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Illuminated Structures

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My thesis work consists of sculptural wooden furniture, which is built using a 'skin on frame' technique. One piece uses wooden slats as the 'skin' while the other pieces utilize a Dacron fabric skin stretched over a wooden framework. The goal of the work is to operate as aesthetically driven sculpture while retaining a deeply functional furniture element. By creating functional work that the viewer can use, I hope to provide a more intimate experience wherein the viewer's body interacts directly with the work, resulting in a deeper connection between the viewer and the artwork.

Because my work is intended to fill the role of both sculpture and furniture, it is necessary to discuss my thesis work according to two perceptions of function. The first is practical functionality, which describes the intended use of the work and is the essence of good furniture design. The second is its artistic function, which includes aesthetic function as well as conceptual meaning. I will begin by discussing my work as furniture. Because I have chosen to use some non-traditional materials, my work brings into question what materials are acceptable for furniture making and why. The primary material used for furniture throughout history is wood. Wood has a number of advantages over other materials that make it especially effective for furniture. It is beautiful and varied in color and grain, providing a high degree of visual interest that stands the test of time. It is strong enough, especially along its grain, and its poor thermal conduction makes it feel warm to the touch (it does not easily conduct our body heat away from our bodies like metal). It can be bent, glued, sawed and shaped rather easily as well. Owing to this strong tradition, I continue to use a good deal of wood in my work. Birch Plywood has been the main material of

this thesis research. Birch plywood is especially useful as it comes in large stable sheets that can be easily machined on the CNC router, and which have a more uniform strength due to multiple cross grain laminations.

Fabric is not commonly used in the fabrication of furniture form and structure. Fabric typically does duty as a surface or skin to cover up unsightly foam and other batting materials, but I have found it useful as a material investigation in this thesis work for a number of reasons. Dacron is the fabric I am currently working with. My primary reason to use it is aesthetic. The use of fabric allows me to create shapes with compound curves that are extremely difficult, if not impossible, to build with wood. Secondly, it allows me to add transparency and light as additional elements of the piece. Fabric is not inherently structural, but when stretched over a wooden frame it is able to define a structure and a volume in space. This volume defined by the fabric can be filled with light. Light and fabric create a very different type of volume than solid wood does. These spaces become open, and are full of light. The semi-transparent fabric allows outside light to diffuse and fill the interior space of the piece. Artificial interior lighting added in support of these pieces illuminates the fabric surface, so that the piece glows with light. This volume of space described by the fabric is a more implied space that is filled with energy (photons) rather than a solid earthy material. This airy volume exists in contrast with the rest of the piece that is constructed of wood. The wood appears solid and traditional, while the fabric and light take on a weightless quality that is less rooted to one specific interpretation.

The wood elements in my work are also constructed differently than those in most furniture. The design is more reminiscent of wooden aircraft or wooden boats. The wooden components that support the fabric skin are relatively thin and cut using the CNC machine primarily. This produces extremely smooth curves and leads to a framework that is light and strong like an airplane or boat. It is intended to be seen to reference to airships, airplanes, and ultra-light boats. It can also reference Japanese shoji and rice paper lanterns.

The functional result of a fabric form is a container for light, and a skin or surface on which to capture light and shadow. The fabric serves as a canvas, and the shapes of the wooden framework and those of the various objects placed inside the piece determine its content. It also allows the piece to transform depending on the light conditions and objects stored within it. What the viewer sees on the surface of the skin is entirely different depending on whether the light is coming from inside or outside of the piece. The angle and distance of the light from structure or objects within the piece also dramatically alters the appearance of their shadows on the fabric skin. In this way, the viewer can customize the appearance of the work in an interactive way.

Viewing the work as sculpture, it is necessary to discuss the purpose of function and its relation to the meaning of the work. One viewpoint is to see function as a means of integrating sculpture into one's daily life. A person will have different feelings towards an object they merely observe than they do towards an object they interact with physically on a daily basis. This explains the perceived

value in 'heirloom' furniture. One views a dresser, for example, as 'my grandfather's dresser' with all the nostalgia and sentiment that comes along with such an object. There is tremendous variety in regards to intended intimacy within the field of sculpture. At the other end of the spectrum is minimalist work and abject art. 'My grandfather's Donald Judd sculpture' fails to translate warmth and sentiment. By creating functional furniture I am purposely engaging people to physically interact with the work. I hope this direct contact stimulates people's emotional involvement with the work, especially in instances where people may interact with the work repeatedly over a long period of time.

Though some of my work is aimed at public spaces, much of the work is intended to function on a personal level within a home. In either case the element of function adds a direct personal connection that can be absent in sculpture. I think the scale and intimacy of the pieces, along with the functional and interactive elements they present, make them likely to create a bond that will grow over time.

There then arises the question of what makes a particular object an example of art rather than design. Is it conceptual or emotional content? It is certainly not limited to the ability of a given object to inspire awe. A great deal of architecture and design work does this to great effect. Is it emotional content or intellectual content that separates art and design? I could argue this case to a certain degree, but I would always find exceptions to the rule (such as gothic cathedrals, which are extremely emotionally evocative). Perhaps it has more to do with our perceived notions of what sort of forms art or design can take. A painting can be executed as a strictly design based object, but we are more likely to try to view it as art. In the same way,

furniture that is created with strong emotional or intellectual content will still tend to be viewed as design. It is my hope, however, that some viewers will want (and perhaps someday come to expect) more art mixed in with their design. The ancient Romans viewed architecture as the highest form of creative output. I suspect this was due in no small part to the successful combination of design, function, emotion, and art (along with a strong dose of engineering) necessary to create a truly great building.

There is a great deal of art dedicated to the idea of pushing the boundaries of what we consider art to be. Art furniture defines a category of furniture objects that seek to expand beyond the borders of what we imagine them capable of being. This explosion of creative thought and meaning in a place where we might not ordinarily expect it is one of the things that drew me towards making furniture. There is such a mass of homogenization in our consumer culture; I wanted to create something that existed outside the realm of the expected or predictable. I also wanted to apply this creative thought to something I love making. Like any craftsman I will readily admit a bias towards working with certain materials. We often limit ourselves based on personal preferences rather than purely intellectual choices. It is what we do within the limits of our chosen realm that defines creative thought and individuality or artistic vision.

It is important to take a theoretical approach to work that crosses boundaries between art and design in order to better understand its content and purpose. Relating to semiology, this creates a dichotomy because the symbol (design) may differ from the intent and function (furniture). This can occur in two

ways; if a work of art is sculptural but provides a furniture function, or if a work looks like furniture, but only exists as a sculptural object primarily because it is, without function. (ex. the work of Roy McMakin featured in "Furniture Studio", *Focus on Materials* by Don Miller, published by the Furniture Society in 2006." pp92-101) In the work that is being discussed, Miller uses the chair as a starting point, but visually deconstructs it into it's most basic elements and re-builds it in a number of ways, many of the variations being virtually without function and none of them designed to perform with the same functionality as the original. Through the lens of Saussure, his furniture is the signified thing, but it suggests the wrong signifier. Or to put it another way, the signifier describes the appearance of the signified object (chair) but not its function (art)

My work relates to this idea in that two of my pieces resemble cabinets but being a cabinet is not their primary function. They also resemble lights but that's not their only function either. They elude any one specific signifier and thus force us to think about what they are and why they exist on a more complex level. Art in general often does this, but in my work the connection to craft and defined objects help to lead the viewer into this realm gently. The work can exist (for the viewer) comfortably as a semi-functional lamp or cabinet but at some point it will lead the viewer to question why it is not specifically either one of those things completely. It is my hope that the viewer may then question the motives for making the work.

In a way I would like the experience of viewing the work to function somewhat like daydreaming, where the imagination disengages with reality and ordinary things take on fantastic or poetic qualities, but still have some connection

to their original forms or functions. I have found the use of fabric and light to be of great use towards this end. Fabric seems to inherently contain more 'poetic' qualities than wood. It defines space in a more voluminous way, and allows light to interact more visibly. It makes shadows more noticeable, and changes appearance more actively as light conditions shift. I am also attempting to define what I would term, 'fantastic space', which is to say space that inspires our imagination and escapes the typical rectilinear standard. I find curved volumes of space to be not only more organic, but more visually interesting. Due to the ease of manufacturing rectilinear furniture, this has been the norm in furniture design. There are curved panels and legs and other elements in pieces to give them some personality, but curved volumes of space are very rare. Asymmetry is also rare in manufactured furniture. Curvature and asymmetry are both more common in sculpture than furniture, and help define my work as a hybrid between the two.

The bench piece is an attempt to bring a classic design in to a modern context. The design centers around a traditional slatted bench profile, similar to what one might find on a very comfortable porch swing. The major departure comes in the treatment of that profile. The computer design program 'Rhino' was used to sweep and revolve the profile to form curved sections. There is an inside curve and an outside curve, both of which form the basis for a modular design that can be built from 'sections'. The design includes a more traditional straight section as well. The sweeping and revolving of a profile is a design technique borrowed from airplane and boat building. In the design world the technique is known as

'lofting', and it is among the most powerful design tools. Lofting, which has been vastly simplified by computer aided drafting, refers to a cross section that is extruded and often changed. One good example would be the ribs in an airplane wing.

The slats of the bench function like a 'skin', which fits over the substructure of bulkheads that define the shape of the bench. Because the slats have openings between them, this 'skin' is still permeable, allowing viewers to glimpse the interior structure. The slats provide a good solid place to sit, as well as means to define the surface of the structure. By using a louvered solid material as skin, the viewer's interaction with the interior of the piece changes significantly depending on proximity.

The inspiration for the bench design grew out of a number of influences. The first is architectural structure. The visibly apparent beams and structural members that make up a building are the parts I find most interesting. Traditionally furniture forms are small enough that the structure is part of the aesthetic surface rather than a hidden framework. This is why I am interested in boat and airplane construction as a reference point for my designs. I want to show the beauty of a light and rigid skeletal form in my work. I appreciate the visual aesthetic of structural engineering in situations where it is pushed more towards its limits. As it applies to furniture or sculpture, I am pursuing lightness and minimal visible structure. I think there is beauty in doing more with less (material). Traditional furniture and sculpture is often over-engineered and heavy.

Also, in regards to furniture, the engineering element frequently goes unnoticed because it has been absorbed into an iconic form. We don't look at the stretchers on the bottom of a Windsor chair as structural components but as part of the iconic design of the chair. By departing from the traditional forms of furniture design significantly, I am attempting to make the viewer experience the individual parts that make up the whole as structural design with an aesthetic focus. In this way, I think architecture becomes an important inspiration in my work. I am drawn to visible engineering, and the bench seeks to highlight the functional elements of structure rather than conceal them.

My other body of work in the thesis uses a skin of Dacron® polyester fabric. This work includes a Greenland style kayak, and two wall cabinets that also serve as lights. The kayak served as the inspiration for the wall pieces, and opened up the idea of using polyester as a skin material. The Dacron fabric has a captivating way of holding light while showing shadows of the ribs and structure underneath. The shadows of the ribs are more defined where they contact the fabric, and create softer shadows where the skin pulls away from the structure. My most recent piece also includes screen-printing in transparent white ink on the white transparent skin. This adds a subtle extra dimension to the depth and surface of the skin, and treats it more literally as 'canvas'. It also serves to act as an interactive canvas that the viewer can manipulate by moving objects inside the piece. This both broadens the concept of 'canvas' and involves the viewer directly in the appearance of the work.

While fabric has the benefit of being semi-transparent, wood is solid and opaque, with it's own inherent pattern and warmth. Fabric makes an excellent

compliment, being plain but translucent, as well as thin, light, and able to conform easily to rigid structures. Wood viewed against it has a greater degree of aesthetic beauty by nature of comparison. In this way the work will tend to showcase the beauty and unique grain patterns of wood displayed along side the plain white fabric. If one were to reference Laçan and take a Freudian view of this dichotomy of material, one could easily see wood as 'male' and fabric as 'female'. The wood is hard and opaque, and defines the structure of the work, providing strength and form. The fabric is supple and flexible, containing volume and light effortlessly while having no defined shape or structure of its own. It is warm, radiant, and encompassing, while the wood is stiff and defining. Wood defines the shape of the fabric, but without the fabric has little shape of its own. The fabric surrounds the wood and gives volume to its form.

I also think it is important to look at this body of work in terms of hybridizing. Perhaps one of the most powerful forces in modern innovation as it builds off of traditional knowledge, as such hybrids show up everywhere in our society. From iPhones to the food we eat, people are constantly attempting to put things together in the name of progress. From selective breeding to the eventual possibility of combining our brains and bodies with machines (Stellarc), the influx of hybrids is astonishing. Hybrids are an interesting form of progress because on one hand they simplify by combining two separate things into one, but at the same time they add complexity by creating a new third thing that is different than either of the two things is subsumed.

In lieu of Foucault's ideas concerning things that make sense vs. things that assault sense, hybrids fall strongly in the latter category. If one looks at the iPhone, it is difficult to initially grasp its full potential and purpose. It's a phone that's also a camera and a music player. It's also a GPS system and a computer... but it's not quite like any computer that came before it because it's also a phone and a GPS... The purpose of the thing itself overwhelms the senses. It does this in part because it is totally new, and also in part because it takes on the functions of things that are older. When this theory is applied to furniture that looks like sculpture (or vice versa) we can see that such an object would assault sense and create newness and confusion. The identity becomes more than the sum of the parts. In this way I am hoping to make work that's about more than just making a cabinet that's also a lantern and also a sculpture. It's about the re-contextualization of what we understand things to be, and it attempts to function as a metaphor for numerous other objects that assault our understanding in a similar way. After all, the world seems to be full of more and more such objects. One could even say that this assault of sense is directly analogous to progress.

Images:

Untitled 2















