Large wheel-thrown pottery

Eddie Davis

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LARGE WHEEL - THROWN POTTERY

By Eddie Davis

CANDIDATE FOR MASTER OF FINE ARTS IN THE COLLEGE
OF FINE AND APPLIED ARTS OF THE ROCHESTER
INSTITUTE OF TECHNOLOGY

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ADVISORS:

HOBART COWLES
DR. ROBERT JOHNSTON
ROBERT SCIMITZ
The purpose of this thesis is to explore various techniques of making large clay forms on the potter's wheel. I will explore the limitations and possibilities of making large pots and perhaps some sculpture from a single piece of clay. I will also search out the possibilities and limitation of "coil-thrown" forms. I hope to achieve in these large forms an aesthetic unity and a spontaneity that I have achieved in smaller forms. The works will be fired to stoneware.
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PHILOSOPHICAL ATTITUDE

Each material has unique qualities. What attracts me to clay is its ability to take texture, its plasticity and its ability to accept fire and glaze without being destroyed. I believe that the artist should use a material with respect to the job he has to do, the economy and ease with which that material will allow him to do that job, with respect to the unique quality that the material possesses and because he responds emotionally to that material.

An artist should strive to find and develop that unique quality which sets him apart from others. This has to do with finding what he likes and dislikes, the way in which he perceives and interprets stimulation and his ability to express his perceptions in a given material.

The importance of work in an artist's development cannot be overestimated. Without challenging and taxing involvement, there can be little growth and maturation. Work sharpens the aesthetic sense and perpetuates further work.
Watching a tight rope walker inch his way across a wire, tilting from side to side, is exciting, almost frightening. Hearing music that has just the right tempo, just the right instrumentation, just the right mood can ve a very moving and memorable experience. Seeing a pot of a particular shape, texture, or color, can be equally as enriching and memorable. Rising above technical handicaps, even becoming an innovator when necessary, utilizing just the right combination and number of elements, just the right balance, just the right harmony, is the challenge of the artist.

I prefer to over-execute rather than under-execute in an attempt to bring the clay to a technical and aesthetic balance. To under-execute means that I have not extended myself to the fullest, both mentally and physically. It means that I have stopped short of achieving my aesthetic goal and that I have accepted second quality. By not trying to attain absolute perfection, something very important has been compromised or lost. It should be the philosophy of the artist to accept only the best. It is that kind of desire, that kind of quest, which supplies food for learning; that makes for good craftsmanship, and that is an important ingredient in success.
Some potters may be fascinated by glaze effects or by form. This can be perceived immediately when one looks at particular works. Usually there is some dominant feature.

One is overwhelmed by the color and texture of ancient Chinese celadon glazes. When looking at Iga pottery of Japan, one is keenly aware of the clay's textural quality. I like to work with the clay in its plastic state, sometimes distorting it, sometimes scratching in line patterns, sometimes rolling on, or stamping in design patterns. To accent these effects, I often add small coils of clay. Glazing is secondary and serves to enhance the modeling of the clay surface. Often I like my pots better before they are glazed.

FORMING METHODS

Making large pots on the potter's wheel has fascinated me from the time that I became involved with clay. At the very beginning I could make only small forms. I was immature and unskilled with the clay. I understood very little about the material. Yet, I would struggle with a large piece of clay, sometimes as much as fifty or sixty pounds. Even though I was unsuccessful at throwing it, I learned much, gained physical strength and began to understand why
the clay was not rising to its fullest extent. Just as important, and somewhat consoling, I found that the effort of trying to make a large form, made throwing a smaller piece of clay easier.

This was the beginning of my involvement. It has taken my four years' involvement and my thesis work to gain enough technical knowledge and skill to get the clay up into forms that do not appear labored and that perhaps have some aesthetic merit.

MAKING A LARGE POT FROM A SINGLE PIECE OF CLAY

At first I tried to make large forms from a single piece of clay. The size of the pot that can be made from a single piece of clay is determined by the length of one's arm, one's physical strength and ingenuity. I have found that I am quite successful at throwing single forms of a weight of thirty to sixty pounds. At about thirty pounds, however, the process becomes quite exhausting; especially when a kickwheel is used.

Wedging and centering a large piece of clay can be the most exhausting aspect of the throwing process. Wedging can be made easier by (1) slicing the clay into sections and slapping these sections together;
(2) by again cutting the lump into three or four smaller pieces and wedging each piece separately; (3) these wedged pieces are again forcefully slapped together and roughly centered by patting with the hand into a bullet-like shape. The clay is then placed on the wheel. Patting with the hand is continued to bring the clay to almost perfect center.1 When the wheel is finally spun, the potter has to exert only a small amount of force in order to center the clay.

By making a pot from one piece of clay, it is easier to get a unified form and the pot can be finished in one sitting; however, there is a size limitation.

Opening a large piece of clay can be accomplished in several ways. I once saw a film of a Japanese potter who pounded out the center of a large piece of clay with his fist, leaving enough clay for the bottom of the pot. He then pounded outward, compressing and widening the bottom of the piece. The theory behind this is that the pounding compacts and compresses the clay. This helps to eliminate cracks in the bottom of pots.

1 If the piece is very stiff, a wooden mallet can be used instead of the hand.
Other methods of opening a large piece of clay are with the fist or with a stick as the wheel spins. In either case, care should be taken to keep the fist or stick in the center of the clay as the potter proceeds downward to what will become the bottom of the pot. To make a strong, crack-free bottom, the fist can be used to spread the clay and to compress the bottom. If one is making large, open forms, the heel of the hand can be used to open the clay into a thick bowl-like shape.

There are no fixed and exact methods of opening that will satisfy the needs or work methods of all potters. One has to find methods that will work for oneself, that is left to one's ingenuity and insight. It is important, however, to keep the clay as well centered as possible and to keep the walls of the pot uniform in thickness.

**COIL - THROW TECHNIQUE**

The coil and throw technique eliminates centering a large piece of clay and it requires less physical strength. There is less stress on the electric wheel, and a piece of any size can be made. The potter rolls out a long, thick coil of clay, flattens the sides slightly, and attaches it circularly to a slab bottom. The coil is wound upward upon itself to form a short, thick-walled cylinder. The number of coils that are
added is determined by the size of the form the potter wants to make. The coils are pinched together at the joints. The clay is then thrown to a desired height and thickness. In Japan, man-size storage jars are made with this method, on a two-man kickwheel. The form is made in stages, the potter often working at intervals on several pieces. Each stage must be allowed to stiffen sufficiently before the next coil can be added.

If the piece dries unevenly, warping can occur when the next coil is added. The weight of the next coil causes the wetter side of the pot to bulge or sag because of the pressure. This can be prevented if the pot is dried carefully and evenly, or if it is dried artificially with a propane torch. In some rural areas of Japan, pieces of burning charcoal are suspended by a chain into the pot. In Cyprus, where there is a hot sun all year round - the potters work out of doors - the sections stiffen quickly and warping is not such a problem. When working inside, care must be taken to keep the section out of a draft because this can cause uneven drying.

1 The two-man wheels of Cyprus and Japan are early examples of a non-electric power wheel. The potter and his aide (who propels the wheel) must work in complete harmony.
DESIGN OF LARGE PIECES

More planning is required when working on large pots. In many countries, the shapes of large storage vessels are determined by tradition. For the creative potter, the challenge is making new shapes. Ideas can be gotten from throwing smaller forms or by sketching. Through my own frustrations, and by looking at traditional pots from various cultures, I have found that the most effective forms are simple and uncomplicated in their design. Sometimes accentuations are made at points where successive coils are added, forming an interesting design. I have made use of this "ribbing" in my pots.

Large coil-thrown pots tend to dry from the bottom up. This can be retarded by keeping the lower part of the pot covered with dry-cleaning plastic or by wrapping with damp burlap while work on the upper part is continued. A small atomizer-like water sprayer is also useful in keeping a piece moist.

SECTION - THROW TECHNIQUE

A variation of the coil and throw technique is the section-throw technique. Many contemporary potters use this method to make large forms. I have used this technique for most of my large pieces. The pot is constructed with thickly thrown sections which are
added to a stiffened base. The additional section must be left thick enough to support itself and thick enough to allow additional throwing. A ruler or calipers can be used to measure the new section so that it can be accurately fitted onto the stiffer one. The new section is thrown to match the thickness and shape of the preceding section. This method allows one to add greater amounts of clay than would be possible with hand-rolled coils. It places less stress on the preceding structure because the section is already centered and thrown to some extent.

SOME CONSIDERATIONS ABOUT FIRING

Few pots were lost in the glaze firing; however, great care was taken not to bisque too fast. Rapid heating generates too much steam, too quickly, which can explode or crack the wall of a pot. In some African and Middle Eastern countries, straw or grass is burned inside of large pots before they are fired. This eliminates excess moisture from the bone dry clay. Care was also taken to eliminate hairline cracks caused by too low a bisque. Instead of a cone 010 or 08 bisque, all pieces were fired to cone 05, and the firing time was lengthened by four hours in both the bisque and the glaze.
Wide bottomed pieces tended to crack more than the narrow bottomed pieces. In the bisque, all pieces were elevated on stilts, one or two inches high, to allow for complete circulation of the heat. (Even with a slow firing, I continued to lose wide bottomed pieces.) And since I prefer the elegant look of a smaller base, I kept my pots narrow at the foot.

QUALITY OF CLAY

A clay of good plasticity is an asset in making large pots. Usually, plasticity in a clay body can be improved by aging or by the addition of 3% or less bentonite to a dry mix clay body. A soft clay can ease the effort of making a larger pot. In some countries, a thixotropic clay is used, enabling the potter to work faster.

MOVING LARGE POTS

Occasionally help is needed in moving a large pot, especially when the piece is wet or bone dry. After the bisque and glaze firing the piece can be rolled on its foot by one person. If a potter has no help, he must design his studio in such a way that he can work alone. A car kiln and special castors can make his work easier.
PREPARING TO THROW
The clay is wedged separately to make one large piece.

The pieces are slapped together.
If the clay is very stiff a mallet can be used to help center it.
The clay is slapped with the hand to roughly center it.

Minimal effort is required to center the clay after the wheel is spun.
A fist or a stick can be used to open the clay as the wheel spins.
The fist is used to pound out the center. Opening is begun after the clay is centered and the wheel is stopped.

The bottom is pounded with the fist in an effort to prevent it from cracking.
The bottom can be made without fully opening the clay at the top. It is compressed with the fist as the wheel spins.
The first pulls are made from the outside. The clay is drawn upward and the top of the form is necked in, allowing only enough room for the hand and arm to enter.
COIL AND THROW TECHNIQUE
A piece of clay is pounded out for the bottom of a pot.
A coil of clay is laid down and attached to a slab bottom.

A second coil is placed on top.
The coils are well joined both on the inside and the outside.
The coil is patted smooth with the open hand and throwing is begun.
The lip is centered, thickened, and necked in.

Throwing is continued in a conventional manner.
SECTION - THROW TECHNIQUE
A thick cylinder is thrown and a measurement is taken.

A second cylinder is thrown and calibrated to fit on top of the first.
The second section is inverted and placed on top of the first.

The two are joined together.
The section of clay is cut away from the bat and the lip is roughly finished.
The clay is pulled upward and collared in from the outside.

The clay can be pulled up in a conventional fashion, starting at the bottom, or the potter can work from the top down, pulling up several small amounts of clay.
SECTION - THROW TECHNIQUE

WITH

LEATHER HARD AND PLASTIC CLAY
A form is thrown to a desired shape and thickness and allowed to stiffen.

A measurement is taken and another section of clay is thrown to fit onto it.
The lip of the stiffened clay is moistened and the plastic section is inverted and placed on top of it.
The two pieces of clay are joined and the wet section is thrown to match the shape and thickness of the stiffer one.
SUMMARY

One can create a variety of forms with the techniques that are discussed in my report. That is left to his creative ability and his ability to make real his ideas. That is left to his desire to explore and his quest to be the best at his craft....
EMBELLISHMENT, FORMULAS FOR CLAY BODY AND GLAZES

The pots in plates 1, 2, and 3 were made from single pieces of clay. The surfaces were decorated with a small, scissor-cut, plastic comb. In two of the examples the forms have been pushed out with the finger tips to make the clay look plastic and to create a design pattern.

In all examples an ash glaze was used on stoneware clay body. The formulas for both were given to me by my former ceramics teacher, Bill Farrel, of the Art Institute of Chicago:

<table>
<thead>
<tr>
<th>ASH GLAZE</th>
<th>CONE 9</th>
<th>CLAY BODY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whiting</td>
<td>25.</td>
<td>AP Green F.C..................43.</td>
</tr>
<tr>
<td>Albany</td>
<td>65.</td>
<td></td>
</tr>
<tr>
<td>Wood Ash</td>
<td>10.</td>
<td>Add:</td>
</tr>
</tbody>
</table>

Bentonite......3%
Grog to taste or need...5-15%

In plate 2, cobalt sulfate was sprayed over the ash glaze to create a blue band.
Examples 4, 5, and 6 were thrown with the section-throw-technique. In these pots, the ribbing, in many instances, represents the points where additional clay was added. Sometimes, however, these ridges are present for aesthetics only. The pinched effect on the lip of example 4 and in the ribbing of pot 5, resulted from a look at a Cretan pot. However, in my work with large pots, I can see how this pinching evolved naturally as a result of the forming process. (A coil of clay is pinched onto a stiffer section to make a larger form.) A small concaved roller was used to create the deep ridges on the green planter pictured in plate 5.

**Green glaze formula:** Cone 9

- 40 clay
- 40 ash
- 10 Spar

and much luck!
CONCLUSION

As a result of my thesis work my smaller pots have become more refined and I concentrate more on their form. I had expected my large pots to become expressionist and casual as my small pots were before I started my thesis. Instead, I found that the methods employed in making large forms and the difference in scale made it difficult, if not impossible, to execute a large form as if it were a small piece. Often in undertaking a specific task, one must make adjustments in his original plan and he should realize that the results of his efforts will not always meet his expectations. It is the depth of the work effort and what he learns along the way that is important.
BIBLIOGRAPHY

Herbert H. Sanders
The World of Japanese Ceramics
Kodansha International Ltd.

Daniel Rhodes
Tamba Pottery
Kodansha International Ltd.

George H. Weltner
Shoji, Hamada, Japanese Potter
Thesis - Alfred University, 1967.