE STONEWARE, MULTIPLE SAGGAR GLAZE FIRINGS, 18" X 7" dia.

## LOWFIRE GLAZES AND MODIFIED RAKU FIRING TECHNIQUES

### TEST TILES

During the first year, 1986, of my Master of Fine Arts program, I experimented, trying to find solutions to the technical problems of the wall pieces. A series of experiments was begun using copper embedded in various stoneware and porcelain test tiles. Copper wire and tubing of various gauges was used. They were fired to cone 012 (1607° F), cone 09 (1706° F), (Fig. 25) cone 06 (1845° F), (Fig. 26 and 27) and cone 04 (1940° F). (Fig. 28) I observed each test tile to find out which clay body fired most successfully. The results were best fired at cone 09 and 06.



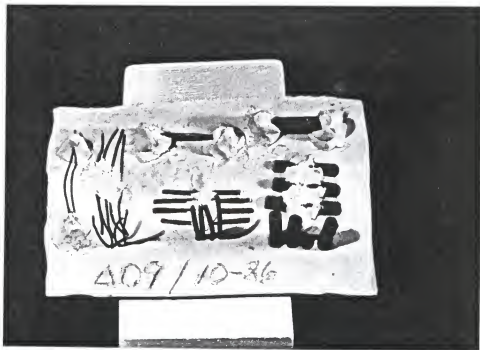


FIGURE 25: TEST TILE WITH COPPER, 1986, STONEWARE, FIRED TO CONE 09 (1706° F).

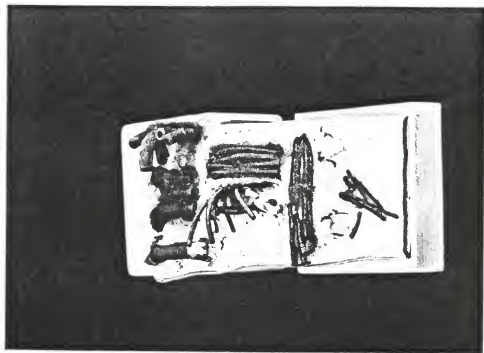


FIGURE 26: TEST TILE WITH COPPER, 1986, STONEWARE, FIRED TO CONE 06 (1845° F).



FIGURE 27: TEST TILE WITH COPPER, 1986, PORCELAIN, FIRED TO CONE 06 (1845° F).



FIGURE 28: TEST TILE WITH COPPER, 1986, PORCELAIN, FIRED TO CONE 04 (1940° F).

### EXPERIMENTAL SPHERE FORMS

After these experiments, a series of twenty small porcelain wheel thrown sphere shapes were created to test the results. Each sphere was treated differently, Copper wire was embedded in some of the porcelain pieces, wrapping the wire around the form as if it were a ball of yarn. (Fig. 29) A small length of copper tubing was added as a spout or neck, off center or asymmetrical. (Fig. 30) On others, thick slip was added to the body of the form covering part of the embedded copper. To some cotton ladden with porcelain slip, wire was added. (Fig. 31) Some spheres were incised while others were not. All had several things in common. They were porcelain spheres with copper embedded on the surface in some manner or they had copper tubing added as a spout, neck or vent hole. These forms were bisque fired to cone 09 (1706° F), then glaze fired using an array of lowfire glazes. Many were glaze fired more than once, using a variety of temperatures from cone 014 (1526° F) to cone 09.



FIGURE 29: EXPERIMENTAL PORCELAIN SPHERE, 1987, MULTIPLE GLAZE  
FIRED,  $4\frac{1}{2}$ " x 4" x  $2\frac{1}{2}$ "



FIGURE 30: EXPERIMENTAL PORCELAIN SPHERE, 1987, MULTIPLE GLAZE  
FIRED WITH COPPER SPOUTS AND COPPER WIRE,  $4\frac{1}{2}$ " x 4" dia.



FIGURE 31: EXPERIMENTAL PORCELAIN SPHERE, 1987, MULTIPLE GLAZE  
FIRED WITH COPPER EMBEDDED IN THE SURFACE,  $4\frac{1}{2}$ " dia.



### SPHERE AND ORB SERIES

After finishing this series of experimentations, the results were evaluated and work was started on a series of eighty spheres or orb forms. First the copper wire of the earlier forms was eliminated from all except a few pieces. Most of these new forms had copper tubing and/or copper rivets embedded in the porcelain clay at its plastic state. Firing was a modified Raku process. (Fig. 32 and 33)

Each piece was bisque fired to cone 06 (1845° F) in an electric kiln before being glaze fired in the Raku kiln. Pieces were glazed with a variety of lowfire glazes, stains, oxides, and terra sigillatas. All glaze materials were applied to the ware using an air brush, layering them, varying, and testing. As the work progressed records and drawings of each piece were kept. Results included how each piece was bisque fired and to what cone, glazing, and the results of glaze firing. These recordings serve as an indicator for duplicating of results when necessary.

A Raku kiln can be top, front, or "Top Hat" loaded. (Fig. 17) It can be fueled by wood, coal, waste oil, propane, or gas. [12] The modified Raku firing process used to fire these forms was a "Top Hat" (the kiln top is raised by a counter weight for pieces of work to be put in or taken from the kiln) gas kiln.

The work is placed in a cold kiln on soft bricks located on top of a kiln shelf. The soft bricks were used to help guard against

thermal shock (breakage due to extreme changes of temperature during the firing process). [13] The kiln was preheated for thirty to forty-five minutes. The temperature is increased every twenty to thirty minutes until the kiln reaches cone 012 (1607° F), considered a low Raku temperature. [14]

Pyrometric cone 012 was used in the kiln to measure temperature. Overfiring results will cause the matte glaze to bubble up. Most American and Japanese ceramic artists use thick shiny glazes which bubble up and then slate down when the glaze matures. This can be seen with the eye, so the artist knows when the ware is ready to be removed from the kiln. [15] When the temperature is reached the gas is shut off, the kiln lid is raised, and the ware is removed.

Thermal lined gloves are used to remove the ware from the kiln instead of tongs. Tongs can break a fragile piece of work and they can leave marks in the glaze. [16] The ware was then quickly placed in a can that had been lined with newspaper torn and shredded. After the ware is placed in the can more shredded newspaper was added to the container. This was allowed to burn for a few seconds and then the lid was placed on the can causing a reducing atmosphere and so the carbon is embedded in the clay body and it turns the clay body from white to gradations of gray to black. Newspapers were preferred for this process because wood, coal, leaves, pine needles, and sawdust, the most common materials used of the American Raku method, give too much reduction which resulted in an unsatisfactory color.

[17] The process of reducing the ware in the can takes fifteen to twenty minutes. While the ware was reducing, the kiln was reloaded and the process repeated. After the ware had been reduced, the lid of the can was removed to let the unburned paper flare back up to re-oxidize the ware. This was done so the flashings could be seen from the fire on both the glaze and on the copper tubing and rivets. When flashings were observed on the glaze and the surface on the copper, the ware was cooled by throwing water on the work. This sets the flashings so they will not change.

This process differs from other Raku processes which employ the ware to be cooled with water as soon as it was removed from the kiln or for the ware to be left and reduced in the container without being cooled. [18] Both of these processes do not allow for the piece to be re-oxidized.

After the work was sufficiently cooled, steel wool with soap, and water were used to clean the surface of any residue from the firing. When the work was thoroughly dry, several decisions are made regarding the work's success or to reglaze and refire. A waterproof protector was sprayed on as a final step to protect the porous nature of lowfire glaze and firing process.

This process was continued on the next series of fifty spheres. (Fig. 34 and 35) Changes continued to be made in the size and shape. Some were short and long while others were tall and thin with variations in the copper tubing and rivets.

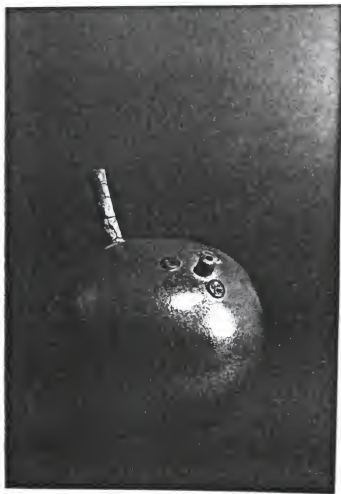


FIGURE 32: EXAMPLE #1, SPHERE AND ORB SERIES, 1987, PORCELAIN, RAKU FIRED, COPPER TUBING AND RIVETS,  $4\frac{1}{2}$ " x  $3\frac{1}{2}$ " dia.

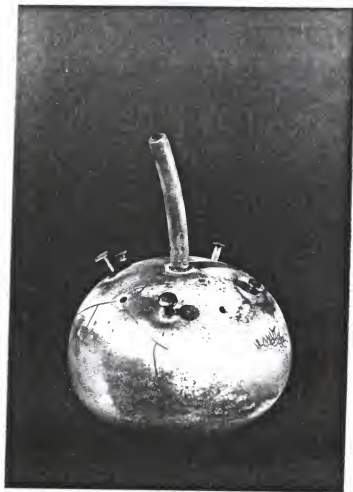


FIGURE 33: EXAMPLE #2, SPHERE AND ORB SERIES, 1987, PORCELAIN, RAKU FIRED, COPPER TUBING AND RIVETS, 6½" x 4½" dia.

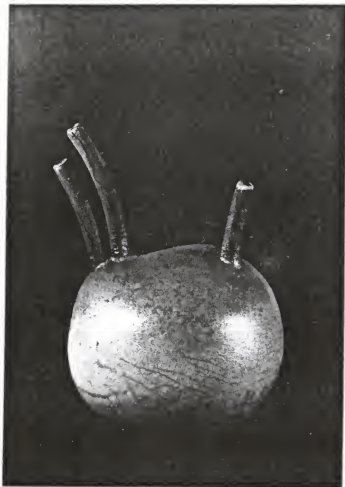


FIGURE 34: EXAMPLE #3, SPHERE AND ORB SERIES, 1987, PORCELAIN,  
RAKU FIRED, COPPER TUBING, 6" x 5" dia.



FIGURE 35: EXAMPLE #4, SPHERE AND ORB SERIES, 1987, PORCELAIN, RAKU FIRED, COPPER TUBING AND RIVETS, 6" x 4" dia.

## CONE SERIES

Tiring of the wheel thrown forms with alterations, I searched for a new form and a new technique that would continue to carry the information of this recently acquired knowledge. I returned once again to the cone form. Instead of using the coil method of the larger cones, the smaller work of this series was made in porcelain, with the slab technique.

Work was begun on a series of eighty cones ranging in height from three inches to nine inches and from two and a half inches to eight inches in diameter. (Fig. 36) The vessel form represented utilitarian or ritual ware of an imagined civilization. They also represented an interest in the Indians of the Southwest and their ancestors, the Hopi and the Puebloan Indians of Arizona and New Mexico.

Storage jars, (Fig. 37) water baskets, (Fig. 38) and ritual vessels (Fig. 39) made up the bulk of this series. Each form used copper tubing, rivets or wire as handles or decorative counterpoints. They were bisque fired, glazed, and then Raku fired as the previous sphere series.

As the work on this new form began to progress it presented a new challenge unrelated to glazing and firing. The challenge was how to display the finished forms. After trying several methods of displaying the forms, a clear plexiglass tubing was ordered in a



variety of diameters from one and one half inches to four inches. The tubing was cut to a variety of lengths from one and one half inches to six inches. The cut edges were then polished with a buffing compound and finished with four hundred grit wet/dry sandpaper. This worked well but the contrast between the subtle surfaces of the forms and highly contemporary look of the plexiglass tubing was not entirely satisfactory. (Fig. 40)

Searching for a more satisfactory solution than plexiglass tubing, different sizes of cones were placed on top of another, to create a base. The connection between the cones was made at the apex. (Fig. 41) Feet were added to some of the cones. These were made from copper tubing and added to the cone just above its apex. The feet were located in a triangular format, equal distance from one another. This complimented the cone's form, as this arrangement evolved, handles, spouts, and lids were added. These forms began to resemble teapots. (Fig. 42)



FIGURE 36: CONE SERIES, 1987, PORCELAIN, COPPER TUBING, RAKU FIRED  
5½" x 4" dia.

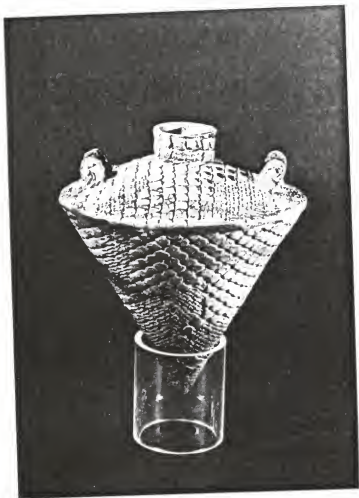


FIGURE 37: CONE SERIES, 1987, "STORAGE JAR," PORCELAIN, COPPER TUBING, RAKU FIRED, 6" x 4½" dia.



FIGURE 38: CONE SERIES, 1987, "WATER BASKET," PORCELAIN, COPPER TUBING, RAKU FIRED, 4" x 4" x 1½"



FIGURE 39: CONE SERIES, 1987, "RITUAL VESSEL," PORCELAIN, COPPER TUBING, RAKU FIRED, 3" x 3½" x 2"

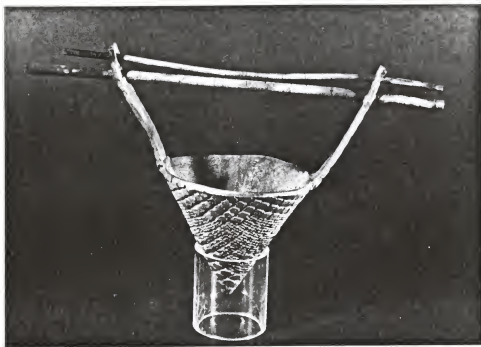


FIGURE 40: CONE SERIES, 1987, "BASKET," PORCELAIN, COPPER TUBING, RAKU FIRED, 6" x 9" x 3½", PLEXIGLASS TUBING.



FIGURE 41: CONE SERIES, 1987, "STORAGE JAR," PORCELAIN, COPPER TUBING, RAKU FIRED, 6½" x 4" dia., SHOWING CONNECTION MADE AT APEX OF CONES.



FIGURE 42: CONE SERIES, 1988, "TEAPOT," PORCELAIN, COPPER TUBING, RAKU FIRED, 7" x 4½" dia.



SPHERE VESSEL SERIES

In the next series of forms, I returned to the closed spheres of earlier work. This time an opening in the sphere was added while trimming the form. The incision of the trimming tool into the sphere at a forty-five degree angle and about one and one half inches from the center of the top of the rotating sphere forms a lid. This type of lid has a very good fit and the form still has the continuous lines of an uninterrupted surface. To the spheres, copper handles and spouts were added to form baskets, (Fig. 43) storage jars, teapots, (Fig. 44) and water vessels. (Fig. 45)

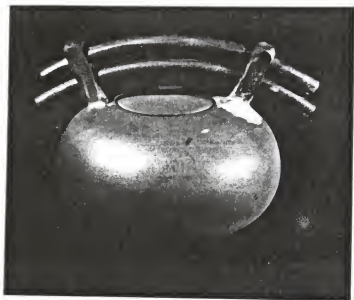


FIGURE 43: SPHERE VESSEL SERIES, 1988, "BASKET," PORCELAIN, COPPER TUBING, RAKU FIRED, 5½" x 6" dia.

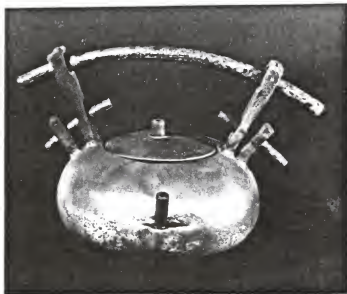


FIGURE 44: SPHERE VESSEL SERIES, 1988, "TEAPOT," PORCELAIN, COPPER TUBING, RAKU FIRED, 7" x 7" x 5"



FIGURE 45: SPHERE VESSEL SERIES, 1988, "WATER VESSEL," PORCELAIN, COPPER TUBING, RAKU FIRED, 8" x 6" dia.

## SAUCER SERIES

The next series of twenty-five forms were based on a saucer form. The saucer was made from two porcelain or stoneware slabs put together. (Fig. 46) The edges were sealed by putting the form on the wheel and using a chamois or sponge to seal the edges while the form slowly rotated. Other variations of this series involved adding a cone shape to the saucer form creating a base, a lid, or a neck. (Fig. 47) Copper tubing was added to form a base, neck, handle, or spout, (Fig. 48) These pieces were again bisque, glazed, and Raku fired with the variations of the previously mentioned techniques.



FIGURE 46: SAUCER SERIES, 1988, "STORAGE VESSEL," PORCELAIN, COPPER TUBING, RAKU FIRED, 4½" high x 6" dia.

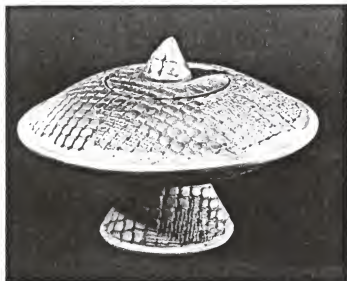


FIGURE 47: SAUCER SERIES, 1988, "STORAGE VESSEL," PORCELAIN, COPPER TUBING, RAKU FIRED, 5½" x 8" dia.



FIGURE 48: SAUCER SERIES, 1988, "STORAGE BASKET," STONEWARE, COPPER TUBING, RAKU FIRED, 12" x 18" x 14".

LARGE STONEWARE STORAGE VESSEL SERIES

The final series was a group of four large related storage vessels. These were twenty-four to thirty inches tall and fourteen to eighteen inches in diameter. They were made from stoneware clay using a variety of hand building techniques. The forms were bisque fired to cone 05 (1904° F) and glazed as the modified Raku firing or the earlier work. (Fig. 49, 50, and 51)



FIGURE 49: LARGE STONEWARE STORAGE VESSEL, 1989, COPPER TUBING, RAKU FIRED, 24" x 20" x 16".



FIGURE 50: LARGE STONEWARE STORAGE VESSEL, 1989, COPPER TUBING,  
RAKU FIRED, 30" x 18" x 16" .



FIGURE 51: LARGE STONEWARE STORAGE VESSEL, 1989, COPPER TUBING,  
RAKU FIRED, 28" x 18" x 16".

## CONCLUSION

My work has been involved with seeking, finding, questioning, answering, and problem solving. This search has led me to investigate and experiment with new forms, while working with glazes, and firing methods. The work has developed from the abstract form based on the landscape, to the vessel form and from a variety of glazing and firing techniques to the controlled application of glazes using modified Raku firing methods.

These complexities allow me to blend my knowledge of the ancient Anasazi Indians of the Southwest with that of their contemporary descendants, the Hopi and Puebloan Indians of Arizona and New Mexico. This blending of cultures and knowledge is carried throughout my work in an attempt to restate and recapture the impact they have had on me. My work relates the feeling of unearthed artifacts from some ancient or imagined civilization or the making of new artifacts.



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AN INVESTIGATION OF LOWFIRE GLAZES AND MODIFIED PRIMITIVE  
FIRING TECHNIQUES AND THEIR APPLICATION AS THEY  
PERTAIN TO MY WORK

by

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AN ABSTRACT OF A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

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## ABSTRACT

This research paper deals with an investigation of lowfire glazes and modified primitive firing techniques and their application to my work. Lowfire glazes were altered and revised as various handbuilding techniques were investigated.

The work evolved from abstractions based on the landscape, to the vessel form and from a variety of glazing and firing techniques to the controlled application of glazes using modified Raku firing methods. This evolution of the vessel form was paralleled by my use of copper tubing, rivets, and wire embedded in the clay as decorative counterpoints or appendages and by the use of matte glazes representing rich earthtones.

My forms became more utilitarian or ritualistic. They represented an interest in the ancient Anasazi Indians of the Southwest and their descendants, the Hopi and Puebloan Indians of Arizona and New Mexico.

Knowledge of these ancient Southwest Indians and their contemporary descendants allows the blending of cultures in my work as I attempt to restate and recapture their impact on me. Because of this, my work relates the feeling of unearthed artifacts from some ancient or imagined civilization or the creation of new artifacts.