

Modern Groove

Samuel R. Ladwig

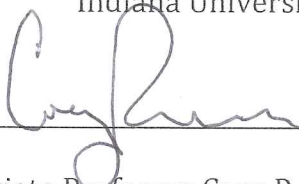
Submitted to the faculty of the University Graduate School  
in partial fulfillment of the requirements for the degree  
Master of Fine Arts in Visual Art and Public Life  
in the Herron School of Art and Design  
Indiana University

May 2014

Modern Groove

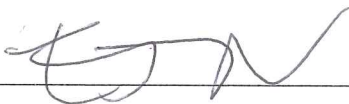
By  
Sam Ladwig  
Master of Fine Arts

Herron School of Art & Design  
IUPUI  
Indiana University



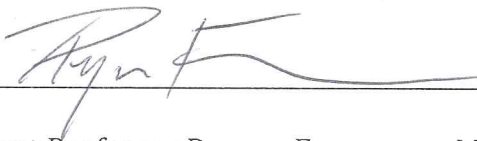
---

Associate Professor Cory Robinson, MFA  
Advisor



---

Associate Professor Eric Nordgulen, MFA  
Committee Member



---

Assistant Professor Reagan Furqueron, MFA  
Committee Member

Accepted: May 2014

---

Professor Valerie Eickmeier  
Dean of Herron School of Art & Design



5/20/14

Date

## **Abstract**

Robert Venturi's assertion that "Orthodox Modern[ists] have tended to recognize complexity insufficiently or inconsistently" is at the heart of the disconnection between modernist and post-modernist responses to the world around us and represents the primary rift in the modernist continuum (Venturi, 1966). Whether for rhetorical impact or his own dogmatic beliefs, the point that Venturi failed to acknowledge is that often designers do not choose to "eschew ambiguity" because they don't recognize complexity. Rather some prefer clarity as a natural reaction to complexity, and some fifty years after his "gentle manifesto" the search for order in a chaotic world is still an important creative imperative.

The goal of my research is not to argue against the merits of embracing complexity directly. It is to create a personal guidebook for why I choose not to. My work is not a misguided attempt to suggest that life and the world are simple. My tendency to favor the design principle of unity over variety is due to my appreciation for the preciousness of aesthetically quiet moments precisely because the world is complex. I prefer to use formal qualities to create harmony rather than tension in an attempt to create elegant moments as a counterbalance to a sometimes chaotic existence.

Throughout this investigation I have also realized that there is an important distinction to be made between the goals and responsibilities of a furniture designer as opposed to other disciplines, and I have found there to be more latitude within furniture to embrace post-modernist ideas than I originally expected. Scale and the use of furniture automatically make it able to have specific conversations with the user and

viewer, but similar to my thoughts on architecture, furniture's lifespan and prominence in an environment make overtly ironic compositions difficult for me to justify when the user must interact with the work daily.

With some pieces I have purposefully experimented with the effects that furniture and posture can have on the user, and I have embraced the use of metaphor and semiology to extend the potential of my furniture to communicate visually more effectively. I believe that chronological distance from the hardline orthodoxy that Venturi challenged has given me more freedom to utilize post-modern concepts without feeling the need to use them as an argument for or against modernism, but it is still important to me that complexities and contradictions in my designs are perceived as whispers rather than screams.

## Introduction

My favorite pieces of furniture have all been designed by architects. The formal similarity between them is obvious enough, but the fact that the pieces are designed by architects is for me a priori. Although he is best known as a furniture designer, Charles Eames said “I think of myself officially as an architect. I can’t help but look at the problems around us as problems of structure—and structure is architecture.” (Drexler, 1973) My development as a furniture designer is also concerned with structure as a primary creative input, so it is should be no surprise that much if my work is drawn from the principles of modern architecture, and the theories, which have either guided (or recorded) that history, resonate with my own views on creativity.

In my view modernism has always exhibited characteristics of a genre that will persist for the foreseeable future, but architectural theorists have tried to define it as a distinct period of design for far too long. Its origins seem more akin to the birth of jazz than a period that came and went, and I believe that modernism refuses to end precisely because it is not a phase of thought. It is my practice to use modernist principles as a holistic way of analyzing and applying the creative process. This approach often leads to what is perceived as mere stylistic preference due to external inputs including materials, processes, sociopolitical pressures and economic environments, and it is a shame that much of the debate following the publication of *The International Style* was devoted to arguing against the idea of style rather than the underlying principles that drove those choices (Hitchcock H.-R. J., 1951).

## Historical Context

In 1932 Hitchcock and Johnson organized an International Exhibition of Modern Architecture to be held at the Museum of Modern Art in New York. The guiding principles of the international style were succinctly identified in the forward of the exhibition catalog written by the museum's curator Alfred Barr Jr. "The distinguishing principles of the International Style as laid down by the authors are three: emphasis upon volume-space enclosed by thin planes or surfaces as opposed to the suggestion of mass and solidity; regularity as opposed to symmetry or other kinds of obvious balance; and lastly, dependence upon the intrinsic elegance of materials, technical perfection and fine proportions, as opposed to applied ornament." (Hitchcock H.-R. J., 1932)

Although technological innovations continue to expand the landscape of possible manifestations, the principles have not changed substantially. Early modernism, Mid-Century Modernism, Post-Modernism, Brutalism and even Deconstructivism continued to recognize the underlying principles even if their aim was to subvert them, and these same principles guide my own decisions. One hundred years of reaction and restatement of the principles in myriad compositions and commentaries continues to help inform my own beliefs on the essence of design, and it has become clear that my creative imperatives exist within this framework. However, these principles as written by Hitchcock and Johnson are specific to the scale, production quantity, and function of architecture and must be modified for my own discipline and work.

## Formal Principles

### *Lightness*

The first principle of the international style was a preference for volume over mass. At the beginning of the last century changes in building technology created the possibility for architecture to use the properties of steel in more effective ways and the need to support weight with mass changed substantially. This technological innovation changed the way designers thought about structure even for buildings that did not support a great deal of weight as is evidenced by residential designs by Mies Van Der Rohe that were included in the 1932 exhibition (Hitchcock H.-R. J., 1932).

I feel the same need to expose the inherent properties of the materials I choose. This is most evident in the Y-Line Chaise Longue (figure 1). It was very important to me



*Figure 1 - Y-Line Chaise*

to work to make the steel frame as visually light as possible by triangulating the members to create lateral strength without visual mass. Lightness is also a key element in the Eames Studios' "Eiffel Tower" base (Figure 2) used in many of their chair designs, but

I felt the need to resolve the linear elements in a more unified way. The Eames designs neglected to utilize the lateral strength of the seat plane to eliminate redundant cross-bracing. The Eiffel tower base is structurally independent from the seating surface and it seems clear that the two parts of the chair were developed separate-



*Figure 2 - Eames "Eiffel Tower" Base*

ly. My interest in making use of this “hidden” structural ability generated an important discovery that allowed me to reduce visual complexity without compromising on structural integrity, and my obsession in finding a more unified resolution to the structural problem was a major factor in the development of the line. It is important to me that the parts of my chaise are interdependent, and the fact that the structure relies on the strength of every component created a more unified form.

### ***Unity Over Variety***

With my own work I choose to embrace a form of three-dimensional “regularity” that is more accurately described as a preference for the design principle of unity over the principle of variety. The development of both the U-Line and Y-Line hinged on finding unified lines that lead the viewer’s eye around the entire composition without interruption. Hitchcock and Johnson identified the idea of regularity over symmetry as the stylistic identifier for the underlying principle, but my primary aesthetic imperative is to create a sense of compositional order as a counterbalance to the visual noise inherent in everyday environments. This is in part due to my training as an interior designer which makes me always consider furniture within the context of an (often cluttered) interior.

The second principle also allows for more dynamic compositions that are not driven by traditional (and ultimately arbitrary) constraints. It was the recognition that more authentic designs that solve functional problems regardless of their effect on the façade often lead to more dynamic compositions, and I believe it was not a call for asymmetry as much as an allowance for it as long as the work retains balance. I rarely find it necessary to purposefully use asymmetry to generate interest for any individual





Figure 3 - Mies van der Rohe, MR20

piece especially when it works against the piece's function or its use in context, and I believe that this is consistent with the thoughts of the designers highlighted at the exhibition.

Symmetry cannot be so easily discarded with regard to furniture that supports the body.

In fact, the designers of the architecture that define the guiding principles of the International Style did not use asymmetry lightly when designing furniture, and their classic works are largely symmetric (Figure 3 and 4). However as I look back on the work that I have produced, it is much more symmetric than my own aesthetic principles should dictate. I believe that strict use of sym-



Figure 4 - Le Corbusier, Grand Confort

metry leads to compositions that are overly static. At the same time actively making designs asymmetric feels forced and can disrupt the flow of a space. I believe my use of



Figure 5 - U-Line Rumble Seat (rendering)

symmetry with this body of work is largely due to the fact that for many pieces I was not required to adjust to "site specific" conditions. The symmetric structure of the U-line and Y-line (figure 5 and 6) are intended to give me more options with regard to structural support for many different furniture

pieces, but they were also intended to provide the user more options for placement within a space.



*Figure 6 - Y-Line Occasional Tables*

I have found that when I create pieces for specific environments I have more freedom to adjust the compositions without compromising their function. For example the U-Line Nightstands were designed for a non-specific bedroom. Nightstands, which are often used in pairs, are not rendered unusable when asymmetric; however severe asymmetry might compromise their placement (figure 7). The function and placement of the Y-Line Sofa Table gave me the freedom to use a slightly asymmetrical composition to create an additional focal point even though the exact environment is not known



*Figure 7 - U-Line Nightstands*



Figure 8 - Y-Line Sofa Table

(figure 8). However, with the X-Line corner shelf, the piece was specifically designed for a space with asymmetric distance between the corner of the room and the molding surrounding doors to either side (figure 9).

### ***Beyond Material Honesty***

With their third principle Hitchcock and Johnson did not specifically include the idea of fabrication processes in their definition, but I believe that fabrication processes are implied by the idea of “elegance of materials” and “technical perfection.” Continued innovation in material and its manipulation are central to the translation of principles into a visual style at a particular moment in time for a particular maker with particular capabilities. Fabrication capability as well as its effect on budget is a key input to design that cannot be overlooked with regard to works that are realized.



Figure 9 - X-Line Corner Shelf

My decisions are constantly being updated to what can be accomplished based on what can be achieved structurally given contemporary materials, fabrication technology, and my own technical acumen. My own principle of material honesty is more holistic and is more accurately described as material empathy. I try to allow materials

to make use of their physical potential while embracing their aesthetic merits. It goes beyond honesty into a kind of empathy for the material where the material is afforded the opportunity to do what it does well and to be what it is (even when it is misbehaving). In early prototypes of a two-tiered table that became an important steppingstone



Figure 10 - X-Line Ladder Shelf

for the X-Line, the dowels that were acting as cross bracing for the piece were frustratingly difficult to remove if the table wasn't lying perfectly flat, and these "misbehaving" dowels became the catalyst for the development of the line. I continued to experiment with this physical phenomenon juxtaposed against rectilinear and level shelves until I had worked out the formal qualities and the production processes necessary to make the *X-Line Ladder Shelf* (figure 10).

Effective use of material often requires additional processes to enhance capabilities or extend them; and like material empathy a more holistic understanding of fabrication methods and technical capability can be advantageous. Metal bends and melts. Wood swells and splits. These phenomena are at the heart of traditional techniques like forging and coopering, and while these specific examples do not play an important role

in my thesis work, understanding them (often in fits of frustration) revealed a path to innovation.

Triangulation of metal structures and lamination of wood surfaces are two examples of fabrication processes that are integral to my work. By triangulating steel it is possible to extend its capability by increasing its structural integrity without substantially increasing its mass. By laminating wood into different configurations it is possible to enhance its ability to act as a flat or curved surface, and it is even possible increase its thickness through stacking. But the process of “making” revealed more subtle examples of the combination of material and fabrication capability. My technical skill also became a key creative input to allow materials to do what they do given my ability to manipulate them.

With the Y-Line I made use of the formal structure of two lines converging to create the perfect environment for invisible connections without the requirement for perfect technical ability (figure 11). Once the welds are moved to the underside of the



*Figure 11 - Y-Line Welding Detail*

connection point I was able to focus on the position and direction of the lines and their structural integrity. Triangulated steel frames are a signature element of Mid-Century modernist furniture, but my principles led me to rework the lines used in the “Eiffel Tower.” With the Y-Line

chaise the frame’s triangulation is not complete until the seat plane is affixed to the frame. Allowing the plywood to work as a stabilizing agent working to triangulate the

structure in the XZ plane allowed me to reduce the frame's apparent complexity as well as to create a more unified line. The plywood used as a seat plane was able to exhibit its structural capabilities rather than merely resting on a solid frame, which is why it



Figure 12 - Y-Line Chaise Longue Detail

became necessary to visually reveal its internal structure (figure 12). This combination of lightness, unity and material empathy is precisely what makes the Y-Line Chaise Longue the essence of all of my formal principles contained in one piece.

## Effect and Affect

### *Structure and Semiology*

More recent manifestations in design utilize the phenomena of “Both-And” that Venturi describes so elegantly in *Complexity and Contradiction* (Venturi, 1966), and time has allowed deeper and subtler references to blossom including the use of structural metaphor as in Hertzog and De Meuron’s Beijing National Stadium (aka Bird’s Nest). This principle plays an important role in the X-Line. For the viewer the use of non-parallel lines to provide both vertical and lateral support while simultaneously holding the shelf into a specific vertical position is reminiscent of trash caught in weeds or blades of grass holding up sheets of ice.

I also recognize formal and historical references from the built environment and use them to enhance the ability of a functional piece to leverage and even create

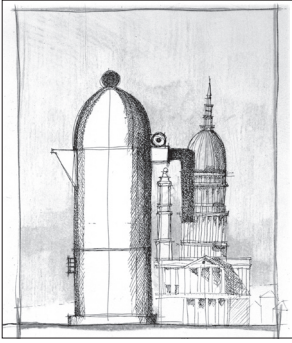


Figure 13 - Aldo Rossi,  
*Cupola Espresso Maker*

meaning. While the formal qualities of the U-Line frame hint to Breuer as the primary formal reference, the repurposing of the grandfather clock form as an appropriate platform for an iPad docking station is an intentional nod to the work of Post-Modernist architects Michael Graves and Aldo Rossi (figure 13).

With the Gen-X Grandfather Clock I am referencing traditional longcase clocks whose form was due at least in part to the mechanism the cabinet contained. My clock has no mechanical requirements, but still references the posture and stature of a grandfather clock (figure 14). Its scale alone demands that it be placed in a prominent position within the home, and it becomes a reminder of the formality (both good and bad) of previous generations. It, of course, can also be seen as merely ironic or humorous, but my true intent was more ambiguous.



Figure 14 - U-Line  
*Gen X Grandfather Clock*

### ***Confidence and Sexuality***

My principles also embody a specific kind of confidence with subtle hints toward sexuality. With the U-Line chair and the Y-Line Chaise I used posture as a provocative form of expression and reflection. I believe it is possible to create an object that invites certain experiences and even mental states. This concept was tested by researchers at Columbia University and Harvard. An important outcome of the research was to demonstrate the physiological, psychological and behavioral effects of nonverbal postures most notably so called “power poses.” From these tests they determined that “...

the effects of embodiment extend beyond emotion and cognition, to physiology and subsequent behavioral choice...” and “...these results suggest that any psychological construct, such as power, with a signature pattern of nonverbal correlates may be embodied...” (Dana R. Carney, 2010).

The ability for furniture to generate states of mind that invite self-confidence, optimism, creativity, reflection, or even joy may be a difficult goal, but examining the effects of posture was an essential element in the development of both the U-Line Chair



Figure 15 - U-Line Rumble Seat

and the Y-Line Chaise. The U-Line chair’s posture is intentionally low and reclined and puts an engaged user into a posture that is intended to invite the feeling of youthful confidence or even cockiness. It also is intended to put the user in a voyeuristic posture (figure 15). The posture

of the Chaise Longue has a different effect

and puts the user in a more exhibitionistic pose. Depending on the user’s sensitivity to these postures and willingness to accept either of these roles, both chairs can feel either emotionally satisfying or uncomfortable.

### ***Retro Optimism***

A third less tangible input to the aesthetic qualities is a reference to and nostalgia for the space age and post WWII American optimism. The space race influenced the design of everything from pencil sharpeners to automobiles and was no less important to the design of architecture and furniture. (Marcus, 2005) Lightness, speed and defy-



ing gravity were important technical goals in the race to reach the moon and became a palpable zeitgeist of the era. The use of new technology and the eventual success of the lunar landing became an indicator of a positive outlook toward the future and human capability.

Designers conflated the idea of newness with the idea of the future through the use of smooth textures, glossy finishes and polished metals, and many designers effectively contrasted sinuous and rigid lines to emphasize the sensuality of the forms. Iconic furniture forms from that era including the Eames' LCM, Saarinen's womb chair and Nelson's coconut chair are well-known references to this period in American history and are examples of confident sensuous forms. I am drawn to this era of furniture design for the same reasons. The finishes and forms still evoke the sense of newness and possibility even though they are nearly 75 years old.

At the same time my works were not aimed specifically at this aesthetic. They were the logical outcome of the processes and materials that I chose to explore (namely laminated wood and steel), and I consider it a testament to the correctness of the principles of design that lightness, unity and material honesty lead to certain formal consistencies that provide the foundation for my furniture forms.

## **Conclusions and Future Research**

My thesis journey has been about understanding my frame of reference, the inputs to my work, and how I make decisions as a furniture designer and maker. It is about conscientiously limiting the infinite realm of possibility into manageable pieces in order to move forward. I follow a set of rules, but I had not fully investigated my own

foundational concepts enough to truly understand their origins. This exhibition is not the result of this inquiry. On the contrary it represents a physical investigation of environments, materials, processes and structures that have helped me better understand the theoretical principles behind what I make, and this in depth exploration and ex post facto analysis has helped to identify and understand my own design principles more fully.

The juxtaposition of the structural, confident lines of the Y-Line frame against the sinuous line of the seat plane dictated by the absent human form is perhaps the strongest single gesture of the entire exhibition, and that moment brings together all of the formal, metaphorical and even metaphysical investigations present in this body of work (figure 16). The chaise is physically and visually unified creating a dynamic but subtle form, and its development led to an entire system of furniture. The process of developing the chaise also helped me utilize my own technical limitations as a springboard to a



*Figure 16 - Y-Line Chaise Longue*



*Figure 17 - Y-Line Detail*

fabrication technique, and the signature detail of the Y-Line was one of my most important discoveries (figure 17).

At the same time there is still much work to be done. I will continue to investigate materials and fabrication process in order to extend the range of potential design solutions available to me (most notably

resin-based fabrication techniques including carbon fiber and fiberglass as well as foundry processes including aluminum casting), and I intend to continue to investigate the ability for furniture to engender specific body positions as a method for producing specific moods and experiences that go beyond physical comfort and ergonomics.

This journey has also intensified my interest in principles of design, and better understanding the theoretical foundation behind the principles that I have always intuitively followed will continue to drive my interest in design pedagogy. I believe the process of designing work cannot be separated from the process of making work, and it is clear that both processes feed each other. Although I will continue to explore the use of digital technology in both the design and fabrication of work to extend the iterative process and increase precision; my thesis work has also revealed the potential for discovery by exploring the limits of both a material's physical properties as well as the fabrication techniques used to manipulate them.

## Works Cited

- Dana R. Carney, A. J. (2010). Power Posing: Brief Nonverbal Displays Affect Neuroendocrine Levels and Risk Tolerance. *Psychological Science*, 1363-1368.
- Drexler, A. (1973). *Charles Eames Furniture from the Design Collection, The Museum of Modern Art, New York*. New York: Museum of Modern Art.
- Eames, C. (1951). *Side Chair Model DKR-1* [Furniture]. New York, NY: The Museum of Modern Art.
- Hitchcock, H.-R. J. (1932). *The International Style, Architecture Since 1922*. New York: W.W. Norton and Company, Inc.
- Hitchcock, H.-R. J. (1951). The International Style 20 Years After. *Architectural Record*.
- Marcus, G. H. (2005). *Masters of Modern Design A Critical Assessment*. New York: The Monticelli Press, Inc.
- Mies Van Der Rohe, L. (1927). *Armchair Model MR20* [Furniture]. Dallas, TX: Dallas Museum of Art.
- Rossi, A. (1985). *La Cupola* [Drawing]. Munich, Germany: Die Neue Sammlung.
- Perriand, C., Jeanneret, C., Jeanneret, P. (1928). *Grand Confort* [Furniture]. New York, NY: The Museum of Modern Art.
- Venturi, R. (1966). *Complexity and Contradiction in Architecture*. New York: The Museum of Modern Art.