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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.

The Tension of Gesture

by

Edward W. Atwater

February 8, 2002

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To my parents Ruth and Edward Atwater for their forty two years of support, tolerance, understanding, love and friendship. And, yes, for all that prodding to get it done (if you give some people seven years, they'll take it).

And finally to my wife Victoria Moore whose patience with me and my frustrations through this whole shebang was amazing. Her knowledge of computers, artistic ability and countless hours of helping me format and put this beast together should earn her a second MFA. Without her this would very likely not have been finished.

The pieces of furniture in this thesis represent an exploration of the concepts of gesture and tension. This work is not about any special event that changed my life. There is nothing profound going on here, no mystery, no underlying secrets or experiences that you can't understand. I am not an island in a sea of despair. My work is not intended to be about myself or my relationship to the world.

These are functional pieces of furniture, utilitarian with flair. I chose two concepts, made interpretations of them, constructed the pieces to the best of my ability, made a conscious effort to tie the work together as a coherent group, and generally had a lot of fun during the whole process.

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INTRODUCTION

The purpose of this thesis will be to design and construct a group of functional pieces of furniture that explore the concepts of gesture and tension.

The road that led to the proposal of this thesis began with my experience in the Associate of Occupational Studies (A.O.S.) program. During those two years my furniture designs were greatly influenced by the ideas of organic forms inspired by implicit and explicit lines found in the shapes of animals such as eels, horses, aardvarks etc., the physical movements those animals make, and the urge to figuratively represent those ideas in the form of functional furniture pieces. Through the use of a lot of reverse curves and organic lines I approached the design process.

Each quarter in the A.O.S. program we were given some semi specific guidelines for the project we were about to undertake. Sometimes it was a specific piece that had to be built, other times it was an influence or process that had to be addressed. In retrospect, despite the range of assignments that were given, if one were to take the pieces I constructed over the two A.O.S. years and put them together, you could make a pretty strong argument that they all tied together in a fairly cohesive body of work. So despite the variations in assignments, I tended to approach them with some similar design ideas in mind. I would look at the assignment and think of how it could be represented in a way that showed the gesture of a specific animal in a figurative way. This was the experience I had entering the M.F.A. program and it would prove to have a great influence on how I approached the proposal of the thesis.

The M.F.A. thesis was an opportunity for me to switch gears from the design approach I had rather narrowly developed during the A.O.S. program. The animal thing had run its course. I was ready to move on yet I was compelled to use some of the elements of design that I had found exciting and challenging in the

A.O.S. program and bring them into an exploration of a slightly different direction and nature.

I was still interested in the concept of gesture. It was now time to add to that concept some other ideas. The concept of tension was somewhat stumbled upon during the design of the bed which was begun in the Fall of the first year of the M.F.A. program. The “tension and gesture” created in that piece (which ended up as part of the thesis body of work and will be discussed later) was to become the inspiration for the rest of the thesis. The implicit tension in the bed was created by the physical gesture of the design. This “discovery” inspired me to further study the concepts of gesture and tension.

My goal in the thesis was to relate the concept of gesture by using implicit and explicit lines to bring to the piece a sense of motion. The concept of tension would manifest itself in different ways; perhaps created directly through the gesture of the piece; breaking, on the edge, pulling, tension created through a sense of imbalance, tension under weight, tension using opposing gestures.

The bed, however, was the “maiden” piece of the thesis and the departure point for the rest of the work.



Bed

Design

As previously mentioned, the bed was originally designed and constructed during the first year of the M.F.A. program. I spent the first two weeks of the Fall quarter trying to design an expansion dining table but had a difficult time getting excited about the piece because it had too many constraints built into it such as height, overall size, and the fact that it had to have a flat, functional surface. The idea of a bed intrigued me. It had some of the parameters that the table had; it had to be a certain minimal dimension to hold the mattress and box-spring and, to a lesser degree, had to be within a range of heights. Everything else seemed to be fairly wide open and it was the idea of being able to use the head and foot-boards as a sort of wide open pallet that set me off to designing the queen size.

The posts of the bed came first. I was still carrying a lot of design baggage from the previous two years...they had to be curved. The posts would also set the tone for the head and foot-boards as they would act as a sort of frame around them. I played around with different curves in the posts, equal, opposing, reversing, all sorts of combinations and possibilities. When I finally came to a resolution I was pretty excited about it. The final design satisfied my hell bent need for gesture. The curves of the posts were very directional, looking vertically as if shooting off in one direction while horizontally appearing to be blowing in a stiff wind. This gesture was further enhanced by opposing the direction that the posts of the head-board and foot-board took. There was a hierarchy between the heights of the posts, as well as the eventual size of the head and foot-boards, with the head-board having the two taller and foot-board the shorter. This resulted in a nice height progression around the bed (fig.1).



fig. 1

The posts were a major factor in deciding on a design for the head and foot-boards. They looked as though an unseen force were pushing them to one side as if in a storm. The sail forms resulted from this appearance. The idea was to show as much as possible a sense of being blown, pulled, and stretched. The opposing curves of the boards from a front view give the sense of being stretched between the posts. The narrow to wide ends of the forms were intended to make the shapes appear as though their mass was being pushed to the side, that the "force" was blowing the posts. The forms were also curved front to back, adding to the "billowing, taut sail" look (fig.2).

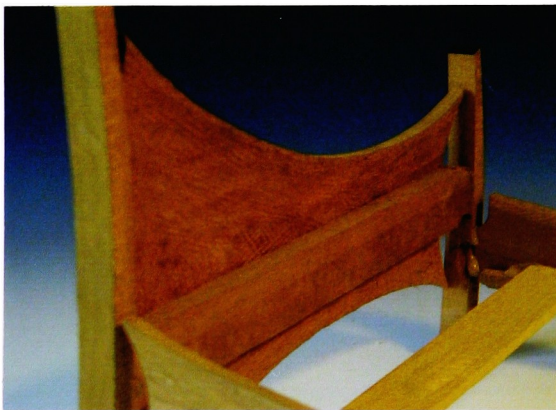


fig.2a



fig.2b

The design for the rails was a direct result of the head and foot-board forms. I decided that they would basically be elongated versions of the head and foot-boards but where the head and foot-boards were curved front to back, the

rails were convex at one end and smoothly transitioned to concave at the opposite end. This design was reversed for the opposite rail(fig.3).



fig.3a



fig.3b

The finials were fairly easy to resolve. They needed to complete the posts. The gesture of the posts dictated the finials to have a blown appearance. The “paintbrush” appearance worked because it was a continuation of the directional gesture of the posts while at the same time diminished to a point, giving the finial a wind-whipped feel...the finial touch(fig.4).



fig. 4

Construction

The entire bed was constructed of solid cherry with the finials being figured walnut. The posts were cut from a single board of 16/4 cherry. The curves were smoothed using a flush cutting bit and jig on the shaper. A gentle rounding over of the fronts and backs of the posts was achieved with a spokeshave. This helped eliminate the hard edges of the posts and added to the flowing look of the piece. The curved cuts in the posts feet lightened the appearance of the bed and gave it a look of being uprooted, adding to the directional gesture of the bed.

The head and foot-boards proved to be the most difficult aspect of the beds construction. They were made from 8/4 cherry. Each form was constructed from 4 tapered boards that were glued together using the process of coopering. The gluing process of the boards wasn't too difficult, the edges were aligned with biscuits, but the cauls necessary for each glue-up needed to be custom made and were rather time consuming in their design and preparation. Worse, however, was the shaping of the forms once they were constructed. Days were spent with power and hand planes, the stroke sander, rasps and files, spokeshave, and of course, lots of sandpaper and elbow grease.

Once completed, a method of attaching the forms to the posts needed to be devised. This was resolved by attaching the forms to a single stretcher by burying t-nuts into plugs that were then epoxied into the backs of the forms. Machine bolts secured the forms to the stretchers using spacer cylinders and rubber gaskets. The stretchers were then fit to the legs and attached with mortise and tenon (fig.5).



fig. 5

The rails were made from 10/4 cherry, very massive, almost entirely shaped by spokeshave and reverse-curved hand planes. Curves that were sympathetic to the curves of the head and foot-boards were cut into the ends and a routed, curved recess was added to those edges in order to achieve more continuity with the piece as a whole (fig.6).



fig.6

Notched cleats were secured to the insides of the rails. These held the six maple slats that supported the box-spring and mattress.

The method of attaching the rails to the bed posts was decided upon with adjustment in mind. A 4" split tenon was glued into both ends of each rail. A 4" mortise was cut into the 4 posts. Lag bolts were screwed into each post in the

center of the mortises, the threaded ends protruding about 5". Next I drilled into the rails where the split in the tenon was (centered) about 6". With a hand gouge I dug away at the inside of the rail until it met the drilled hole and cleared enough material away to accept a castle nut. With this done the threaded end of the lag bolt in the post slid into the split in the tenon and the tenon fit loose into the mortise providing a sufficient vertical joint to keep the rails from rotating on the lag bolt. The castle nut was then spun on and tightened making for an incredibly sound connection. What this method also achieved was a way of keeping the bed from squeaking and loosening up over time by simply tightening the castle nuts when necessary (fig.7).



fig.7

The finials were made from figured walnut blanks. After cutting a curved blank I turned the beads at the base of each finial on the lathe and continued turning about another inch up. The final shaping was done by hand. Holes were drilled into the bottoms of the finials and a walnut dowel was inserted. A corresponding hole was cut into the tops of the posts and the finials fit loosely into these so that they would spin easily if bumped.

The finish was my own interpretation of a two part Sam Maloof concoction. The first part consisted of boiled linseed oil, tung oil, and polyurethane. This was

rubbed in, dried, and repeated for 3 or 4 coats. The second part was a mixture of linseed oil, tung oil, and beeswax all melted together. This was slopped on and rubbed in as well. The result was a deep, rich color brought out by the oils and a surface very well protected by the polyurethane. The wax gave the bed a good luster.

During the construction of the bed, and more so when it had been completed, I was surprised that a fair number of people reacted to its design in the same way. The forms and opposing gestures of the design made them feel “uncomfortable”. Some even said that they felt they would have a hard time sleeping in a bed that had so much motion going on. A certain amount of mental “tension” and anxiety was expressed by more than a few.

It was never my intention while designing to bring out these kinds of responses to the piece, I had seen the tension as one created by the physical aspects of the parts of the bed and how they related to each other, I had never considered the psychological...what a nice bonus. The feedback intrigued me and I felt as though it might be fun to explore these responses.

This was all going on around the same time as the beginning of the second year of the M.F.A. program. After thinking about a few options for a body of work and discussing the comments made on the bed, I decided to respond by further exploring the concepts of gesture and tension.

It was agreed that the bed could be used as a point of departure for the investigation and be part of the final body of work. A thesis was born.



Grandfather Clock

Design

I chose to construct a grandfather clock for a few reasons. First, I had the urge to build something that I hadn't seen approached at R.I.T. in the years I had attended. The idea of a grandfather clock seemed to lend itself to all sorts of design possibilities that could fit into the study of the concepts of gesture and tension. Finally, I wanted to try my hand at contemporizing a piece that, I felt, was often expressed in a very traditional way and where design freedom seemed to be somewhat stifled by the function of the piece. The limitations in design that I had felt about the dining table I decided to attack in the grandfather clock.

The bed seemed to have been fairly successful in expressing the gesture and tension concepts and it also raised some new issues. I set about designing the grandfather clock with the intention of taking the ideas in the bed a step further. The bed had given the appearance of a taut sail form tied between two masts being blown in a strong wind. The tension came from the figuratively expressed "struggle" between the "sail" and the forces trying to rip it from its moorings. The clock was an attempt to take this struggle to the next level.

The basic form of the clock was derived by taking the sail form of the bed and turning it on its side in a vertical orientation. This worked well because it visually tied the bed and clock together and still showed a good amount of directional gesture. Traditional grandfather clocks often have a drawer or compartment near the floor where winding keys and other items can be kept. The clock dial, weights, and pendulum are usually accessible through glass doors in the front of the clock. The first sketches of the clock had these traditional features in mind (Fig 8).

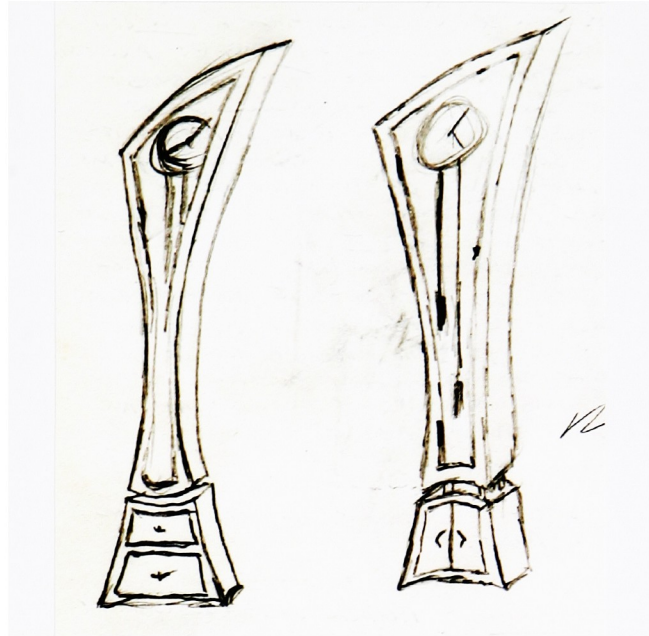


fig.8

The separation between the upper and lower sections was intended to give the piece a sense of floating as well as to break up the expanse of the original form. Although the gesture was expressed, there was an obvious lack of much of a sense of tension in the design. The blown gesture and a sense of the clock being uprooted by an unseen force was there, but the concept of tension was poorly expressed.

The next level was found by reinterpreting the function of the separation between the upper and lower sections of the clock. Instead of using the separation merely as a way of breaking up the piece and giving it a floating appearance, I decided to use the juncture to express the concept of tension. The implied forces that were originally uprooting the form were now breaking it. The separation of the two components of the form now became a violent tearing apart, as if a limb were being snapped. By twisting the upper component, the break was greatly enhanced, the gesture was increased, tension was well expressed, and the entire piece became much more visually exciting from all views(Fig.9)

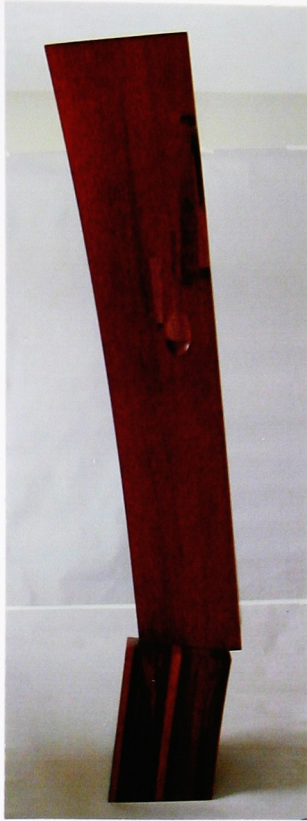


fig.9a



fig.9b



fig.9c

The shape of the upper form and its radical lean to one side allowed me to further contemporize the clock by designing the chains, weights, and pendulum to hang outside of the carcass(Fig.10).

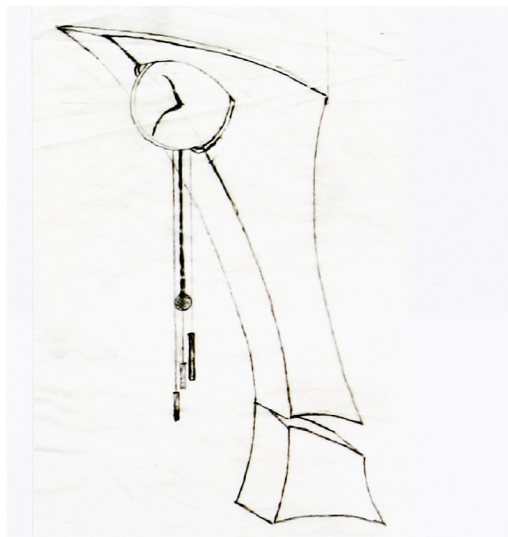


fig.10

At this point I was beginning to feel that the design was too traditional in its use of the lower storage compartment and the glass door front. They seemed to take away from the focus I wanted given to the implied break at the juncture of the upper and lower components. The function of the door and compartment seemed to become more and more lost as the design progressed, so they were eliminated altogether. The result changed the piece greatly. It helped hone in on the concepts of gesture and tension.

The issue of how the clock's face was to appear wasn't resolved until well into the building process. After trying numerous ideas I decided to give the clock dial the image of being pinched out of the carcass, suggesting another force and adding to the concept of gesture. The "eyelid" opening worked best as it "held" the face yet also appeared to be squeezing the face, causing it to pop out of the carcass. The shape of the face itself gave it the same directional flow as the carcass and the idea that part of it was missing tied it into the "broken" juncture between the upper and lower components of the clock. The clock hands were simply miniature, figurative expressions of the overall form(Fig.11).



fig.11

Construction

The biggest construction issues of this piece centered on how to make it stand without falling over and how to keep the piece rigid enough so that the motion-sensitive clock mechanisms would maintain accurate time.

I began constructing the base by laminating 11 pieces of solid mahogany; this provided a hefty foundation. After band-sawing the form I then cut an angle on the base so that it tilted forward about 8 degrees. This allowed the “break” at the juncture of the upper and lower components to become more pronounced and open to the viewer(Fig.12).



fig.12a



fig12b

With the base set aside, I built the carcass by making bent laminations of solid mahogany of each of the four sides, using every available clamp in the shop(Fig.13).



fig.13

To achieve the necessary depth of the carcass (12") I glued up two 6" wide laminations each for each of the four sides and edge glued these together using dowels for locators. The carcass was mitered by hand (because of the softness of the mahogany, this method proved to be faster than setting up on the table saw for 8 different cuts), biscuits were added for clamping alignment, custom cauls were made and the four sides were glued together (Fig.14).

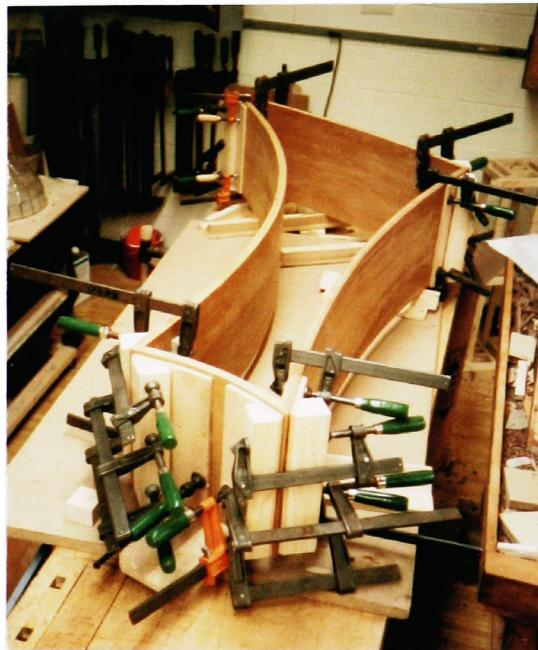


fig.14

Next, I rebated the front of the upper carcass and glued in a 1/2" piece of MDF, filled the gaps with bondo and sanded the face to a smooth surface. I laminated a "plug" of solid mahogany and cut it to fit into the bottom of the upper carcass, then glued it to the back of the MDF face (Fig.15).

fig.15

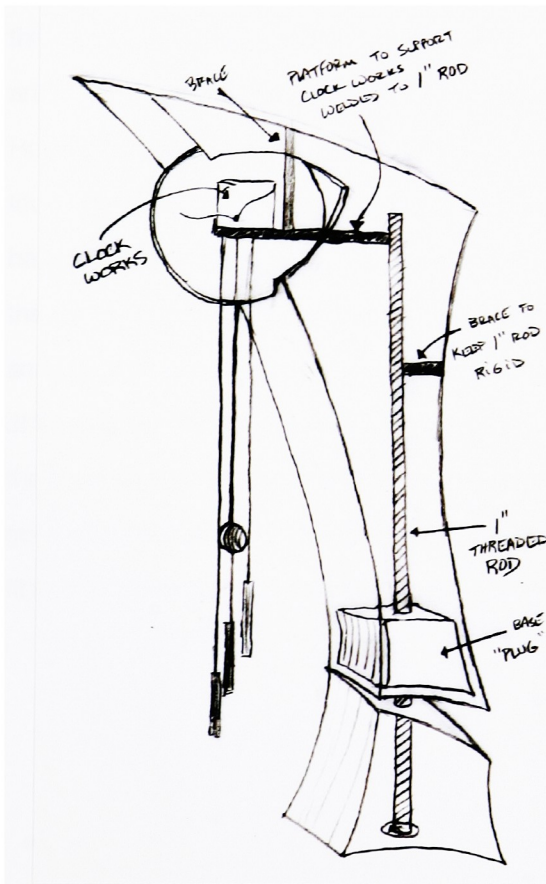


fig.16

This was done to add weight to the base but also in response to concerns of how the clock works were going to be attached to the piece. The original idea was to run a threaded rod through the base, up into the carcass, and to the top where a steel "platform" would be cantilevered from it and hold the mechanism (Fig.16).

The threaded rod would be attached at a couple of points inside the carcass. The thought was that this would provide good rigidity for the mechanism and also enough strength to support the nearly 25 pounds of works, lead weights, chain, pendulum, and bob. Unfortunately, down the road, this would prove to have its own inherent problems.

After finding a suitable 1" by 6' length of threaded rod I laid out the proper angle (plenty of guesswork involved) and drilled through the base with a long auger bit. I then had two people hold the upper carcass on the base in the orientation that I wanted and laid out a continuation of the hole in the base through the plug in the carcass, again mostly well informed guessing with just a touch of rocket science. The "pivoting" nature of the upper carcass on the base allowed for some fudging to occur.

With this done I was ready to attach the two elements. I ran the rod through the base and set the carcass over it. The carcass spun freely on the base and it was easy to adjust the relationship of the two to a point where I was satisfied. Holding this relationship in place, I scribed around the bottom of the carcass, took it off its perch, and mowed away a corner of the carcass where it met the base. This process proved to be very exhausting and time consuming because the carcass was constantly being put on and taken off the base to check for a snug fit. The idea was three-fold; create a flat on the carcass that matched the top of the base so that the carcass wasn't resting on a point, lower the carcass onto the base enough so that the threaded rod wasn't visible, and finally provide a good clamping surface when the two components were attached. Once a good fit was achieved, the base and carcass were bolted together (Fig.17).



fig.17a



fig.17b

At this point it was determined that deflection and rigidity of the piece were not going to be an issue and the rod was cut down to just above the plug. This also made the installation of the carcass to the base much easier and the upper weight of the clock considerably less.

After cleaning up the faces of the base and carcass I veneered them with a continuous piece of figured mahogany. This gave the appearance that the two components had originally been one and added to the “torn, broken” look of the piece.

A new mechanism for mounting the clock works had to be devised. It was decided that there was enough strength and rigidity in the piece to hang the works from the top of the inside of the carcass. After cutting the opening for the clock face I laid out the location of the works and made a couple of cleats that were glued and screwed to the inside of the carcass top. Next, a steel plate was fabricated to hold the clock works and then attached to the cleats in a way that it could be adjusted both vertically and horizontally (Fig.18).

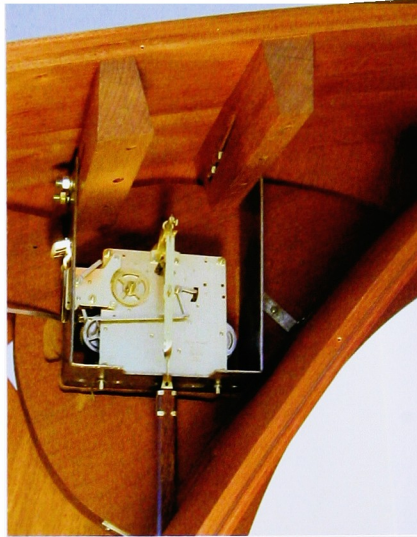


fig.18

With the works (a Franz Hermle 8 day / Windsor chime on the quarter hour) in place and properly mounted to be plumb and level, the openings for the chains and pendulum were laid out and cut.

The clock face was made from a single piece of solid mahogany. Cut, shaped, angled, re-angled, reshaped, fussed with and sanded, it finally fit into its "eyelid" slot and the piece was looking almost complete.

The bob that came with the clocks works was very plain and flimsy. I had one fabricated using a centuries old knife making technique called Damascus combined with a technique known as pattern welding. A billet was fabricated from layered sheets of alternating iron and steel that were folded into each other. The more folds, the more layers (easily up to 400 layers...often more). This billet was then cut into slices and the slices arranged into a pattern. This pattern was then closed into a steel box, heated and hammered until the pieces were fused together. After grinding and polishing, the result is spectacular (Fig.19).



fig.19

The hands were fabricated from sterling silver sheet. A back for the clock was cut and veneered and the piece was finished with multiple coats of Bartleys clear satin gel. The end result was, I thought, very visually exciting. The grandfather clock was to become the “flagship” of the thesis.



Design

The valet proved to be, in a design sense, a pivotal piece for me. It was the first time that I purposefully drafted a piece using a mostly hard, linear approach. With this piece, I was finally able to break away from the idea I had that the concept of gesture, for me, had to be expressed through the use of curvilinear lines. It also gave me the opportunity to add some whimsy into the concepts of gesture and tension and, as it turned out, it was the inspiration for a few future projects as well.

The idea came when I was visiting my sister and brother-in-law in New Hampshire. He had a very simple valet, constructed with pure function in mind (Fig.20).

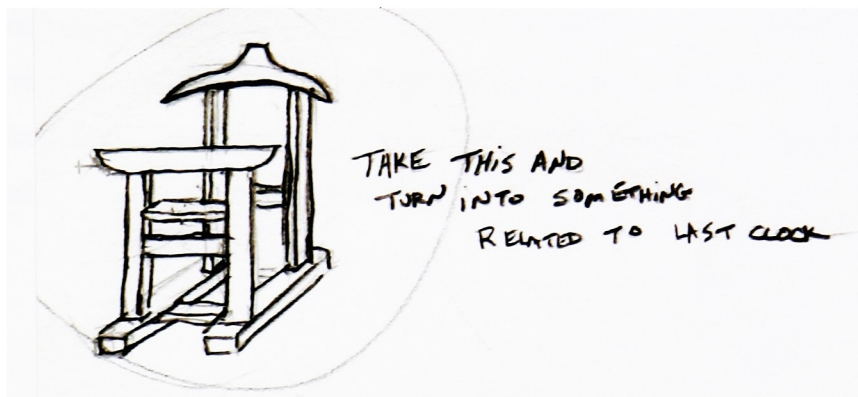


fig.20

I hadn't seen many valets and thought it would be a fun, unusual piece to tackle. The first thing I noticed about this particular valet was its likeness to a small man when the jacket and pants were hung on it. The only things missing were hands, feet, and a head. Since a valet is designed to hang clothes on, my design approach focused on creating a valet that was essentially another "being". Instead of hanging clothes on the valet, one could dress it.

My first thought was to tap into another design I had done during the first year of the M.F.A. program. A series of clocks I had constructed included one that had legs and feet (shoes actually) (Fig.21).

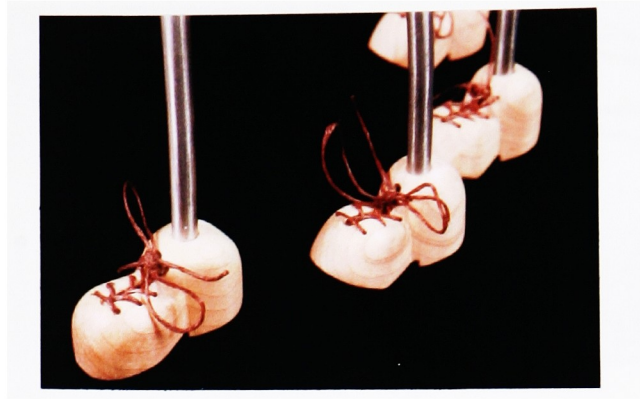


fig.21

I thought that I could just blow up the scale of the shoes and use two for the base of the valet. At first this seemed to be a pretty good idea but then I was reminded of the fact that I was supposed to be approaching this piece with lines and angles in mind rather than my standard curvilinear thought process. Also it was decided that the shoes would be too representative of a human figure and that maybe a different design course was necessary. So I went back to thinking about angles, hard straight lines, and flat surfaces. The next shoe was a simple reinterpretation of the clock shoe (Fig.22).

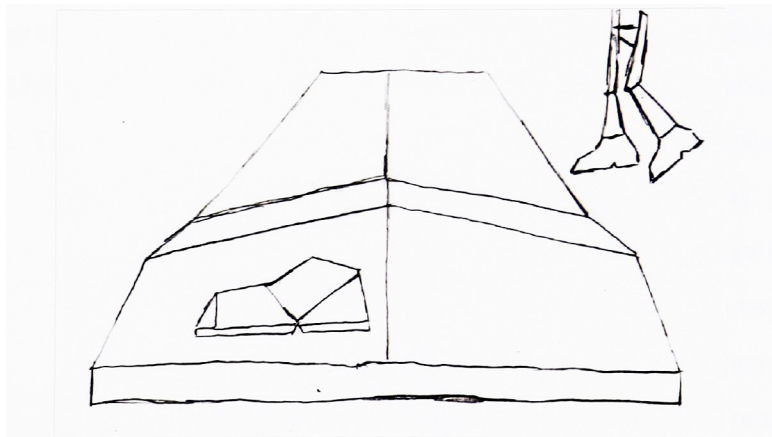


fig.22

By taking away the curvilinear lines the shoe now looked robotic, mechanical, less alive and expressive. So I went with this robotic look and stepped further away from the original shoe to the point where I was now working with the feet of a mechanical human figure (Fig.23).



fig.23

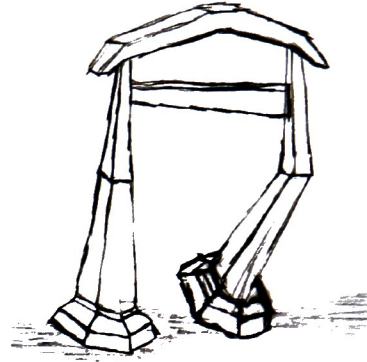


fig.24

The rest of the valet grew directly out of the feet. The original idea for the legs was to create the needed gesture of the piece by making the valet appear to be walking. One leg was oriented straight up and down while the other was also vertical but bent at the knee and the heel of the shoe raised (Fig.24). Although this worked at creating gesture, it was too stoic, too "at attention", too limited in gesture. I was also concerned as to where the concept of tension was going to come into the design. Both problems were solved by tweaking the straight, vertical leg in two ways. Although it still remained vertical and its shoe flat on the ground, I bent the knee and turned the leg inwards. It made all the difference in the world. The walking gesture was replaced by an appearance of stumbling,



tripping over something, being off balance. The gesture was greatly enhanced, the tension came from the imbalance of the piece; one wanted to reach out and support the valet as it stumbled towards them (Fig.25).

fig.25

The remainder of the piece was resolved fairly quickly. The hanger was designed around fairly rigid size and shape requirements. Again, flat surfaces, hard lines, and angles replaced any curvilinear lines found in the hanger used as the model (Fig 26).



fig.26a

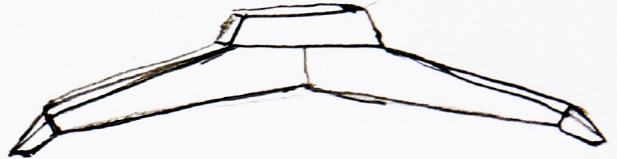


fig.26b

The pant hanger had a simple angle and acted as a stiffening rail for the piece, a purely functional element. The coin/ ring/ watch tray was designed with a shirt collar in mind. The mirror was intended to be the representation of the profile of a rather angular, and what I hoped would appear, robotic head (Fig.27).

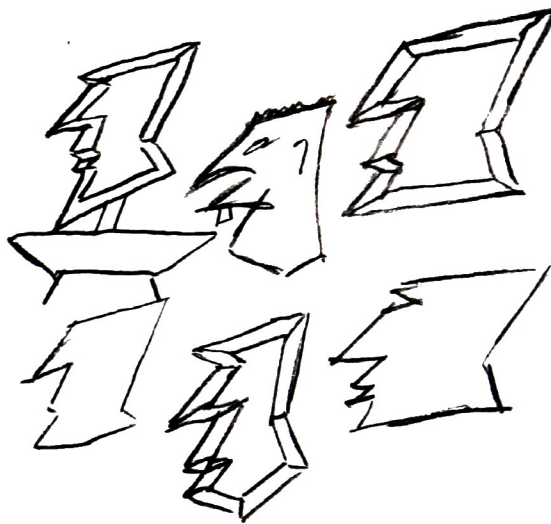


fig.27

Construction

The entire piece was made from solid maple. All joinery was mortise and tenon. The feet were stack laminated in two parts, upper and lower, their footprints cut on the bandsaw. All the facets of the feet were done on the table saw, an often tricky and (in retrospect) dangerous operation, and the two parts were glued together.

Each leg was tapered on the table saw from laminated blanks and the proper compound angles cross-cut at the junctures of the ankles, knees, and shoulders of the hanger. Facets were added to the legs with hand planes.

The hanger was a three part construction, two “arms” and a “neck”. The arms were done partially with bandsaw and hand plane because the complexity of the angles prevented the use of the table saw. The rest of the angles and facets were created by using the horizontal milling machine. The two arms were glued together and the “neck”, a simple angled block off the table saw, was applied on top (Fig.28).

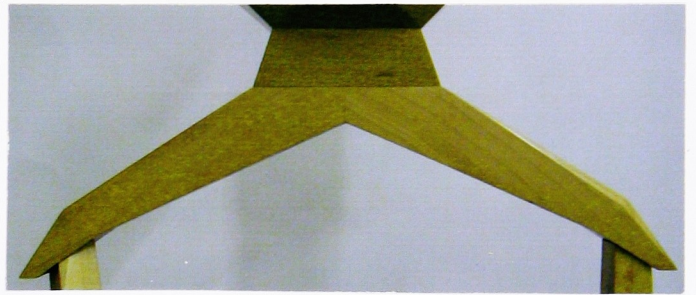


fig.28

With the orientation and distance between the legs determined (dictated by where they met the hanger), the pant hanger was cut and the proper compound angles made on the ends. I rounded over the top edge of the pant hanger so it wouldn't put a crease in the pants. Unfortunately this raised another issue; the pants now were inclined to slide off the hanger onto the floor. To solve this I routed a series of grooves along the length of the rounded edge and inserted round strips of rubber window beading used to install screening. The friction against the ribbed strips of rubber kept the pants in place.

At this point it became apparent that unless some measure was taken, the piece had the tendency to fall forward. As the weight on top increased with the addition of each element, this tendency grew. To solve the problem I hollowed out the shoe that set flat on the ground and filled it with lead shot. This added more than enough counter-balance to the piece and worked out very well in the end.

The coin tray was made from a single piece of maple. The trough in the tray was accomplished by angling the tray on a jig and using the mortising machine to plow out the recess. This was glued to the “neck” of the coat hanger. Finally, the mirror frame was mitered and glued together using 1/8” dowels acting as tenons. The mirror was cut and set into the frame. The base of the mirror was then angled so that the tilt allowed a person to see as they were putting on their tie. The mirror was attached to the tray by using a support arm that was mortised into the tray at the same angle. The mirror was screwed into this arm (Fig.29).



fig.29a

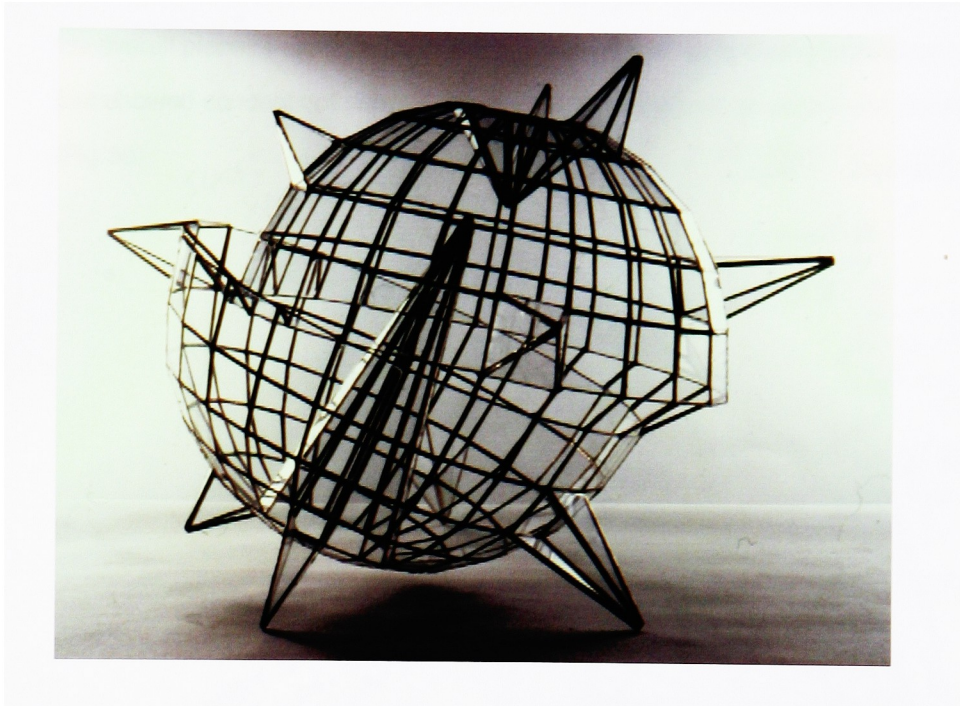


fig.29b

The piece was finished with a clear semi-gloss spray lacquer.

During the time that the valet was being constructed I was taking other elective courses in glass, metals, and ceramics. The design approach I had taken with the valet directly influenced the projects in those electives. One such project

was in the glass elective and, although not made of wood, should be discussed because it ended up being part of the body of work of the thesis.



Globe

Design

The globe was a stained glass elective project that ballooned into a full-bore thesis project. My original intent was to simply create a three-dimensional stained glass piece. After doing a study of possible forms to use I decided to build an enclosed globe. A series of sketches were drawn, each focusing on how different shaped pieces of glass could be used to show different concepts in the overall piece. I experimented with numerous shapes and color combinations that showed concepts of dimension, organics, gradation, structure and pattern (Fig.30).

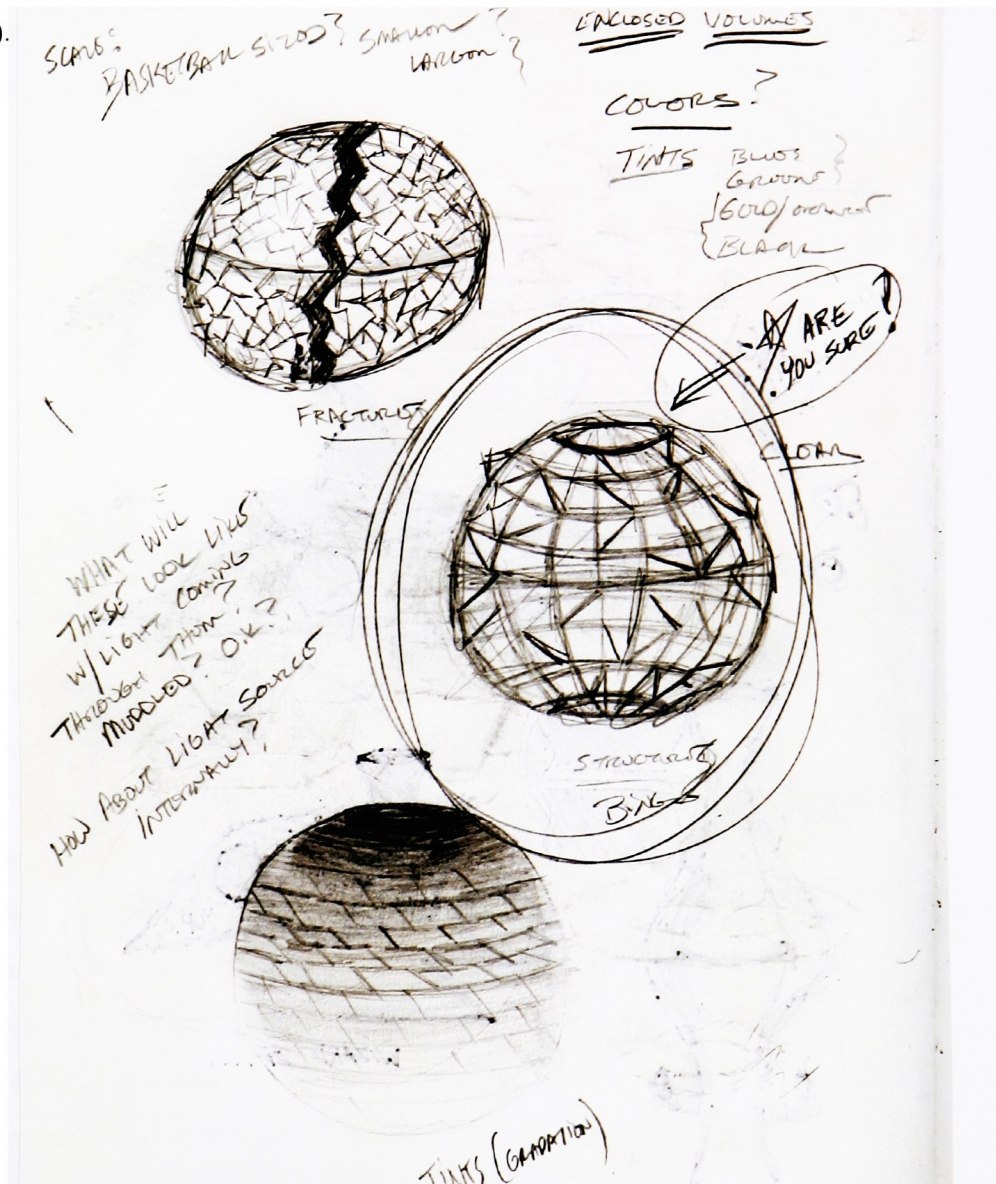


fig.30

The decision to go with an approach based on structure was the direct result of the robotic/ mechanical/ figurative course being taken with the valet.

To further emphasize the concept of structure I decided to use clear, standard window pane glass. This would help strip the piece to its bare components, lines and facets, a transparent form where the “skeleton”, the structure of the piece, was the main focus. So much for a stained glass project.

So I had this globe idea and now I wanted some sort of stand for it so it wouldn't just roll away. But the idea of a stand seemed as though it might take away from the sort of “pureness” that the globe had on its own. Instead of actually building a separate piece for the globe to rest on I decided to rest the globe on itself by adding pyramids in place of glass panels in certain areas (Fig.31).

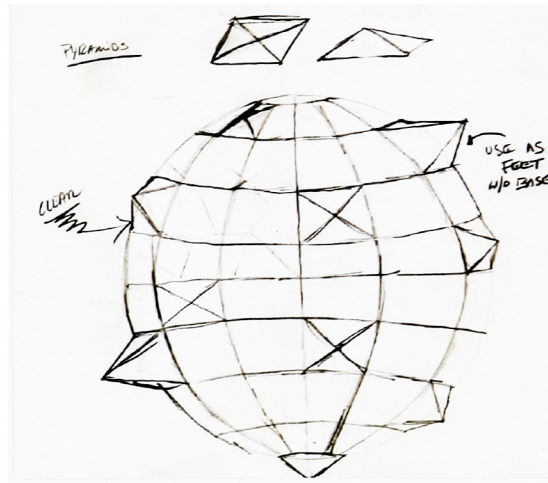


fig.31

These acted as feet and would allow the globe / dome to be displayed in various orientations.

The pyramids at the two poles of the globe were designed as another structural element that achieved three things. They complimented the pyramid structures on the surface of the globe, they drew the viewer into the interior of the piece, and, as they were to almost touch inside tip to tip, they brought the opposing poles together...opposites attract.

So I had this clear globe with pyramids for feet and this dichotomy going on inside and the whole thing was based on the concept of structure and had

nothing to do with my thesis except that it had been inspired by the design approach taken with the valet. This remained so until it was nearly constructed.

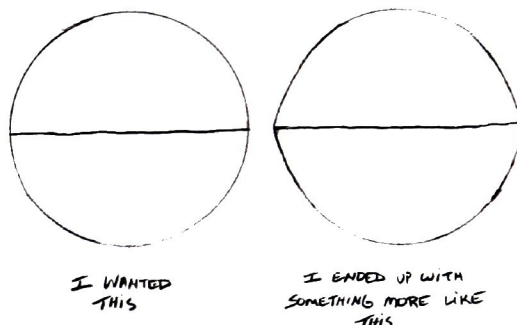
Construction

The globe was constructed in two separate halves. I used a clear plastic dome that had originally been used on a bird feeder to deter squirrels as a form to build the piece. I chucked the dome into a lathe and, while it was turning, laid out the horizontal lines. Using a plumb bob from the "pole" of the dome, I was able to calculate and lay out the vertical lines. Once done I had a good "map" laid out on the plastic dome and was able to measure and cut the 300 plus pieces of glass that would go into the piece.

Starting with the bottom course along the "equator" I used the copper foil/ solder technique in connecting the glass. Some of the panes had to be cut down a bit as each course was closed in order to compensate for the thickness of the copper foil. When I had closed the top course I removed the 1/2 globe and flipped it over. By supporting the globe in bunched up towels I was able to construct the inner pyramids. When the "polar" pyramid was done I flipped the globe over again and added the outer pyramids (feet) to panels that I had left open around the piece. This entire procedure was repeated for the second half of the globe.

The idea of adding this piece to the thesis body of work came when thinking about the connection of the two halves of the globe to each other. I had originally designed the piece to be soldered together all around the "equator", a true globe. However, the two halves didn't match up all the way around in a manner I thought was acceptable for what I was trying to achieve. The resulting globe had a crease around the equator instead of a smooth, rounded transition (Fig.32).

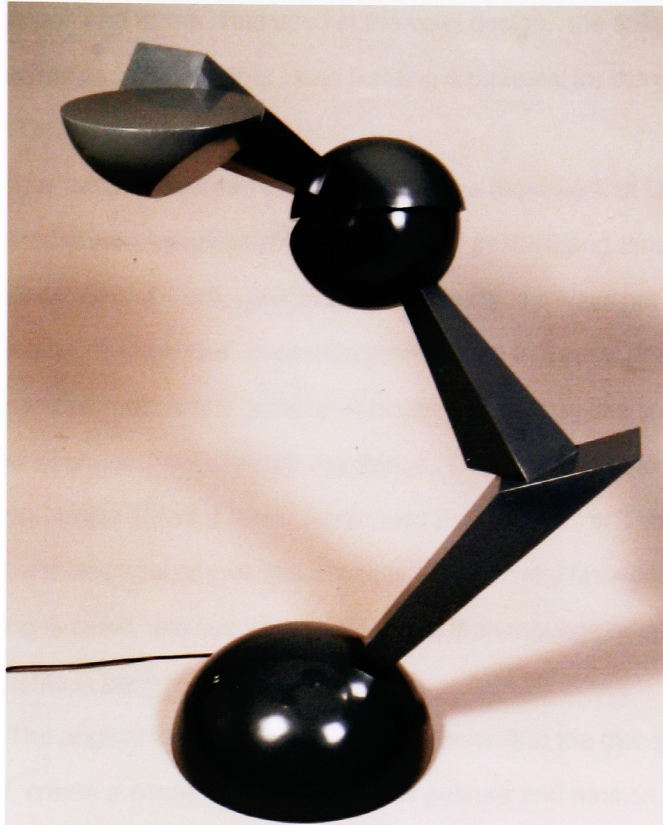
fig.32



By off-setting the two halves and tilting one slightly into the other, the problems seemed solved and a new “feeling” was brought to the piece...a sense of tension.

Depending on how the piece was oriented on its feet, the sense of tension between the two halves was increased or decreased. The feet also gave the piece “lift” and more tension was created in the appearance of the globe being supported only by three pointed elements. One wondered whether the piece might collapse on itself.

Whether the piece showed any sort of gesture is still up to debate. One could make an argument that the pyramid forms on the piece gave the globe form some figurative life, like solar flares off the sun. But that was never really the intent of the elements and that argument remains suspect. Nonetheless, the piece ended up fitting into the thesis in a design sense and certainly showed the influence of the thesis on other projects I was working on at the time.



Night Light Table

Design

The Eiffelberg Tower. I tapped into four ideas when designing this piece. The approach and forms I had used in the valet design, the split-dome theme of the globe design, the idea that I was building a pedestal for the globe, and the works of Dr. Seuss.

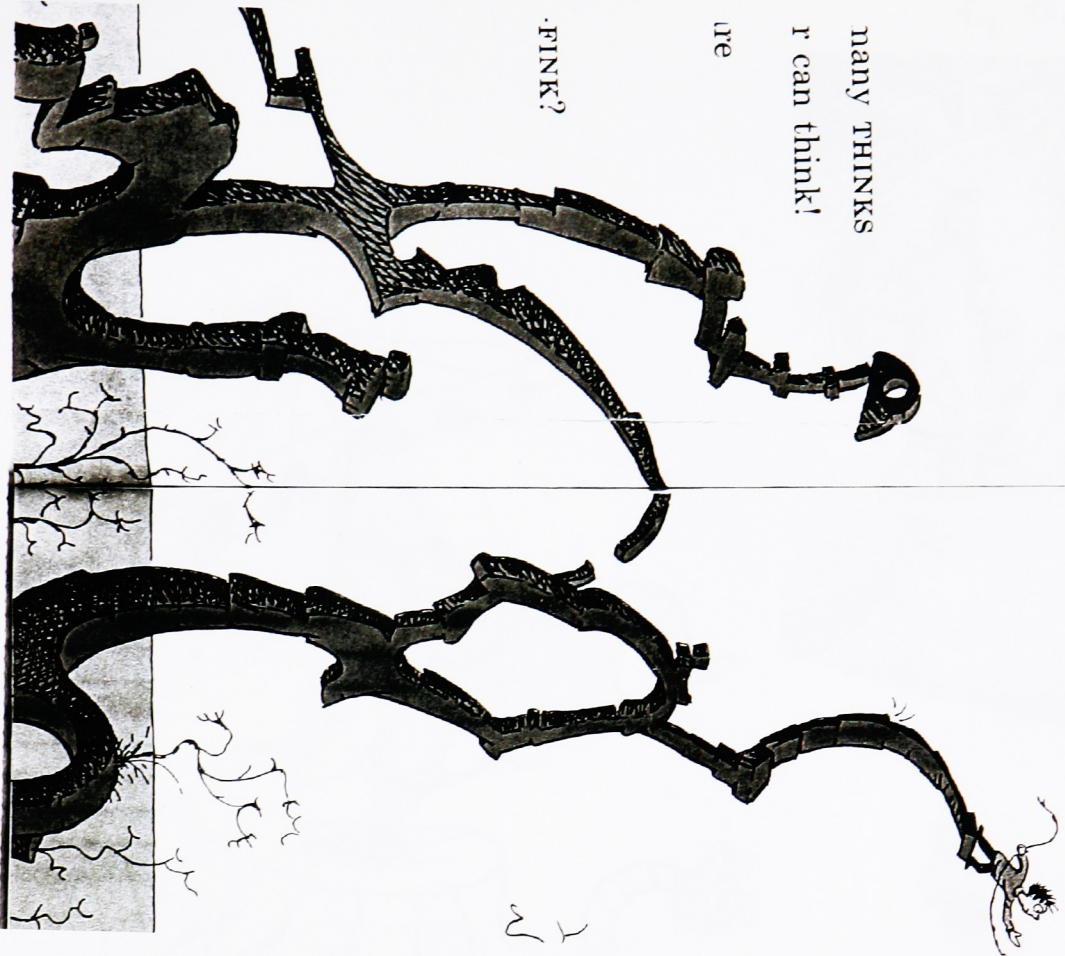
The fantastical drawings contained in the handiwork of Dr. Seuss represented great examples of the concepts of gesture and tension taken to the point where they could only exist two dimensionally. I always got a kick out of the “impossible” or “improbable” scenarios represented in Seuss’ drawings; his engineered and mechanical gizmos, fantastic and fantasy-like scenery, and his whimsical interpretations of every-day things. One only has to look at such classics as *Horton Hears A Who*, *Scrambled Eggs Super*, or *There’s A Wocket In My Pocket* to see how convoluted Seuss is able to make his world appear to us. Everything is weird, familiar yet foreign, even the language often makes no sense yet fits in perfectly with the story-line.

The original idea I had was to bring elements in the globe and the valet together, create a sense of the concepts of gesture and tension, and use the result as a pedestal for the globe. The forms used for the piece were intended to show a marriage between the curvilinear and the linear, domes and pyramid-like forms. The gesture and tension of the piece was found through the examination of some of the Dr. Seuss books.

Seuss had a great way of showing images that went against all the laws of nature and common sense. I found the gesture and tension for this piece in several different Dr. Seuss books (Figs.33, see following pages).

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2

fig. 33a

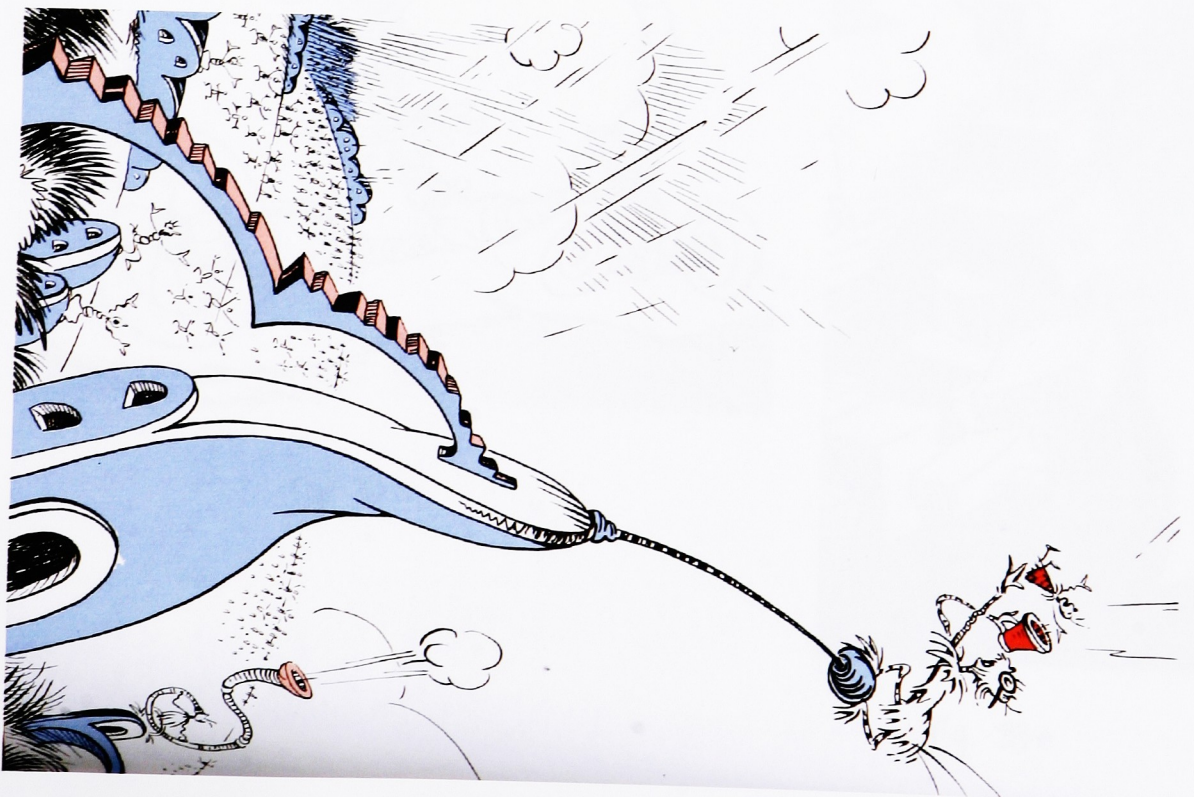


fig. 33b



fig 33c

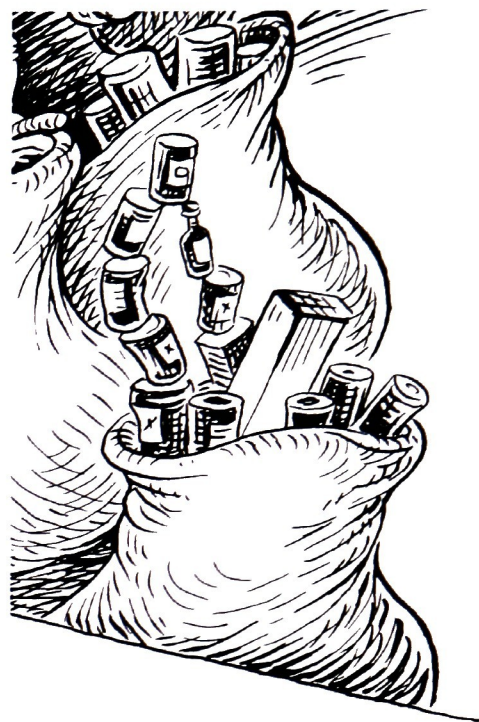


fig. 33d



fig. 33e



If you want to get eggs you can't buy at a store,
You have to do things never thought of before.
Why, to get at the egg of one very small Dawf,
We had to pry all of one mountain top off!

These drawings had a knack of creating images that seemed impossible. Images that, if they existed in reality, would certainly collapse, break, fall over, or crumble under their own imbalance and weight.

I decided to use the off-balance, cantilevered images in these drawings to give the piece a sense of both tension and gesture. There was a lot of discussion that revolved around the dome and pyramid like elements being used in the piece and their forms (fig.34).



fig.34

As the design progressed it seemed to become more and more important to have the focus on these forms, as they were intended to show this uniting of the ideas used in the valet and the globe. It was decided that the globe and (what was then) pedestal could each stand alone, one didn't need the other and, in fact, together they seemed to take away from each other, one muddling the intent of the other.

So the pedestal for the globe had now metamorphosed into a small, hall entry table. Further emphasis was put on the forms themselves by a decision to paint the piece a neutral gray.

The addition of a light in the table was a sort of mid-stream decision. It didn't really add to the concepts behind the piece much but it did add a bit more

function to it (the usable surface of the table was, after all, only 8" in diameter). The thought was to use a low wattage bulb and turn the piece into a sort of "hall table/ night light". This proved, in the end, to be a pretty good decision as the shadow thrown by the light complimented the forms in the piece very well.

Construction

I knew what forms I wanted in the piece but wasn't sure how I wanted those forms to go together so I made a scale model. I loosely joined the pieces of the model together using 1/8" dowel. This allowed all the components of the model to spin independently of each other and to be inter-changed with each other. I had a lot of fun with this process as it was very random and loose. The possibilities seemed endless and more than a few configurations seemed to work very well.

Once the basic configuration was decided, I was able to rotate the parts until I arrived at the orientation that I thought best conveyed the concepts of gesture and tension. The final test was putting the model on a potters wheel and giving it a spin. This was a great method of determining whether the piece would be visually interesting from all views as there was no clear "side" that the piece was meant to be seen from.

The table was made of poplar. I first stack-laminated and turned the three smaller dome forms to 8" diameters. It was clear that this project was going to require some sort of hidden counter-balancing so I mowed out a cavity in a laminated block of poplar, put in a recess to accept a cover, and turned the block



to a 16" diameter. This was the base of the table. There was enough cavity to accept about 10 pounds of lead shot (fig.35).

fig.35

Next I laminated blocks for the three straight components, cut mortises in them, and tapered them. It was after all the elements had been prepared that I decided to use some lighting in the piece. So instead of remaking the tapered components with a slot cut in their centers to accept the electrical cord, I used long auger and drill bits to create the channel, a successful but painful process.

Since I was painting the piece, perfect joints weren't a priority...I put a 1/2" mortise in the base with a hand drill and epoxied the base to the first tapered component, first feeding the electrical cord through both parts. After threading the cord through the second tapered form and attaching it to the first, I prepared the lighting component.

I routed out a section of one of the remaining three 8" domes and installed a 4 watt appliance bulb. This I covered with some perforated metal mesh that diffused the light. After cutting a facet into one of the other 8" domes I attached it to the dome holding the light with key-hole fittings. The end result was this sort of "pac man" looking element. I drilled holes for the electrical cord and epoxied the lower dome to the 2nd tapered form (Fig. 36).



fig.36

I attached the remaining tapered form to the dome with the light in it and then to the table top surface (the remaining 8" dome). After using bondo to fill

any deep imperfections I primed and sprayed the piece with a reduced automotive paint. I chose a slate-grey hue so the color of the piece wouldn't distract from the forms. It took more time to finish the piece to my satisfaction than it did to construct it. The schools spraying equipment was pretty beat up from use so there was a lot of spraying, re-spraying, buffing etc., but the final result was a lustrous, smooth, bowling ball finish (fig.37).

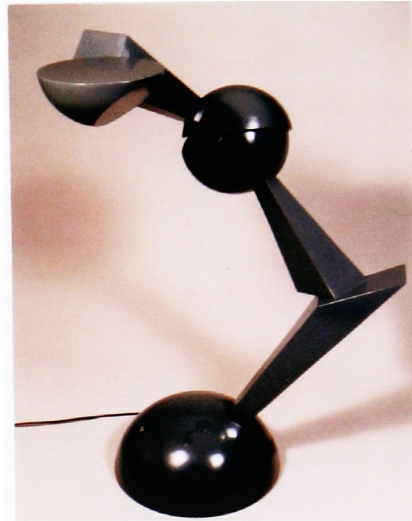


fig.37

Conclusion

In exploring the concepts of gesture and tension I found first that one was often the direct result of the other. The concept of gesture was often the precursor for the concept of tension. I also discovered that, where the concept of gesture could easily be examined through the use of explicit line, shape, and form and their relationships to each other in the over-all piece, the concept of tension was expressed in a much more implied, figurative way. More felt than seen, more created by the result of the visual experience.

I had originally approached the thesis with the notion that the concepts of gesture and tension could be seen as two distinct, separate concepts that would need to be somehow combined and “shown” in a body of work. This changed rapidly as the thesis progressed. I discovered, as I had originally seen in the bed, that the tension of the piece was often the result of the expression of the gesture of the piece and that by exploring different degrees of expressed gesture, I could also explore different levels of implied tension. But it was the concept of gesture that seemed to be the factor that determined what came next. By the end of this study, the thesis statement might easily have read, “the study of the concept of tension as expressed through the degree of the concept of gesture”. This is the biggest revelation I got out of the thesis in thinking about the concepts of gesture and tension and their application to future designs. The designs of the individual pieces were, overall, successful in their designs intent and seem to support the conclusions drawn from the investigation.

In a design sense, the bed successfully showed a number of forms of gesture; pulling, stretching, wind-whipped, taut. The gesture represented a tense moment in time. This was the concept of tension that was represented in a visual way. Reversing this gesture between head-board and foot-board seemed to cause, in some, a psychological “tenseness”, a feeling of uneasiness in the idea of trying to sleep in the bed, to me a kind of “bonus” tension resulting from the piece.

In a construction sense, the bed had a ton of lumber in it. Nearly all the components could have been as equally effective using half the wood. If I were to build a similar piece again I would almost certainly make the head and foot-board forms in the vacuum press with veneers instead of solid wood. This would make producing those forms much less time intensive, the bed considerably lighter, and help keep the cost down on the final product.

The grandfather clock was perhaps the most successful piece of the body of work and certainly evoked the most positive responses from people. As intended in its design, the clock took the ideas behind the bed to the next level. By increasing the gesture of the piece by the separation of the forms and their relationship to each other, I was able to take the clock over the edge that the bed had come to. Where the bed fought against the forces trying to break it apart, the clock had given up the fight. Where the tension was building in the bed, the clock represented the moment of release of that tension.

The visual off - balanced appearance of the clock elicited a lot of comments. Most people didn't want to get near the piece in fear that they might knock it over. The clock appeared as though it was prone to fall forward. In reality, the clock was extremely stable and, if anything, would fall backwards well before coming forwards. But the psychological tension was huge. I knew this piece was stable yet when I went home at night I always had the feeling that I was going to come into the studio the next morning to find the clock in pieces on the floor, a scenario I knew couldn't happen without some outside assistance yet, a feeling I could never shake.

In a construction sense, If I had one complaint it would be the accessibility to the mechanics of the clock. To get to the works one must remove the back of the clock, to do this you have to turn the clock 90 degrees. On a hard surface this is easy, on a rug much more difficult. I believe these issues to be a small price to pay in exchange for the overall success of the design of the clock.

The valet was more an accomplishment in expressing the concept of gesture than tension. It did, however, have a sense of whimsy that was shown

by the gesture. This whimsical appearance was probably enhanced by the fact that the piece was a figurative representation of the human body. One could relate to the piece in terms of a human experience (stumbling or tripping over something...an embarrassing moment in time). Where the concept of tension might have been a bit lost in this piece, the concept of whimsy was there and was created by the same means as the concept of tension was in the previous pieces; through the use of the explicit gesture of the overall form.

More importantly to me, however, was that the design of the valet showed that I could express the concept of gesture through linear, as opposed to curvilinear, forms. I had become so ingrained with the idea that the curve was the best way to show a sense of gesture. I was never able to break away from this approach and see the alternatives that were around me. What was obvious to most was very difficult for me to see, and more difficult to embrace. The valet changed all that. It was a sort of epiphany for me. This alone made any sense of a lack of the concept of tension in the design seem trite.

In a construction sense, I wouldn't change much if I were to build the piece again. I might play around with the relationships of the forms to each other to emphasize a different sense of gesture ie; dancing instead of stumbling. Maybe create a series of valets...an army of bumbling stumblers.

The globe, although part of the final body of work, really wasn't approached with gesture and tension in mind. It was one of those things that just sort of fell into place. So I'm not sure it's possible to seriously talk about this piece in terms of the thesis study. One could argue that the globe was in the final thesis because of its relationship to the design of the valet. You could say that it at least had a similar sense of tension that was a result of the relationships between the elements of the piece. But the gesture of the piece was rather stagnant. Of all the pieces, the globe was the only one that seemed to show tension without being the result of gesture, tension created purely through the orientation of its parts, a rather interesting idea and one that could be a thesis in itself, but not one that included both concepts.

The construction of the globe was long and arduous and repetitive but I still consider the “assembly line” building process a release from the woodworking. Fabricating furniture should be so easy !

The night light table was an interesting piece in that it was the off-shoot of the globe and the valet as well as inspired from the works of Dr. Seuss. The sense of tension that had been expressed through the notions of pulling, stretching, resistance, and “breaking” in the bed and clock was now replaced by a sense of tension created by cantilevering the components of the piece and giving the overall form of the piece a spiral twist.

The table seemed to be a good marriage of the curvilinear dome forms and the tapered linear forms, a marriage of the old and new approaches of showing the concept of gesture. An added bonus to the table was how the light played off the piece. Because the paint was a rather neutral color, the shadows and luster from one surface of the piece to the next really highlighted the forms themselves. These contrasting surfaces complimented the original intent behind the piece very well.

The construction of the table was fast and dirty. Painting a piece does seem to allow one to be slightly less fussy about gaps and sanding and as a result the table was completed rather quickly. The one problem with the piece was relamping. It was easy to separate the two segments of the table from each other but once done you had to support the upper half somehow while changing the bulb. This wasn't as easily accomplished as it might have been. Fortunately, being an appliance bulb, it was designed to last many years and probably wouldn't have to be changed for quite some time.

Overall I feel that the thesis was a success both in conception and execution as well as an enlightening and enjoyable experience for me. I was able to acquire a new appreciation for the concepts of gesture and tension and how they might relate to each other when thinking about design. The investigation also showed me how powerful the concept of gesture could be in bringing about other ideas in the pieces and that, in the case of this thesis, the concept of

tension was, in fact, a direct result of the use of the concept of gesture.

This thesis was an endeavor that opened up a new way in approaching design for me. This fact alone was immensely rewarding.

Epilogue

Three years after the thesis opening.

The bed sold to a client in Denver, Colorado who had seen it at the original show. They waited two years before approaching me on the purchase. During that time my wife Victoria and I were using it; it certainly was easier than trying to store it somewhere. Nary a squeak or creak ever manifested and neither of us ever had the sense of anxiety some people had expressed. I have shown the bed in a number of shows and it has always been a conversation maker.

The grandfather clock has been to some shows but still sits in our living room, telling time as accurately as the day it was first wound. I have stopped worrying about the piece falling over. The clock has also been to some shows and the response is invariably positive. I only wish it would get positive enough so that it would end up in somebody else's living room. I must admit, however, that I have become fairly attached to the clock and think I'm probably destined to keep it for good.

The valet also sits at home. Someone offered me an amount at a show in Westchester, N.Y. but I wasn't willing to dicker with them, after all, you don't go to the store and haggle over the price of milk do you? Besides, the offer just wasn't acceptable. Everyone loves this piece. Many have no idea what its function is until told. A fairly unusual and uncommon piece. I don't expect the valet to be around the house forever, but in the meantime it stands quite well alone as a sculptural piece, the function is just a benefit of the design.

The globe collects a lot of dust and cleaning it is quite a chore. It has never been for sale past the thesis show opening and I have resolved to keep it or give it away as a gift someday. When the sun hits it it throws light all around the room and creates a very dramatic effect. It could use a pedestal rather than sitting on top of the stereo cabinet but space is a major consideration in our house as we seem to be collecting things constantly.

The night light table was purchased by the Wallace Library at R.I.T. as part

of their annual art buying spree, an honor I don't think that I appreciated at the time but have come to since. I borrowed the piece on three different occasions to show and photograph. I enjoyed the designing of this piece enough so that I built three more since...without lighting. All have the same number and sized components but are tweaked in their relationships to each other. The result was a good, cohesive series of tables, all with similar yet very different appearances. The surfaces of the three small domes were veneered in different woods as opposed to being painted. This seemed to bring a certain vitality into the designs without taking away from the focus of the forms and their relationships to each other.

BODY OF WORK

BED

Materials: Cherry, Black Walnut
Dimensions: 88"Lx68"Wx64H

GRANDFATHER CLOCK

Materials: Mahogany solids and veneers, Wenge, Silver, Pattern Welded
Steel
Dimensions: 18"Lx44"Wx78"H

GENTLEMAN'S VALET

Materials: Maple, Mirror Glass
Dimensions: 24"Lx24"Wx46"H

GLOBE

Materials: Copper Foil Soldered Window Pane Glass
Dimensions: 18"Lx18"Wx18"H

NIGHT LIGHT TABLE

Materials: Painted Poplar
Dimensions: 24"Lx14"Wx34"H

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