San Fernando Valley State College

SCULPTURAL FORMS

EMPLOYING CLAY SLAB TECHNIQUES

An abstract submitted in partial satisfaction of the requirements for the degree of Master of Arts in Art

by

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ABSTRACT

SCULPTURAL FORMS
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by
Mary Sonoe Seko
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Chapter 1 Statement of Purpose

I chose to describe the construction of a series of sculptural forms which are my work in the master's program. In these pieces I used clay slabs with which I constructed three dimensional sculptures. These works represent a development in progression from simplified rigid forms with minimum surface decoration to more complex forms and surface treatment.

It was my intent to form large sculptural forms that try to retain some of the rough earthy quality natural to the clay. I hoped to accomplish this effect through the use of rough clay material and subtle glaze colors. I employed the technique of forming
with clay slabs in a simple and direct approach to emphasize the form without elaborate details. I added enrichments to the surface of some pieces, but merely as an enhancement to the form.

Chapter 2  CHARACTERISTICS OF THE CLAY BODY

One of my major concerns in this work was to obtain a rough porous quality, similar to that of earthenware, using high-fire clays. For that purpose I found that a mixture of different stoneware clay bodies worked well. To enrich the texture, I added to the clay varying amounts of coarse grog, from fifteen to twenty-five per cent. The greater the amount of grog the rougher the texture of the clay. I found that the addition of the grog solved many of the problems that result from the use of clay. The grog opened up the clay structure to make it more porous, reduced shrinkage and added more strength to the clay. The strength gained allowed the use of larger slabs.

Chapter 3  PROBLEMS IN CONSTRUCTING FORMS

My first problem was to solve a way to construct large forms that would be light in weight. Moving and lifting heavy forms was a major physical problem and I decided the greater part of this problem could be solved by developing a way to form thin slabs. This would help in reducing the weight of a piece. I developed a
way to form very thin slabs by throwing the clay in a sweeping motion, horizontally on the floor; then repeatedly lifting and throwing it down. This process caused the clay to stretch itself. With this method I could produce 1/4 to 1/8 inch thin, even, circular clay slabs. These round forms measured up to three feet in diameter. I found making these thin sheets of clay was easy and enabled me to construct large forms that were reasonably light in weight.

The second problem I encountered during the constructing of the form involved severe cracking and separating at some of the critical seams. These separations appeared during the drying and firing processes. I observed the cause of the cracking in the drying stage was the uneven rate of shrinkage in the areas that were joined with clay slip and I realized if the water content in the clay slip could be reduced it would result in slower shrinkage and less cracking. While attending a ceramic workshop led by Daniel Rhodes, I learned that by adding a deflocculant; sodium carbonate, sodium silicate or commercial 'calgon' to clay it acted as a dispersing agent. This reduces the amount of water necessary to make the clay liquid and therefore less shrinkage occurred. The deflocculated slip consisted of 1 part calgon, 100 lbs. of clay and approximately 30 parts water. I found in using the heavy deflocculated slip to join seams resulted in less separation and cracks in the drying stage. Because of its slow drying quality, this slip proved to be useful in applying other
materials to the clay.

To further reinforce the seams on large pieces, I applied strips of cheesecloth that were heavily saturated in slip. The cheesecloth aided in holding the seam together as the form contracted in the drying and added more slip to the seam. To insure slow drying in critically sealed joints, a protective wax emulsion was applied to the surface to prevent the air from drying it out too quickly. The wax emulsion burns out in the firing and leaves no trace.

Many separations also occurred during the firing processes. These were caused by the stresses in the form due to the expanding and contracting of the clay body. To prevent cracks during the first firing stage, I dried the pieces thoroughly and put them through a slow ten hour bisque period. As an added precaution against possible separations at the higher glaze firing temperatures, a layer of grog was sprinkled underneath the larger pieces to allow the form to expand and contract. I fired the larger sculpture pieces through a gradual eighteen hour glaze firing cycle. The slow firing allowed for the gradual chemical changes that occur in the clay body and insured a uniform firing.

Using these materials and methods: deflocculated slip, wax emulsion and slow firing cycles, the problem of separations and cracks at the seams was solved.

I was confronted with the third problem in assembling the
finished front and back side of larger forms. Since the piece was not capable of supporting itself yet, there was no alternative but to place one side faced down. However, in doing so, any projections on that finished side was crushed. I solved this problem by placing a layer of crumpled newspapers on top of a foam rubber pad that matched the size of the piece. The foam pad not only supported the form successfully but its softness conformed to the contours of the projections allowing for rough handling and even accidental jolts. The crumpled papers in between the form and the foam rubber pad permitted the air to circulate thereby, aiding in uniform drying.

Chapter 4  GLAZES

I chose to work exclusively with ash glazes after testing various glaze formulas, because they are uncomplicated and the colors, textures that resulted from my tests, I felt, was suitable for my pieces. Wood ashes become a glaze when fired at Cone 9 and 10, because of their natural components which cause a low fusion point. Usually, to achieve a glaze, it is necessary to combine silica, feldspar and alumina, which is very similar to the composition of ash. I used a combination of eucalyptus and mulberry wood ashes and I discovered, in testing, a very satisfactory base glaze can be made of equal parts wood ash, china clay and feldspar. By increasing or decreasing these ingredients I found I could control the fluid-
ity or dryness in the glaze. For example, I achieved the dry matt
texture seen in figure 9 and 10, by increasing the amount of china
clay fifty per cent. Additions of calcined ochre, red iron oxide, and
rutile in varying amounts gave me a flexible range of earthy, warm
and subtle colors. (In work done since these pieces, I have expanded
the color range by adding other oxides and colorants.) But for
my purpose with these pieces described here,—that is, large pieces
—the matt texture and colors I developed were preferable.

Chapter 5 DEVELOPMENT

The over-all profile of my pieces reveals the increasing in-
fluence of allowing the firmness and shape of the clay slab to suggest
the form.

My early pieces (see fig. 1, 2 and 3) consist of forming by
curving and otherwise shaping the clay slabs while they were still
pliable. Figure 3 is an example of a double curved form attached
on top of a tall cylindrical foot. Figure 2 is an example of other
experiments with the form. I cut directly into the form creating
an opening in the center.

After completing these pieces, I decided to go into a new
direction. Instead of emphasizing the curve as a shape, I tried to
achieve the effect of strength through a more rigid form. This prin-
ciple became the motivating force of my work on my other pieces.
I now started to work by allowing the thin slabs to stiffen. Figures 4, 5, 6, 7, and 9, all have definite front, back and side views because the firmness of the slabs dictated rigid shapes with flat surfaces. I formed the front and back from the large sheets of clay slabs and joined them to the sides that were made of narrow bands of clay.

The assembled large forms were then attached to a supporting base, known as a foot. The foot on figure 4 and 9, was formed on the potter's wheel. The others were handformed using clay slabs. Figures 2, 3 and 4, are typical examples of angular forms. Some of my pieces give the effect of roundness (see fig. 6 and 7) but even these have greater rigidity than the earlier ones.

As I progressed with my work, I found that I was experimenting with wider and larger forms. Beyond a certain point, it then became necessary for me to use reinforcements to support the form. This was necessary since the flat horizontal sections tended to sag in the construction and firing. I inserted clay partition slabs inside the form to give greater strength to the walls of the form. In some pieces, the addition of these clay girder-like reinforcements created pressure from the inside which caused the outer surface to swell. I decided to capitalize on this slight distortion by emphasizing the uneveness of the surfaces. Thus, I placed bulky forms under the soft clay slabs and now deliberately forced the surfaces out. Figure 9, illustrates the results of forcing out prominent bulges that
adds to the three dimensional sculptural quality of the form.

I felt the plain surface on some of my pieces called for raised surface decorations to add interest to the form. I tried experimenting by adding different materials on clay to create a variety of textures. I applied strips of clay in layers on a plate (see fig. 8) to give the effect of heavy texture. I draped cheesecloth, burlap and string saturated with thick deflocculated slip, thus creating wrinkles and folds. The clay slip dried and assumed the form of the fabric. I used materials that I knew would burn out in the firing, leaving it's impression preserved in the clay. The minute voids left in the clay were tube-like in form creating a fragile texture. The glaze acted like a tough outer covering when applied and fired, to protect the delicate surface. I also used fiberglass strands coated with heavy slip to gain a linear texture. The fiberglass strands partially melt and fuse with the clay and glaze when fired at stoneware temperatures. This process enabled me to create delicate textures with a firmer bond. Figure 9, is an example of string and fiberglass coated with heavy slip and applied to the surface giving it more of an organic quality.

I continued to work with the natural shape of the clay slab as it was formed and dried. I decided to experiment with combining opposing forms. I placed rigid box-like forms on a free form slab to emphasize the contrast between the formal shape against the
the spontaneous feeling of the clay slab, as seen in figure 10. This hanging wall plaque also illustrates achieving the effect of the pleasing relationship of the warm, subtle tones of the matt ash glaze and the heavily grogged clay, that I sought at the beginning to enhance my completed forms.

Chapter 6 CONCLUSION

I was able to construct successfully, large, light in weight, three dimensional sculpture by employing thin clay slabs. I discovered ways to create original forms by using heavily textured clay, subtle colored wood ash glazes and developed new methods in handling the clay slab. I hope the viewer on reviewing my pieces receives some feeling of my original purpose, that of simplicity in form which reflect the natural qualities of the clay.
Fig. 1

3" X 10" X 10"

Fig. 1
2" X 12" X 13"

Fig. 2
Fig. 3

11" X 26"

Fig. 3
Fig. 4

4" X 7" X 24"

Fig. 4
3" X 14" X 18"

Fig. 5
3" X 15" X 19"

Fig. 6
2 1/2 " x 15" x 18"

Fig. 7
14" in diameter

Fig. 8
6" X 17" X 30"

Fig. 9
18" X 26"

Fig. 10
BIBLIOGRAPHY


