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ROCHESTER INSTITUTE OF TECHNOLOGY

DIATRETA AS LIFE FORM

A Thesis Submitted to the Faculty of
The College of Imaging Arts and Sciences
in Candidacy for the Degree of
MASTER OF FINE ARTS

By

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JUNE 2000

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TABLE OF CONTANTS

LIST OF ILLUSTRATIONS	b
INTRODUCTION	1
THESIS IDEA	2
THE WORKS	9
CONCLUSION	24
BIBLIOGRAPHY	25

LIST OF ILLUSTRATIONS

Figure	Page
1. The 'Trivulzio' Cage-Cup	..... 6
2. 'Mask and Columns' Cage-Cup	..... 6
3. Blank made by Schott Glass	..... 7
4. Joseph Welzel at work on Cage-Cup	..... 7
5. Double Too-Kak	..... 8
6. Diatreta-99, 1998	..... 10
7. Prayers 1999	..... 12
8. White Vessel within Gears, 1999	..... 14
9. White Vessel in Steel, 1999	..... 16
10. The Vase in the Woods, 1999	..... 18
11. Tornado in Rope, 1999	..... 20
12. Golden Pond, 1999	..... 22
13. Green Pond, 1999	..... 23

INTRODUCTION

This thesis is the outcome of eight years studying ceramics and glass. The glass techniques explored came through a desire to establish a tactile connection with the material that I had experienced with ceramics. Vessels and handbuilding were a large part of my ceramic influence and I allowed these influences to guide my works in glass. In these experiences I began to develop a personal vocabulary of form. This allowed a focused refinement to take place in the work. This path of concentration led me to the Diatreta, a Roman glass technique from the third century A.D. The Diatreta encompassed the idea and motives of these works. It became a starting point for the exploration of form, history and philosophy.

The direction of the thesis reveals a variety of techniques and media such as glass, clay, metal and resins. The investigation of the Diatreta concept challenged the limitations that are inherent in glass working. The pairing of two forms within one object allowed for unique methods of exploration within each piece. The development of these forms encouraged infinite possibilities taken from history in roman glass as well as other influences (Korean ceramics, cultural observation). In these works, the Diatreta form took the position of metaphor for personal identity as well as embodying the nature of the human condition. It provided a concrete object to help develop clarity in my views of both the world and myself.

Thesis Idea

The Diatreta (Figure 1) is a vessel in which an outer layer has been carved away to leave an open network that is joined to the inner layer by fine glass struts¹. The most interesting quality of the Diatreta structure is the interaction between the inner vessel and the outer network, existing as one piece, yet separates at the same time. I am similarly interested in the spaces between the outer world, and myself and view the Diatreta as a metaphor for this interaction. I think of myself as the inner vessel, separate, yet linked by fragile connections to the outer cage or the world. The Diatreta form seems to reflect the walls that exist in my interactions with others in my life. I believe that this is universally true for all humans and their relationships to the world and each other as well.

The technique of Diatreta was an unsolved mystery until the early 1960's. Experts constantly argued about how it was produced. Some believed that the cage cups were made by working hot glass (Figure 2), or that the cup and cage were made separately, and the posts connecting them were fused to the wall and finished by grinding. When fragments of a cage cup excavated at Corinth in Greece were examined under a microscope, it was determined that the post and the wall had been cut from one piece of glass because the crystal

¹ Charles Bray. Dictionary of Glass. London, United Kingdom: A & C Black (Publishers), 1995

alignment of the glass was visible². But the question of how it was produced remained a mystery.

Then, around the same time, Josef Welzel at the Hadamar State Glass School in Bavaria, Germany reproduced a Diatrete (figure 3, 4) with cold carving techniques. The result was a successful reproduction of the Roman cage cups, true to the original in all respects. Until this theory was proven, many experts clung to their belief that the other methods were accurate. Those who subscribed to this idea were stuck in a cage themselves, a cage of ideas that was impossible to break out of until scientific proof. Although the inaccurate theories were never successful at replicating the Diatrete , they became new processes that sparked many innovative ideas and techniques in and of themselves.

I wanted to explore the mistaken theories about techniques used to form Diatrete until Welzel's reproduction. Although my techniques are not historically accurate, I am able to express my feeling of life within a cage through some of these other methods, as well as techniques found through my own experimentation. Because they are developed through personal discovery, they open a whole new door for expression and forms. My Diatrete series has been created using mostly hot glass techniques; blowing and hot bit working, along with sand casting, plaster-silica casting and cold assembling. Using these

² <http://www.homestead.com/ntalia/glass~ns4.html>

methods, unexpected results were frequent, and moved me to work even further with the concepts in new ways.

My work on Diatreta was deeply influenced by old lost Korean ceramic techniques (Figure 5) due to my strong cultural connections. In traditional Korean ceramic vessels there existed similar forms in Ko-Ruy Dynasty and Cho-Sun Dynasty. Visually, they compare with diatreta by their joining of two separate forms to establish a new form that embodied both craftsmanship and artistry. Also, in both Rome and Korea, these forms were only accessible to those that had the financial means to own them.

The main influence of this series of work is isolation in society. My personal view of the forms in this series embodies this feeling of isolation. The forms facilitate my expression of these personal feelings as well as providing a narrative on the subject as a contemporary social issue. People's personal space is constant, but it is being continuously affected by their environment. This space is in constant interaction with nature, others and oneself. Isolation comes in many ways, voluntary and involuntary. Many times the line between the two is blurred due to circumstance. This translates on many levels to the Diatreta form. Throughout the ages, artists have used vessels as visual metaphors for humans and emotions. The body/mind as a vessel, and the interaction with surrounding space, are all issues that are easily transposed by an object that can hold something either precious or commonplace, and bringing in issues such as transparency and containment

only serves to represent even further the human condition. In this way of thinking, the Diatreta forms both a person and their space.

The intricacy and fragility of many of the Diatreta describes the complexities of human emotion and interaction with society and their surroundings. It also serves to represent the fragility of ego and of relationships with others. Does the cage act as protection for the inner vessel, or simply as a boundary for the vessel's space? Is it there to protect/contain, or is it there to keep others away and/or to lock oneself in? All of these questions must be answered by the individual, because they are personal introspections and are therefore inherently subjective.



Figure 1. The 'Trivulzio' Cage-Cup



Figure 2. 'Mask and Columns' Cage-Cup



Figure 3. Blank made by Schott Glass



Figure 4. Joseph Welzel at work on Cage-Cup



Figure 5. Double Too-Kak

THE WORKS

Each of the works in this series was made with a different technique in my quest to master glassworking and its many facets. This variety also illustrates the vast range of human conditions in regards to themselves and their surroundings. The techniques used include blowing, casting, invested blown forms, fused glass, sand cast glass and hand-forged metal work. Even though some objects are completely solid, they are still dealing with the idea of inner versus outer forms, using color as a barrier, and surface texture as containment.

Diatreta-99

(Figure 6)

This work deals with isolation. The character of the X shape has many symbolic meanings, one of them being the human form. It also echoes the form of barbed wire fences used to keep people in or to keep them out. Contrast is a key factor of this work. The bluish-black exterior vibrates against the brilliant interior, and the rough surface texture of the outside leads you in to the smooth walls of the red vessel while at the same time repelling with its raw surface. The energy of fire was a motivation for the color of the inner vessel. It is a core of energy within the insulating coal-black outer shell. This form was made by assembling hot bits of cast glass at the bench into the outer cage.



Figure 6. Diatreta-99, 1998

This could have been done by fusing an entire sheet together and then rolling onto a round base, but the effect was more random (and therefore natural) by piecing it together one at a time. This method made it easy to form a large shape, and was related to my ceramic experience with handbuilding methods.

The Prayers

(Figure 7)

This work is based on tradition. In this piece, the inner vessel is surrounded by a cocoon of watchful forms that contain and protect it from the outside world. Although they are brightly colored and seem to be benevolent, they are also menacing to the inner vessel because they are thoroughly containing it and there is no room for it to grow and become an individual on its own. Their hovering stance and completely fused resin base robs the inner vessel of its freedom. The figures hide their nature in the colorful decoration that they present to the outside world, while the interior piece has become just one color, influenced only by one set of ideas, with no contact from the outside world except through the watchers. The techniques used in this piece were blowing, fusing and slumping. In order to get the rough texture and luminosity of the pieces, it was necessary to bring the glass to just below the melt temperature until the glass fused. This illumination represents the constant yet invisible presence of family or acquaintances that hold importance in our lives.



Figure 7. Prayers 1999

White Vessel Within Gears

(Figure 8)

This work reflects on modern society. The gears shaped strips forming the outer shell are a symbol of technological advancement and science. As our societies develop, there is more and more dependence on technology. This dependence leads to isolation by making it easier to have all transactions and daily activities occur with minimal human interaction. These factors of our isolation are everywhere in modern life. Cars, houses, credit cards, computers, even in a clock! These are wonderful inventions that everyone appreciates, but they are not only drawing us away from each other, they are drawing us away from our environment.

This piece was done using sandcasting for the outer shell, which was then manipulated while hot. There was no release used on the sand so the gears would pick up the rough surface. This not only served to represent the contrast between these components and the pure, smooth vessel inside, but it also served to impart a sense of time passing, as gears are one of the oldest technological inventions still in use today.

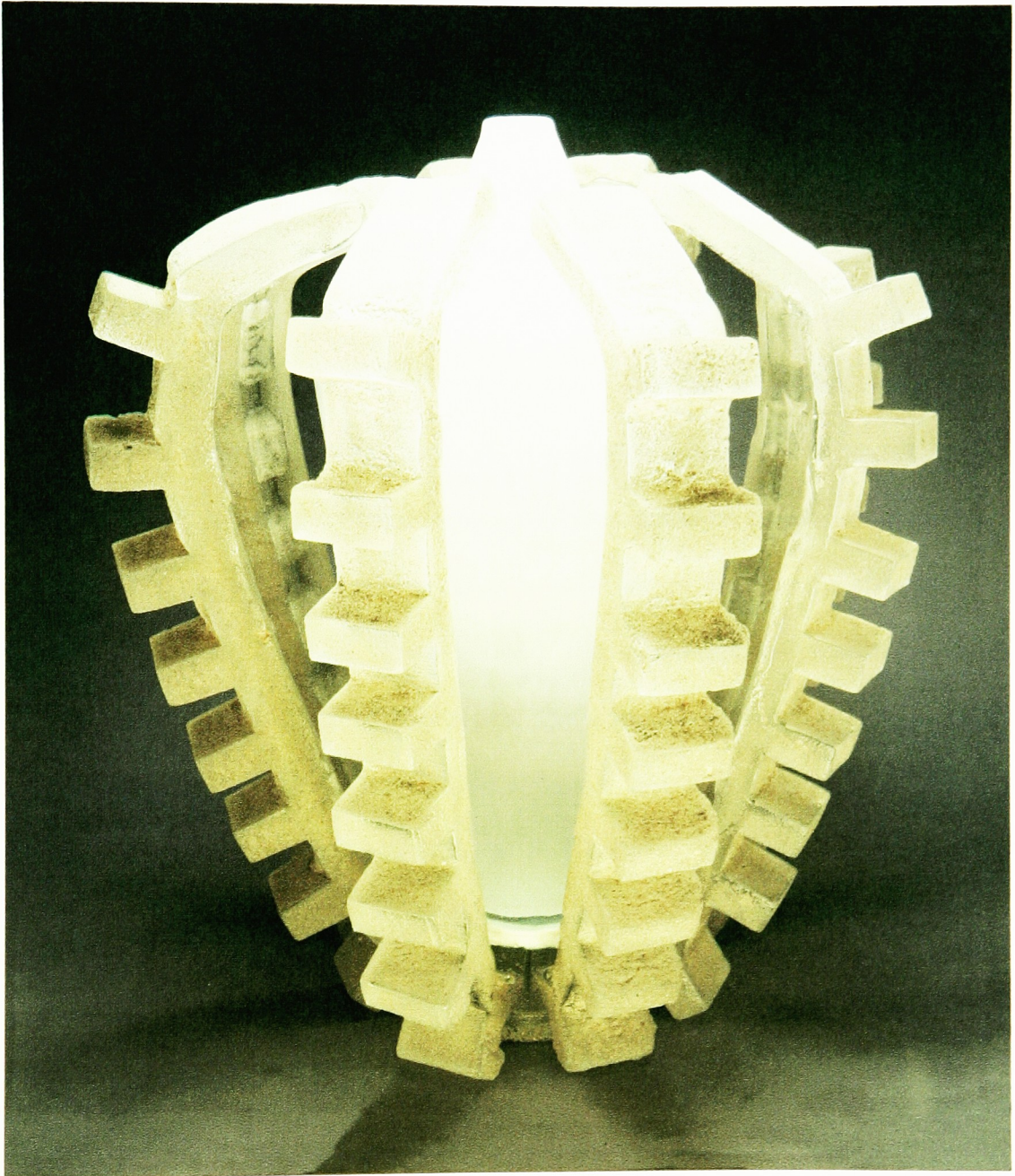


Figure 8. White Vessel within Gears, 1999

White Vessel in Steel

(Figure 9)

In this piece, I have taken the concept of a cage to its more basic form, that of a steel enclosure. Instead of harshly obvious angular bars however, the steel enclosure is presented as an organic structure, a growing, evolving organism. This is the protection that comes from within ourselves, changing as we grow, responding to various hurts and problems in our lives. As with the other pieces, it is enclosing a form that is fragile by nature of material. However, in this piece, the steel is very strong and can withstand much abuse. Although the structure speaks literally of cages or prisons, the natural form of the iron makes it more acceptable as a representation of emotions. Our ability to deal with occurrences in our lives is built upon successive structures of emotional lessons learned. I also liked the challenge of working with a separate material that would accentuate the contrast between the two vessels even further. The steel work was accomplished in the forge with hand forming and welding, using the same thought as in (Diatreta-99): random juxtaposition of components to create a more natural element.



Figure 9. White Vessel in Steel, 1999

The Vase in The Woods

(Figure 10)

Imagine being lost in the forest. The beautiful sunlit woods suddenly become very scary and threatening. A large city such as New York can have this same feeling to someone who is unfamiliar with the people and customs. In the middle of ten million people, you can still be very lonely. Strangers surround you and close you in, but still you must depend on them and interact with them even if you don't want to. This sort of experience was very difficult for myself, because I am a Korean studying in the United States and made a large impression on me. It was that feeling of dependence on others and a sense of segregation from them that caused me to pause. Finding myself in an unfamiliar place forced me to reconcile these opposing feelings. "The Vase in The Wood" provided a bridge between dependence and segregation that allowed me to understand and appreciate that part of my life experience.

This piece was approached using traditional Korean carving techniques. In the traditional method, two different size vessels are attached together leaving a space in between the walls. Then the outside is carved away. Using ceramic as the outer shell, I tried to create a dense thickly overgrown forest that was a receptacle for the transparent inner vessel. The tops of the trees support it, and it cannot stand on its own.



Figure 10. The Vase in the Woods, 1999

Tornado in Rope

(Figure 11)

The tornado is a self-portrait, free to go anywhere, capable and unrestricted. However, there are always thoughts of the past, the future and the people that are affected by my actions that surround me like the rope. It is not an outside influence though; it comes out of my own mind, and directs my actions with thoughts of consequence. Therefore, it is one piece of solid glass, the boundaries only defined by color. Although there is space between the two forms, they are interacting with each other since they are both within my mind and only the mass of the glass defines the space. This piece was made by taking a plaster-silica cast of a rope vessel and then casting glass into it. Then the solid colored form was inserted while the glass was still hot.

Golden Pond & Green Pond

(Figure 12 & 13)

These two pieces represent my potential as a person, showing the room for growth in all aspects of my life. My potential is the large vessel, while my current ability is the smaller, floating shape within. Again, as with the Tornado piece, the vessels are separate, yet connected, the clear glass serving as visual space while linking the two vessels into one.

The Golden Pond shows a small hollow bowl suspended in solid clear glass. The interior bowl is defined only by a very thin layer of color and negative space. The line at the edge of the clear bowl shows my potential



Figure 11. Tornado in Rope, 1999

destination. I want to expand myself to fill the entire interior of the bowl. This plain, unadorned bowl represents the amount of growth needed along with the hard work it will take to accomplish my potential. The Green Pond represents the same concept, but shows more of an idyllic, ethereal goal, one in which I have an idea of what I want my life to be. Idealism for me achieves a form of transcendental wisdom. This requires the realization that the potential destination, the volume of the bowl, is continuously expanding. In reality, it is a destination never reached but a journey that must be understood. It is a future that I attempt to influence and direct.

These bowls were made by taking a blown form and investing it in a plaster-silica mold. The Green Pond was then cast into with hot glass, and then a previously blown, plaster filled form was inserted while the glass was hot. The Golden Pond was invested upside down, with an open space inside in which a round form had been molded and coated with colored glass. The bottom of the bowl was left open for the hot glass to flow inside and fill the negative space.



Figure 12. Golden Pond, 1999



Figure 13. Green Pond, 1999

Conclusion

I find that I choose to explore personal identity within my work. I feel that my own experiences are the most impotent for me to examine, but that they also speak to each viewer in a different way. All of us have some similar experiences in life. I felt it was important to find my influences and my limitations. Each piece that I have made shows a limited position, of technical possibilities or of self.

The Diatrata form embodies the concept of limitations, while at the same time it poses great potential. The metaphors of man as vessel, isolation and connection lend themselves extremely well to an artist expressing human emotion and interaction with environmental factors.

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