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ROCHESTER INSTITUTE OF TECHNOLOGY

A Thesis Submitted to the Faculty of
The College of Imaging Arts and Sciences
in Candidacy for the Degree of
Master of Fine Arts

Seating for Communicating

By
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December 20, 2007

Approvals

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Acknowledgment

This thesis is the result of three years of work whereby I have been accompanied and supported by many people. Here are the people to whom I owe the most thanks:

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I Preface

The purpose of this thesis is to design and construct a group of seating that provides connection for users and encourages stimulating communication among them. A number of functional furniture items provide convenience and aesthetics to daily life. Since the time I was given the chair project in the graduate program, I have developed an interest in how seating impacts the interaction among users to create their relationships. The design approach in progress began with a perspective concerning the public meeting place inspired by a playground promoting social relationships. A number of drawings and models about the meeting place led me to branch out into various forms of seating. By intermingling the practical aspect of furniture and an aesthetic aspect of sculpture, this researcher attempted to find an intermediate value for both fields. The M.F.A. thesis provided a rich opportunity for me to focus on a series of strong forms and formal arrangements as the visual vocabulary, while investigating my ideas about the seating and exploring the nature of my material sensibility.

II Introduction

In Korea, people have been sitting on the floor for a number of centuries. This is because of the unique heated-floor system, called “On-dol.” Yet, after continuous influence of the western lifestyle, a variety of seating has become more popular. When I was growing up, I was raised using the floor more than sitting on furniture. I have naturally asked the questions, why does seating exist? How can I inspire new seating with my personal physical and emotional history?

The chair, particularly the armchair, has long been regarded as a symbol of rank. The old courtly convention in which only the leader of a meeting (still called the ‘chairman’) and perhaps one or two honored guests were accorded the privilege of an armchair is retained even today in many colleges and other institutions, where the majority of members are merely seated on single chairs or on benches. This was a general custom in past times and was observed even in relatively humble households.¹ Today, the purpose of chair is changed in respect to a person’s individuality and social relationships.

For this thesis, a primary goal is to present new seating models, which play an

¹ David Knell. *English Country Furniture 1500–1900*, 2nd edition, Barrie & Jenkins Ltd., 2000, Page. 259

important role as a medium in helping communication, thus, growing the relationships between the human users. At the beginning of the process, I found inspiration from many sources but primarily from natural phenomenon and the unobtrusive constructions of Asian architecture. I pulled the intriguing points of these sources into the seating for communication and felt that I would develop the visual context of seating based on simplicity. I kept three significant rules during the process: visualize the meaning of communicating by using circles and rings which symbolize the connection between people; combine the general idea of the floor into the actual seating to represent my personal history; explore various forms, diverse materials, and unique treatments. Through combining these first two concepts, I was able to rethink the ultimate aim of the seating. Then exaggerating, enlarging, abbreviating or synthesizing the attractive points of my inspirations, I developed the ideas and created strong forms. Hence, the visual language of my seating could be elementary and have the aesthetics of reductive forms. However, I was careful not to make my forms too strict or too dry by only machine cutting, such as the works of conventional modernists or minimalists.

III Public Meeting Place



Fig.1 Bryan Dunleavy
The Conversation
Acrylic on canvas
80 X 80 cm

At the beginning of the process, I did not know what a relevant thesis would be concerning the topic of seating. However, when I juxtaposed seating models, which I had made during the past years, I was able to see a certain dialogue through linguistic and visual vocabulary that involved communication between users. In talking to various people about the relationship between the seating and users, I found an interesting painting which had the context of conversation. In that painting titled *The Conversation* (Fig.1), one person is talking down, and the other person is talking up while lying down. Their gestures were intriguing to me. I began to produce drawings that expressed my emotional impulses and anxieties that had a distinct relationship to the representations of the painting. My drawings focused particularly on the different eye-levels used while interacting with another person. Through my drawings, I built a model, *The Public Meeting Place*,

transforming the idea of public art such as a playground.



Fig.2 Mandai-ru of Byung-san auditorium,
Hahoi village, An-dong, Korea, 1607



Fig.3 The wooden floor of Mndai-ru

Some masterpieces gave me an important insight on communication. In Korea, inside Hahoi village, many houses have not lost their authenticity since the start of the Joseon Dynasty, especially the Byung-san auditorium, which Korean ancestors used for ritual and for teaching students (Fig.2). Students used to recite a poem or play instruments sitting on the wooden floor in Mandai-ru, which is an outdoor hall. When I visited Byung-san auditorium, I was impressed with the components of its environment: a river seen from the open space of Mandai-ru, architectural construction using traditional joineries, and a large wooden floor inviting many people to sit, etc. I could envision how these



Fig.4 Isamu Noguchi, *Momo Taro*
granite, 9' X 34'7" X 21'7"
1977-78

elements would have a relationship with the auditorium.

While looking at the functional sculpture *Momo Taro* by the Japanese-American Sculptor Isamu

Noguchi at the Storm King Art Center (Fig.4), I could find a hidden

knowledge that the public art

requires a spectator's presence to complete the artist's purpose. The public art also allows the users a great deal of freedom in its playground. Space should be given meaning by being ordered and organized by the artist. Or as Isamu Noguchi has quoted, "The essence of sculpture is for me the perception of space, the continuum of our existence."²

² Apostolos-Cappadona, Diane & Altshuler, Bruce. Isamu Noguchi: Essays and Conversation, Harry N. Abrams, in association with the Isamu Noguchi foundation, New York, 1994, 24.



Fig.5 Model for *The Public Meeting Place*

A script for *The Public Meeting Place*

“Through the darkness of a narrow lane between the two high buildings you get out into the brightness of the space for meeting. There are various ways you can think about the space as a freely available thing. It is in relationship to that: social, communicational, and the special idea about public. This volumetric large-scale floor and rings shows the other chunk of our society’s domestic world. The attempt of this place is to communicate a playground or performance stage. Many people come in and go out meeting and talking to each other in this environment. The huge carved stone acts as a medium holding a circular ring connected to another ring while anchored to the wooden floor. Two rings symbolize a sort of

link joining one thing to the other. All elements combine to provide a feeling of nature. Yet, the work is manufactured by precise planes in order to encourage communicating and finding relationship. You can sit anywhere you want. You can even climb up and sit on the stone mass, then contemplate while looking down. You become the user of this visual language with your bodily movement. People come into the place and play around you. One person sits on the ring. Moments later, others sit on the rings and on the floor leaning back or putting their arms up. Rings gently sway. People smile and look at each other and start talking together naturally.”

When I was considering placing this large-scale construction (Fig.5) in relation to the entirety of the thesis exhibition space, my committee led me to think about this: “Don’t put all your eggs in one basket.” I agreed with them. That advice made me start to understand better what I had to do to develop my concept. In this regard, I could carry the overarching elements of *The Public Meeting Place* into the various scale models for manageable sculptural furniture. Eventually, the elements of *The Public Meeting Place* have been the cornerstone of the scale models.



Fig.6 Models for a series of *Seating for Communicating*

These scale models (Fig.6) are results of design that I integrated into the visual language of my seating in three dimensions determining style, size, material, and proportion. For the placement of my subsequent seating, I looked at a wide-open space inside of the building rather than inside of private houses to encourage more users. Of these models, I deliberately and intuitively selected three forms to construct.

IV Seating for Communicating – Over the Rainbow



Fig.7 Seating for Communicating – Over the Rainbow
rattan, Baltic birch plywood, steel, 27 H X 108 W X 51 D inches, 2006

Over the Rainbow (Fig.7) expressed that a seat is formed from the ground as a natural phenomenon. By tying a bundle of rattan, I featured the human instinct of craftsmanship. Also, the gentle bounce of the rattan provokes users to converse naturally in a lighthearted playful seat. The entire shape was designed by bringing a component part of the circular rings from the public meeting place. An objective for this seating was to appreciate the sensibility of the material. Featuring the intrinsic beauty of rattan was quite successful. However, the feedback I got from the committee is that *Over the Rainbow* is more or less unsuccessful in the functional aspect of furniture. That is because I allowed the aesthetic elements to overpower the functionality.

Is this seating? Is this a sculpture? The question was too complicated for me to define. People can sit anywhere, even if they never intended to do so. Besides, they can also sit on the floor, which is not so bumpy. Probably the answer is this: if nobody else sits on a work, it is a sculpture. If somebody sits on a work, it is seating.

Eventually, I realized that my intention was not articulated, and the context was not clearly established. Also, I did not have personal artistic definitions that showed the difference between the terms, furniture and sculpture, and the terms,

form and function. Therefore, I had to make sure not to confuse “sit able” and “actual seating.” In this case, the circular base symbolized that a floor does not function as a seat because it looks more like a pedestal owing to its scale and shiny lacquer finish. For this reason, I understood *Over the Rainbow* to be much more sculpture than furniture.



Fig.8 Model for *Over the Rainbow*

After noticing some points I had missed, I reworked the model (Fig.8) and rattan and switched the rattan part upside down. The other side could be more functional. Arranging these two opposite rattan shapes to be on a continuous line could help each of them with rhythmical flow; however, leaving that idea behind,

I determined it best to build one of the two for my show and to explore the full possibilities in the future.

Fabrication Process

Over the Rainbow is a cantilevered seat consisting of a bunch of rattan poles. I first constructed the base by laminating 10 pieces of 3/4 inch Baltic birch plywood. One of the most important features in this construction is relying for support on the properties of the material. Therefore, the strongest part must be the connector. I used a portable power planer to make a slope of the base, checking up the level on the flat melamine board. Under the base I created a square space for a steel plate which has dimensions of 34 L X 48 W X 3/32 T inches, to give weight. After all, the base was connected to the bundle of rattan with 6 thread rods and 6 nuts.



Fig.9-a Base top



Fig.9-b Base bottom



Fig.10 Clamping the rattan securely

110LB of rattan poles rounded with 3/4 inches diameter and randomly cut approximately 9 feet in length were brought from North Haven, CT. Rattan is a pliable material, which I could easily deal with for steam bending. I constructed an arch-shaped drying jig on which I clamped the rattan securely until it dried. After preparing sufficient clamps and my work area, all rattan poles were placed in a steam box to prepare them for bending. I left the poles on the jig to dry for two days. To get the right angle of a rattan seat, it had to be considered with a three dimensional sense, which allows for the creation of technical plans and measurements. Although the structure appears to be a solid bundle of rattan, it is actually hollow to reduce its weigh. Where the bundle meets the base, there is a

4.5 diameter X 10L inches steel tube that is welded with six thread rods to the metal plate in the base.

The two layers are screwed together on the rattan arch, adding durability. Then I plugged up the holes left by the screws that held each layer together (Fig.11-b). The entire bundle of rattan was tied tightly on three parts with 3/8" natural sisal string (Fig.11-c). All rattan surfaces were finished with wax to make a smooth exterior and to achieve the highest quality and consistency. For this first seating, all processes required a great deal of the working time.

V Seating for Communicating – Under Construction



Fig.12 Seating for Communicating – Under Construction
southern yellow pine, hemlock, plywood, steel, 33 H X 96 W X 51 D inches, 2006



Fig.13 Model for *Under Construction*

In reviewing the model for *Under Construction*, I was faced with multiple dilemmas, similar to those I faced when I was doing the first seating.

What is furniture vocabulary? Where can the user sit? How is this shape to be constructed?

This arbitrary form was unclear seating. I needed to determine the category of this second seating. I felt this model tended to go too much in the style of sculpture rather than furniture. I also realized that the strategy I used to add function to the completed sculptural shape was an inadequate solution. That is because there is a demand for context of seating, a need for context before completing the overall shape.

From my perspective, a conflict exists between the sculptural aspect and the functional aspect. They may be overlapping, but at the same time, there is no fusion between sculpture and furniture. On the other hand, I want to keep the idea that the relationship between the two disciplines, 'furniture' and 'sculpture,' is a component in how I create. This makes for more interesting designs. Besides, the crucial matter is how this shape will relate to users and help in communication.

After considering the element of communicating, I established that the ring hung on the hemlock is a misfit as a seat. My solution was to remove the rattan ring, adding a yellow pine seat of a different shape, so at least two people can sit and talk with each other. This newly added seat functions well as a seat itself. The question of its identity is now certain.

Under Construction is made of recycled wood: hemlock and southern yellow pine. Wood has characteristics, like fingerprints. These woods have different rates of growth. Hemlock grows quite slowly, so the interval of its end grain is dense and narrow. On the other hand, southern yellow pine grows quickly because of weather and moisture, making for an end grain that is wide. By using these two contrasting species, the work is more conspicuous and interesting



Fig.14 Detail of a hemlock seat



Fig.15 Detail of a yellow pine seat

because wood's beauty is the most apparent when one looks at it beneath the surface.

The entire shape can look like timber architecture when seen close up or like human gestures when viewed from a distance. For me, exposing the knots and cracks of old pinewood captures the beauty of timber structure and its' detailing. Wood contains a life, a history, and the soul of the people who touched it. While sitting on it, users may be inspired and have warm feelings.

The disposition looks unfinished as if the recycled wood is ready to be carved. But, I did not want that my work feels utterly aggressive with too much carving. Therefore, my preferred solution was exposing the fine joinery to let people contemplate the detail

of construction.

Although the specificity of material is quite apparent, there is indecisiveness or vagueness to the shapes in relationship to what they might look like. Some components of this second seating have yet to be defined. Therefore, I entitled it

Under Construction.

This brings me to the first question: “What is furniture vocabulary?” The answer is not due to the shape of the artwork itself but to the users’ own motivation and experience.

Fabrication Process



Fig.16 Recycled wood material

At the beginning, the biggest construction issues of this piece centered on what material would be used for this sculptural shape and how to build. Considering various materials and mechanisms, I chose hemlock and yellow pine as construction species. Since it was the first time I had used timber for my work, I needed technical acumen, intuition, knowledge, and extreme craftsmanship for construction in harmony of both architectural and sensual material.

Under Construction is joined with hand cut dovetails, bridle joints, and mortise-and –tenons. I roughly cut large tails and tenons using a band saw and

chiseled them out, being careful of splitting. Then I assembled the joints (Fig.17, Fig.18). Working with western hemlock, with its straight grain and fine texture, was successful as it was soft, dried and resin-free. To leave its natural surface of hemlock, I did nothing to affect the finish, except waxing for preservation.

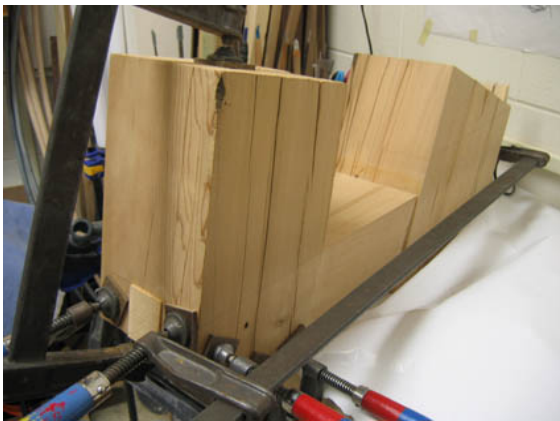


Fig.17 Clamping a part of the hemlock seat

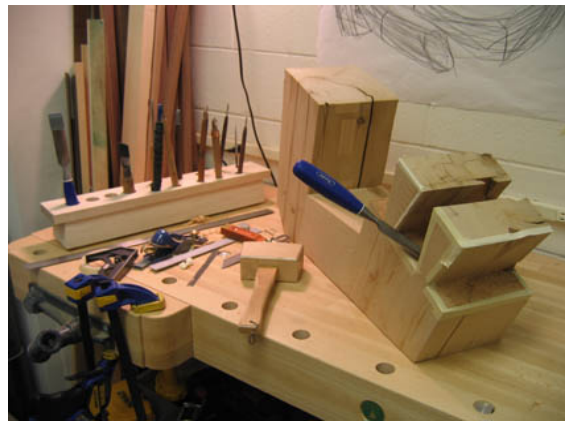


Fig.18 Chiseling dovetails

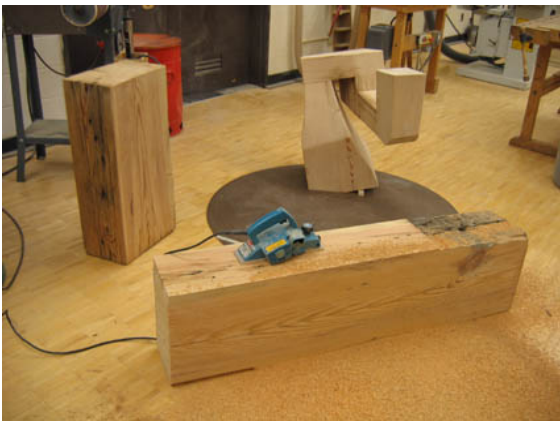


Fig.19 Planing a surface of yellow pine



Fig.20 Dovetail joint

In contrast to the hemlock, southern yellow pine was more difficult to work with hand tools as it is stiff and heavy and has resin. I also had to take into consideration: its' large shrinkage in fluctuating seasons. As a result, I designed a simple shape to be stable. I planed sapwood about 1 to 2 inches in width. (Fig.19) Large dovetails were used to joint two pieces of yellow pine, which juxtaposed the hemlock seat. When I jointed them together, I used long bar clamps on each side in order to keep them level.



Fig.21-a Base top



Fig.21-b Spraying lacquer

I began to build the base with 60 X 60 X 3/4 inches of Baltic birch plywood squares. I roughly cut the plywood into about 51 inch diameter circles using a jigsaw. Then, I made a circle-cutting router jig that would make a perfect circle.

I repeated the process to laminate 10 pieces of plywood. The result was clean and accurate.

Leveling the base bottom, I attached washers on each of the holes to protect the top surface (Fig.21-a). The base was sprayed with 6 coats of lacquer (Fig.21-b). The hemlock seat is fastened to the base using 6 thread rods and nuts. The yellow pine seat is set to the base with 2 brass pins.



Fig.22 Assembled pieces

VI Seating for Communicating – Hoop



Fig.12 Seating for Communicating – Hoop

rattan, walnut, plywood, tempered duron board, 9 H X 96 W X 51 D inches, 2006



Fig.24 Wall-Hung type A



Fig.25 Wall-Hung type B

Deploying the third seating, *Hoop*, I shifted my direction from a wall hung piece (Fig.24, Fig.25) to a piece on the ground (Fig.26) because hanging a floor image on the wall was not understood or was nonsensical, even if the form on the wall had a strong sculptural sense visually. The context, likewise, was no longer furniture but sculpture. Therefore, I strived to acquire the context of ‘seating for communicating.’ For that, I found *Hoop* should be set into action by the users like a playground. I also used simple elements to achieve the cleanness in a minimal viewpoint. The circular bases in the first and second pieces were shown like a pedestal by size and had no flooring pattern; whereas, in the third piece, the base is more definable as a floor image because of the attached straight strips on the base.



Fig.26 Model for *Hoop*

In *Hoop*, the seating is formed with two circles made of different materials, rattan, and walnut. One is closed and another cone is opened. The rattan ring rests on the walnut circle floor overlapping slightly. My idea is to allow the circular walnut floor and rattan ring to have the same diameter and height coming up to just the shin. Therefore, I tried to get a new value from two different concepts, floor and ring, by endowing them with the same purpose as low seats. These two parts are developed from each other. To me, the rattan ring has become a blazing symbol of the connection between people, while emphasizing the aesthetic qualities of the materials. It can be metaphorical, sculptural and functional. Significantly, there is no ideal position for users; they are freely

invited from any direction onto the rattan ring and onto the walnut floor connecting their social contacts. Providing equivalency in seating, therefore, there is continuity between the two circles so that one can sit in balance.

Fabrication Process



Fig.27 Stacking layers



Fig.28 Planning the base bottom



Fig.29 Covering the side with a scarf joint



Fig.30 Attaching walnut strips onto the top

The side of the base was covered with 1/8" T walnut veneer using belt clamps (Fig.29). 1 1/4" W X 1/8" T strips were glued onto the top surface. These thin strips were glued at the center area allowing expanding and contracting with changes in relative humidity. While gluing and clamping the strips, long boards

were used to push the center area where it could not be reached (Fig.30). Also, to insure the resulting walnut strip was straight, the width of each strip was identical and referenced by a straight edge.



Fig.31 Sanding with an orbital sander



Fig.32 Rubbing with fine steel wool



Fig.33 Shaping the interior frame



Fig.34 Attaching rattan poles

For the rattan ring, I constructed an interior frame of stacked layers of plywood (Fig.33). After making the surface of the interior frame smooth using a grinder and rasps, I started attaching 1/2" rounded rattan poles on the frame (Fig.34). Each rattan pole was screwed and plugged with rattan buttons. After finishing construction, I sprayed lacquer on the walnut piece and rubbed wax on the rattan piece. However, my committee recommended that applying oil on the walnut piece would have been superior to lacquering because the base will be stepped and sat upon.

VII Final Thoughts



Fig.36 Scene of the MFA thesis exhibition, 2006

Today the public has expected unique furniture to have both artistic and functional components. The wide variety of live-in spaces necessitates that these components are essential parts of furniture design. As a necessary consequence, contemporary furniture has at its heart a furniture model with aesthetic beauty and functional usefulness.

For my MFA thesis work, I have embarked on the creation of a series of seating related to the idea of communication between users. I believe seating is the powerful communication tool that can help users have relationships. In my personal history, I have experienced the cross-cultural influence on the East and the West. Therefore, I strived to incorporate my physical and emotional history into the seating. To accomplish the satisfaction of the two components, “comfort and beauty,” my inspiration was driven by the relationship between sculptural quality and functionality. Accordingly, while capturing a sense of balance and tranquility, I maintained an intermediate value via the intermingling of a practical aspect of furniture and an aesthetic aspect of sculpture.

Returning to the preliminary aim of this thesis work, I ask myself how much does my seating satisfy the conditions of visual and functional usefulness?

Over the Rainbow and *Under Construction* are formed into unconventional and

pleasing seating. The visual language of these two pieces where I attempted to merge the concept of the floor into the actual seating was more or less vague. I needed a “vision” of how things will turn out. In contrast to them, *Hoop* took a more obvious route on seating for communicating with substantial practicality as furniture. Its function was quite accessible as a low seat by inviting users from any direction. Eliminating the “junk” that is not part of my aesthetic sensibility helped me to better understand the idea of simplicity.

I judge that the significant achievements of my MFA thesis are not only developing a unique language of my own creation and final aesthetic outcome, but also the evolution of my design process and finding out the right direction for my future work. Moreover, I have learned that keeping a balance between an aesthetic value and a functional value is an important aspect in making furniture, as opposed to sculpture. I believe this MFA thesis made me enhance my own venue in art and qualified me to create better innovative furniture and intensify my creativity for tomorrow. For that, I will continuously strive to create one of the strongest bodies of work in provocative contemporary furniture.

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Article

Interview with Isamu Noguchi conducted by Paul Cummings at the Artist's studio in Long Island City, New York, November 7, 1973