The Interrelationships Between
The Creative Process, The Artist, and his Environment

A Thesis
Presented in Partial Fulfillment of the Requirements
for the Degree Master of Fine Arts

by

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The Ohio State University
1972

Approved by
Eugene R. Dresser
Advisor
Division of Art
"The designer is essentially a solver of problems, problems presented to him by the nature of the task, of the materials he is using, of the people who will be using his design, and of the market for which it is being produced.

"The model of man which emerges when we consider him as a problem solver—whether his problem is to land an aircraft or design a coffee percolator—is a data processing model. These words are operational, they define concepts in terms of what is done.

"Man is seen as a hierarchy of systems in which he receives data, processes data, and puts out data... This does not imply in any way that a man's mind works like a digital computer—though it does not deny the possibility. It does say that the relations between what goes into his head through his eyes and ears and what comes out through his voluntary muscles, often suggests what he does."

E. Llewellyn Thomas
"Problem Solving in Design"
from Design and Planning
ACKNOWLEDGMENTS

The author would like to extend his appreciation to all his friends who contributed invaluable assistance to the production of this paper.

Thank you.
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The purpose of this thesis is to portray to the reader not only an evolutionary representation of my work and style but also the changes and development of my ideas and philosophical perception of art forms. I would like this brief sketch to reflect my work and at the same time convey and clarify my position and perception of the interrelationships between the creative process, the artist, and his environment.

Developmentally speaking, ceramics has been the most important medium for communicating my thoughts into art objects. But while learning the traditional throwing and hand-building processes and formalistic aesthetic relationships, I felt an innate need not only to change and deform the symmetrical and plastic qualities of the traditional thrown art form but also to relate my work and my environment. Initially my environment meant for me primarily, the world of nature, and the handbuilding techniques seemed to be the most expedient method for my endeavors. Thus the structural characteristics and qualities of my pieces took on the rough, raw, rigid, and earthy, as well as plastic textures of my perceived surroundings. I wanted the choice of having clay look and feel like clay in any of its many states, for the form to enhance the natural variety of possible characters, and transmit this quality to the viewer. This should neither be taken
as odd, nor as a strikingly radical change. Rather one might say that I am following what would seem to be an American tradition.

Bernard Leach has noted that American craftsmen are not, and have never been, bound to the same structural rigidity of other cultures. This seeming lack of traditional roots is a result of the rather unusual complexion of America. Contemporary crafts are a post-World War II movement, in a highly industrial country which is composed of a amalgamation of races. It should be noted that Americans might have developed a foundation for their crafts on either the American Indian or the European craftsmen. However, the American Indian culture was too far removed from the European immigrants for their splendid pottery to form a traditional standard. Similarly the European craftsmen brought their craft skills to America but they died out before becoming the basis for an American tradition. Thus, unlike their European and Asian counterparts, Americans were not bound to a "right or wrong way" of doing things. This quality enhanced their objectivity in analyzing, utilizing, and in a Hegalian conceptual framework, synthesizing. It was in this perceptual framework that Bernard Leach commented:

Americans like the irregularities and broken textures and colours of stoneware clays and glazes, and the potters make a point of displaying them, and there is a constant effort
to get away from the circular form.¹

In a similar light, I perceive myself to be a working cog in Leach's generalization because he accurately conveys my initial involvement with the material elements of my profession. It has been a little more than a decade since Bernard Leach made his statement about the American craftsman.

It seems somehow ironic that primarily due to the developments in mass communications, cultures such as the French, English, German, and Japanese, which have historically possessed a strong tradition, are beginning to abandon their own roots and adopt this American conceptual approach of looking out over the world for stimulation.

However, the thesis of my own work was soon to take on another antithesis. This new motivation evolved from an anti-movement in its own right, better known as Pop Art. In discussing Pop Art Richard Hamilton noted:

Most art of the past accepted a role as provider of a simulation of direct visual experience of nature until the Twentieth Century, when a complete revision of our understanding of what perception was affected art so profoundly. Artists then retired from nature into conceptualization and abstraction and failed to notice that the visual world was becoming something radically else. The surprising thing is that it took until the mid-Fifties for artists

to realize that the visual world had been altered by the mass media and changed dramatically enough to make it worth looking at again in terms of painting. Magazines, movies, T.V., newspapers, and comics for that matter, assume great importance when we consider the percentage of positively directed visual time they occupy in our urban society.²

In the same context Christopher Finch noted:

Pop Art is not a school or movement in the limited sense that Fauvism, say or Cubism were. The now traditional idea of an art movement is of something which consciously or unconsciously embraces one solution, to the art problems of any given situation, in preference to any others. It is something contained and can be described, with reasonable precision, in terms of aims and achievements. Pop Art, on the other hand, has no programmatic aims and its achievements are open-ended.

Above all it is an art of acceptance—not rejection. This acceptance is represented by its ability to encompass a range of imagery taken from everyday sources which had previously been excluded from the sphere of fine art.³

Some artists who helped develop this current phenomenon, and were influential to my work at this stage of development, were Jasper Johns, Robert Rauschenburg, and Jim Dine.

Looking to the early 60's one finds, in Christopher Finch's words, that:

Dine's imagery is more accurately autobiographical and only pop insofar as his life overlaps


³Christopher Finch, "Pop Art Object and Image" (Great Britain: Studio Vista Limited, 1968) p. 6.
with the world of pop culture—as anyone's must to a degree. At this stage in Dine's career a key factor was the relationship between figurative elements and the gesture for its own sake. In these paintings and drawings they hold each other very much in balance. The image gives focus to the gesture—without becoming merely a pretext for it—and the gesture to the image; but gradually the object represented became more assertive and begun to assume an independent role.

As did Dine's objects become more assertive and assume an independent function, so did my own. (see plates #8 and #11) One can parallel my work with the desire that pop artists had in portraying the more mundane things from their total environment in balance with the traditional esthetic values of their medium and the object displayed.

However, one must note that the concept of incorporating real objects in an illusory fashion did not originate with pop art. One can, for example, find this mode of expression in the work of Marcel Duchamp as early as 1918. This underlying feeling is well stated by Jasper Johns and is perhaps the greatest motivating force behind my own perceptual cognition of the problem.

Make something, a kind of object, which as it changes or falls apart (dies as it were) or increases in its parts (grows as it were) offers no clue as to what its state or form or nature was at any previous time. Physical or metaphysical obstinacy. Could this be a useful object? ...Sometimes I see it and then paint it. Other times I paint it and then see it. Both are impure situations, and I prefer neither.

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...At every point in nature there is something to see. My work maintains similar possibilities for the changing focus of the eye.\(^5\)

Through these influencing factors, my work began to break with tradition and take on a wide range of new forms.* Thus my ceramics began to hang, float, or simply be mixed with materials which I had previously thought to be incompatible. My desire was to "puncture the bubble of tradition" and portray my environment which I perceive to be composed of machines, systems, both natural (nature) and "man-made", and the action of energies between them. It was at this stage of my development that the machine motif began to be integrated with the plastic, earthly medium of clay. Or, as one can see in "The Industrial Seal of Ohio" (plate #14), the rough raw clay is contrasted with the finely tooled, and highly finished surfaces of chrome and velvet.

Thus, philosophically, my work is an attempt to reflect the role of the highly mechanized and technological society in which we live. Through the utilization of an extremely versatile medium (clay) I have attempted to resolve a perceived conflict between the "natural" dried lump of mud which can be changed and worked into a screaming, highly

\(^5\)From Catalogue on Jasper Johns, by Alan R. Solomon and John Cage - Random Thoughts by the Artist - (source unknown).

* A comparison may be made with (plate #2) and my later works.

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finished, chrome-plated object having the power and gleam of a newly produced assembly-line Ferrari. One can compare this natural growth of the machine out of clay to the growth of a beautiful dahlia from a bulb concealed in the mud of a planters pot. The artist's product, as the dazzling flower, has its roots inseparably bound to the mud, and both objects show a natural evolution of form. Likewise, the birth of a machine is as natural as the birth of a child or the sprouting of a seed and today one can visualize this natural process duplicated through the creation of machines by man. It is this underlying motif that my work attempts to portray. For example, if I make a ceramic Volkswagon, (see plate #10) I feel it may be just as "finished" as a car produced in a factory. That is, the route from the iron mine, through the assembly-line and onto the showroom floor is really not so different than the path from the clay pit, into the studio and finally to the gallery. In both processes one is using, with equal care, two types of baked earth to exhibit a preferred product whether mass produced or a unique artistic form. One finds a curious example of this in Detroit's mock-ups of future model cars. The original model is made of clay. Only later on the assembly-line does one find the real chrome and leather product. It is as if the idea of the car's form is best first created in a plastic medium, then the idea is hardened into metal for the consumer. In Detroit
there is less concern for the creative process than the final product. Only the initial stage of conception might be termed artistic, later production is purely a mechanical process.

However, while artists such as Jim Dine and Claes Oldenburg remained more traditional by looking to their everyday environment, other artists such as Robert Rouschenberg, Andy Warhol, and Roy Lichtenstein were drawing their images largely from the communications media.

Their perceptual framework is well clarified by Marshall McLuhan:

...the content of any medium is always another medium. The content of writing is speech, just as the written word is the content of print, and print is the content of the telegraph. If it is asked, "What is the content of speech?" it is necessary to say, "It is the actual process of thought, which is in itself, non-verbal." An abstract painting represents direct manifestation of creative thought processes as they might appear in computer designs. What we are considering here, however, are the psychic and social consequences of designs or patterns as they amplify or accelerate existing processes. For the "message" of any medium or technology is the change of scale or pace or pattern that it introduces into human affairs.\(^6\)

Thus it seems natural that the pop artists began extracting images from their total and evolving environment. Because of its overwhelming intensity, they quickly began looking to the communication media for new inspiration. This new source provided a fast-moving exchange of informa-

tion—a source conducive to new ideas and images. The artist was less bound to his immediate environment, with its traditional physical limitations and could now draw upon a kaleidoscopic source of information.

In conclusion, like most of the pop artists, it is this author's belief that he must adapt and relate to his total environment rather than to continue to accept a comparatively fruitless alienation. I feel the artist is destined to play a more active rather than a passive role in society. Natural evolution would seem to indicate that he be receptive to technological advances and change.

Therefore the artist must be prepared to mix, adapt, and expand traditional art forms to meet the requirements of a contemporary and highly flexible society. Not only have technological advances created new materials but also new modes of thinking. Through the vehicle of ceramics, I am attempting to present the innate antagonism between newly evolved man-made forms and nature, and to correlate their affinities.
Introduction to Plates

The following plates fall into four groups, essentially chronological, but more importantly depicting the various stages that the author's work has undergone during this thesis study.

Plates 1-7 illustrate the author's initial and almost exclusive concern with the fortuitous nature of the medium and forming process. The responsiveness of clay to the accidental led to a new and increased awareness of the man-made technological material available for developing new forms and textures.

Plates 8-11 depict compositions that differ strongly in concept from the first group. The motivating interest lay in attempting to parody man-made objects which have become so much a part of our environment that they tend to compete or integrate with what was formally a more naturalistic environment. The pieces have more than a vague resemblance to mechanical devices and concepts.

Plates 12-15 extend the concepts of man's technological environment through mural motifs, which attempt to portray the sense of actions and interactions between man, his culture and technology. These compositions become less a parody of man-made objects and more of an exhibition of "machine imprints" (actual gears, bearings, bolts, and
pipes) stamped into the clay and integrated with textures such as clay and velvet that symbolize a culmination of Twentieth Century American forms.

Plates 16-18 comprise a series of abstract orchestrations (collages) of completely ready-made materials and forms, such as commercially produced plates, molds, decals, glazes and velvet finishes. The compositions attempt to depict a few of the social and political consequences that man is presently facing due to the technological and information explosion of recent years which may drastically alter our current perceptions of time and space.
Plate I.

Salt-Glazed Bowl

Slab-built bowl.

Cone 9, reduction salt glaze, with white engobe, black and gold slips and cobalt stain on clay body #1.

Height 7", Diameter 5.5".

"The past is but the beginning of the beginning, and all that is and has been is but the twilight of the dawn."

H.G. Wells
"The Discovery of the Future."
Plate II.

3 Salt-Glazed Bottles

Slab-built bottles.
Cone 9, reduction salt glaze, with black and gold slips on clay body #1.
Height from left to right, 9", 8", 9".

"I still think," said a builder, "that it is good to save trees, but I don't understand why."
Dr. Abraham Kaplan, a philosopher, replied, "What is so good about it is that it is not experienced as the product of a design committee nor as the result of the efforts of an association of builders."

"31 Minds Explore Our Environment"
NAHB, 1965
Plate III.

Lantern

Slab construction, formed inside geometric molds with attached hand-built pieces. Ceramic form suspended from a turned walnut rod. In the private collection of Mr. and Mrs. Walter Davis, Columbus, Ohio.

Cone 9, reduction, Katies yellow glaze on clay body #1.

Height 44.5", Diameter 20.5".

"When innovation takes place, there is an intimate linkage or fusion of two or more elements that have not been previously joined in just this fashion, so that the result is a qualitatively distinct whole... If we may use a biological analogy, an innovation is like a genetic cross or hybrid; it is totally different from either of its parents, but it resembles both of them in some respects."

H.G. Barnett
from "Innovation: The Basis of Cultural Change."

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Plate IV.

Free Standing Planter

Slab construction, formed inside geometric molds with attached hand-built pieces.

Cone 9, reduction, with Katies yellow and author's scrap glaze on clay body #1.

Height 31", Diameter 20.5".

"This world of ours is a new world, in which the unity of knowledge, the nature of human communities, the order of society, the order of ideas, the very notions of society and culture have changed, and will not return to what they have been in the past.

What is new is new not because it has never been there before, but because it has changed in quality...

One thing that is new is the prevalence of newness, the changing scale and scope of change itself, so that the world alters as we walk in it, so that the years of a man's life measure not some small growth or rearrangement or moderation of what he learned in childhood, but a great upheaval."

Robert Oppenheimer
Physicist
Plate V.

Stoneware Bottle with Boiler Plate

Slab construction, formed inside geometric molds with attached hand-built pieces.

Cone 9, reduction, with burnt umber stain on clay body #1.
Height 37", Width 20.5", Depth 16".

"The world is undergoing a transformation to which no change that has yet occurred can be compared, either in scope or rapidity."

Charles de Gaulle
Plate VI.

Waffle Planter

Slab construction, formed inside geometric molds with attached hand-built pieces.

Cone 9, reduction, with gold slip and burnt umber stain on clay body #1.

Height 22", Width 13.5", Depth 6".

"Man's adjustments to his environment are not a series of unrelated stages of development, ...but an organic and integrated chain of events."

E.A. Gutkind
"Our World from the Air"
Plate VII.

St. John Round-Ball Monolith

Slab construction, formed inside geometric molds with attached hand-built pieces.

Cone 9, reduction, with Nelson's celadon underglaze on clay body #1. Cone 019 oxidation, with commercial paludium luster glaze, black electro-velvet.

Height 32", Width 16", Depth 16".

"We could have a better physical environment by the simple allocation of resources. "We, our society, is prepared to let 30 or 40 million people live in a state not very far advanced from that on the banks of the Nile, in a far different country..."

Victor H. Palmieri
Pres., Janss Corporation
Land Developers
Plate VIII.

Audio Theatre Box

Slab constructed form.

Cone 9, reduction, acrylic paint on clay body #1. Attached wooden legs, metal knobs and black burlap inserts.

Height 22", Width 13.5", Depth 7.5".

"It would be difficult to overstate the magnitude of change that will take place in the lives of all of us, in human history, as a result of the information revolution that has so unobtrusively taken place in our day."

"Information, its communication and use, is the web of society; the basis for all human understanding, organization and effort..."

John Diebold
from "Beyond Automation"
Plate IX.

Miss Anti-Ballistic Missile

Slab construction, formed inside geometric molds with hand-formed additions.

Cone 9, reduction, with red and white automotive paint, and blue acrylic paint on clay body #1. Elevated on six castors.

Height 42", Width 15", Depth 18".

"The mass movements, upheavals, and wars which are a by-product of change indicate that the process involves the deeper layers of man's soul. After all, change such as the world has seen during the last hundred years is something wholly unprecedented in human experience."

"It would be legitimate, therefore, to assume that there is in man's nature a built-in resistance to change. We are not only afraid of the new, but convinced that we cannot really change, that we can adapt ourselves to the new only by getting out of our skin and assuming a new identity. In other words, drastic change generates a need for a new birth and a new identity. And it perhaps depends on the way this need is satisfied whether the process of change runs smoothly or is attended with convulsions and explosions."

Eric Hoffer
Plate X.

Volkswagen

Designed for DerFuhrer... "Consumed by Middle-America"

Slab constructed form.

Cone 9, reduction. Clay body #1.

Height 13.5", Length 15.5", Width 9.5".

"Still another aspect of the traffic problem is revealed each time a new road is built. New traffic comes forth and creates congestion. Why? Because roads are connecting links to human activities. Road systems inherited from the earliest days of travel are direct links from town center to town center. And, in towns and cities, traffic is a function of buildings in which human activities take place. Buildings generate traffic and are destinations for it."

Evan Herbert
"International Science and Technology"
May, 1964

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Plate XI.

Great American Drug Machine

Slab constructed form.

Cone 9, reduction, with red, white and black acrylic paint on clay body #1. Attached walnut grinding wheels and brass knobs.

Height 18", Width 36", Depth 12".

"Professor Elting E. Morrison of MIT says that earlier machines developed by man—engines and generators—set clear limits as to how much misuse they would tolerate before resisting. Overloaded, abused, they stopped work, stalled, broke down, blew up; and there was the end of it. Thus they set clear limits to men's ineptitudes.

"U.S. News & World Report"
February 24, 1964
Plate XII.

Sewer Drain Configuration

Slab constructed relief.

Cone 9, reduction, with cobalt stain and Nelson's celedon glaze on clay body #2. Mounted on walnut plate and stand and is detachable for use as a cheese platter.

Height 21'', Width 21''.

"Two great trends characterize our times, says Richard R. Landers, chief of reliability, Thompson Ramo Wooldridge Inc., Cleveland. One is to mechanize humans; the other is to humanize machines. 'The ultimate' he says, 'will be for the two trends to cross--for the man machine to be identical to the machine man. At that point, would God give the machine man a soul?"

"Steel", November 25, 1963
Slab constructed relief.

Cone 9, reduction, with black and brown slips on clay body #1. Mounted on rough sawn cedar planks stained rustic.

Height 45", Width 88".

"Today's multiple-use buildings may be a mere portent of things to come, as land prices predictably soar to new heights. The end, as prophesied by Jose Sert, dean of the Harvard University, Department of Architecture, may be giant 'megastructures,' built to a scale beyond anything thus far conceived, containing everything from parking garages, transit terminals and commercial facilities, to housing units."

"Engineering News-Record
April 1, 1965
Plate XIV.

Industrial Seal of Ohio

Slab constructed, with machine imprints.

Cone 9, reduction, with Nelson's celadon underglaze on clay body #1. Cone 019 oxidation, with commercial paladium luster glaze and green electro-velvet. Inset in electro-velveted plywood.

Height 20", Width 16".

"Automation's greatest consequence to business will be the enormous social change resulting from it. The entire role of business, its relation to human wants and its way of satisfying those wants depends upon society. Fundamental changes in society fundamentally change the role of business. Buying patterns, consumption habits, and other social attitudes will be radically affected by the technology, and they, in turn, will produce decisive changes in business operations and methods."

John Diebold
"Beyond Automation"
Plate XV.

Substratum Super-Structure

Slab constructed relief, with machine imprints.

Cone 9, reduction, with black slip, burnt umber stain, MT-3 with copper glaze and Nelson's celeryon underglaze on clay body #1. Cone 019 oxidation, with commercial paludium luster glaze and black electro-velvet. Inset in wedges of plywood covered with electro-velvet and separated by thin strips of aluminum.

Height 32", Width 54.5".

"In urban environments, social and cultural change are most apt to bring along the boundary layers - those discontinuities where different races, economic classes, religions or ideologies abrade each other— in somewhat the same way that it is at the interfaces formed by impurities or the edges of crystals in metal that slippage and ultimately, complete fractures of the metal, take place under pressure."

from "The Dynamics of Change", p. 17
by Don Fabun

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Plate XVI.

Early Patriots of the Industrial Revolution

Plates with badges and decals, all elements are commercial products.

Cone 019, oxidation, with gold luster glaze, decals an green electro-velvet. Inset in electro-velveted plywood.

Height 14.5", Width 14.5".

"We, in the Twentieth Century, are concluding an era of mankind five thousand years in length....We open our eyes like prehistoric men; we see a world totally new."

Kurt Marek
Archeologist
Plate XVII.

Unaborted Skyjack at 11:45

Three commercial saucers with decals.

Inset in cloud-shaped plywood covered with light blue electro-velvet.

Height 13.5", Width 27".

"Your plane is not from Seattle yet, sir," she said. "There will be a slight delay."

"I happen to have information on that flight," I said. "The plane is actually at this moment still circling Moose Jaw while the pilots study a 1938 Texaco road map. They've been lost for an hour and are running dangerously low on sugar coated gum tablets and little dry sandwiches."

"But in a larger sense," said Nancy, "aren't we all still circling Moose Jaw?"

from "Still Circling Moose Jaw"
by Richard Bissell
Plate XVIII.

The American Male Series
"The Ages Between 19 and 26"

Five commercial plates with badges and decals.

Cone 018, oxidation, with gold luster glaze and black electro-velvet.

Diameter 10.25".

"...We human beings are rushing forward unthinkingly through days of incredible accomplishments, of glory and of tragedy, our eyes seeking the stars—or fixed too often upon each other in hatred and conflict. We have forgotten the earth, forgotten it in the sense that we fail to regard it as the source of our life."

Fairfield Osborn
"Our Plundered Planet"
Plate XVIIIa.
Plate XVIIIb.
Plate XVIIIc.
Plate XVIIIId.
Plate XVIIIe.

A purposed extension of (Plate 18)
A Conceptual Machine

Six commercial plates (plates 18-18d.) with badges and decals mounted inside, a kinetic sculpture composed of two gold painted steel domes separated by four black eltro-velveted wood wedges.
Plate XVIII\textsuperscript{f}.

Plans for plate 18e.
APPENDIX

Body Compositions

1. Friley Fiberglass Clay Body Cone 6-9

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Cone Nine Reduction Glazes

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<td>Whiting</td>
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</tr>
<tr>
<td>Bentonite</td>
<td>02.00</td>
</tr>
<tr>
<td>Iron Oxide</td>
<td>01.00</td>
</tr>
<tr>
<td></td>
<td><strong>103.00</strong></td>
</tr>
</tbody>
</table>

4. Rhodes Black

<table>
<thead>
<tr>
<th>Material</th>
<th>Weight (lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albany Slip Clay</td>
<td>85.00</td>
</tr>
<tr>
<td>Nepheline Syenite</td>
<td>15.00</td>
</tr>
<tr>
<td></td>
<td><strong>100.00</strong></td>
</tr>
<tr>
<td>Cobalt Oxide</td>
<td>5%</td>
</tr>
</tbody>
</table>

**Slips and Engobes**

1. White Engobe

<table>
<thead>
<tr>
<th>Material</th>
<th>Weight (lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>E.P. Kaolin</td>
<td>25.00</td>
</tr>
<tr>
<td>C &amp; C Ball Clay</td>
<td>25.00</td>
</tr>
<tr>
<td>Flint</td>
<td>25.00</td>
</tr>
<tr>
<td>Custer Feldspar</td>
<td>25.00</td>
</tr>
<tr>
<td></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

2. Brown Slip

<table>
<thead>
<tr>
<th>Material</th>
<th>Weight (lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clay Body</td>
<td>100.00</td>
</tr>
<tr>
<td>Burnt Umber</td>
<td>10%</td>
</tr>
</tbody>
</table>

3. Black Slip

<table>
<thead>
<tr>
<th>Material</th>
<th>Weight (lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clay Body</td>
<td>100.00</td>
</tr>
<tr>
<td>Cobalt</td>
<td>8%</td>
</tr>
</tbody>
</table>

4. Gold Slip

<table>
<thead>
<tr>
<th>Material</th>
<th>Weight (lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clay Body</td>
<td>100.00</td>
</tr>
<tr>
<td>Milled Rutile</td>
<td>10%</td>
</tr>
</tbody>
</table>

**Electro-Velvet**

A velvet-like surface consisting of millions of individual nylon fibers vertically aligned in a two-part epoxy base. The bond is permanent and fibers are applied electrostatically. Sold by Eltro-Velvet of Columbus, Ohio.
BIBLIOGRAPHY


