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The Grid, Weaving, Body and Mind

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The modernist grid continues to influence contemporary art, especially contemporary weaving practices. I was inspired to consider the relationship between the grid, weaving and digital art practice because of Rosalind Krauss's essay "Grids". Krauss argues that the grid has played such a large role in modern art because it has the ability to serve "not only as emblem but myth"¹. She claims that the grid works spatially and temporally and because of this it can contain contradictions. For example, the grid can act as a tool that navigates distance, like the overlays on a road map. It can also become symbolic of abstract space, as in Agnes Martin's painting *Untitled #12, 1977* in the collection of the Art Institute of Chicago. It is an ethereal, minimal work with lightly penciled grids over a cloudy gray canvas. Krauss argues that using a grid makes it possible for artists to produce very material objects and speak to the pure materiality of the work while at the same time implying a connection to ideas of spirit and "Being." In Krauss's argument, the grid makes a work "sacred and secular" at the same time."

In weaving, the basic structure of woven material relies on a grid to materialize. The artist and weaver Anni Albers wrote in 1965:

One of the most ancient crafts, hand weaving is a method of forming a pliable plane of threads by interlacing them rectangularly. Invented in a pre-ceramic age, it has remained essentially unchanged to this day. Even the final mechanization of craft through the introduction of power machinery has not changed the basic principles of weaving.²

Weaving relies on a system of threads crossing each other in various ways at right angles. The grid is essential to the formation of cloth. The grid and its contemporary manifestation, the matrix, continue to influence the work of artists, especially contemporary artists that weave or use concepts of weaving in their work.

The Matrix and Weaving

A more contemporary manifestation of the grid is the matrix. The matrix is different from the grid because the matrix serves as a point of origin and not just a structure that maps what is already there. Gwyneth Cliver writes, "The matrix is a structure that embeds, encloses and supports."³

A matrix is an attempt to map the many layered and complicated connecting points between people, places and things. This is the zeroes and ones used in computer programming, as well as the relationship connections a networking site like Facebook takes advantage of. I also believe the matrix has to do with invisible natural systems that depend on networking to function, like the

systems of veins and nerves inside our bodies that make it possible for us to use oxygen and feel with our skin. The matrix maps the invisible, the digital, and the energetic.

¹ Rosalind Krauss "Grids", *The Originality of the Avant-Garde and Other Modernist Myths* (MIT Press, 1985) 54

² Anni Albers, *Anni Albers : On Weaving* (Wesleyan, 1974) 19

³ Sabine Eckmann and Lutz Koepnick, *[Grid<>Matrix]* (2007) 19

The matrix relates to the practice of weaving because as Sabine Eckmann (scholar, director and chief curator of the Mildred Kemper Art Museum in St Louis, Missouri) describes matrices, weaving makes “the invisible visible”⁴, it produces an object that is dependent on links and connections. The matrix is identified with the computer and the computer creates matrices that use grids but these grids change, move and shift. In this way the matrix expands the idea of the grid as way of hinting at the possibility of what we cannot see and includes the many possibilities of what we cannot see or experience in many overlapping dimensions.

Krauss and Owens

Krauss argued that the grid is infinite and the boundaries that artwork imposes on it “can only be seen according to this logic as arbitrary.”⁵ In 1985 Craig Owens published a review in *Art In America* titled “Analysis Logical and Ideological”, a critique of the text The Originality of the Avant-garde and Other Modernist Myths by Krauss, “Grids” being the first essay included in that book. Owens argues that in “Grids”, Krauss “overlooks the ideological function of the modernist “myths” she unmasks” and that throughout the text “the empty place of ideology is occupied by the term “myth”⁶.

I wonder if the tension between the idea of “myth” (myth being a story that serves to explain a world view) and “ideology” (ideology being a set of beliefs and goals of a group that explains that group's behavior) is related to the tension Krauss gets at between space and time and the relationship between the grid and the matrix. This contrast can be used to explore the relationship between a story and its moral as well as the tricky attempt to navigate the territory between a structure and its origin. I think similar contrasts can be found in considering the visible and the invisible, the hand and the eye, the body and the mind, and I think these are issues that artists like Ruth Laskey and Christy Matson explore in their work.

Ruth Laskey

Krauss writes in “Grids” that “It is not just the sheer number of careers that have been devoted to the exploration of the grid that is impressive, but the fact that never could exploration have chosen less fertile ground.”⁷

The work of Ruth Laskey challenges this statement. She works on a floor loom using only three or four colors of thread, weaving geometric shapes into a white, linen ground. In a review of Laskey’s work Rachel Churner writes, “As weft and warp intersect at right angles. Laskey’s work internalizes the modernist grid. No longer mere support for the artwork, the grid has become the structure of the artwork itself.” She continues to relate Laskey’s work to Greenbergian ideas of flatness but concedes, “These tapestries are not fields for projection, but rather instances of the figure being embedded in the ground itself.”⁸

The tension between figure and ground in weaving relates to the possibilities weaving has to take the modernist idea of the grid even further. The figure in fact IS the ground, the process of making the cloth forces the tension between ideas of labor and concept. Laskey insists that Minimalism is the main inspiration for her work, but Churner resists allowing this because

⁴ Sabine Eckmann and Lutz Koepnick, [*Grid*<>*Matrix*] (Mildred Lane Kemper Art Museum, 2007) 19

⁵ Krauss "Grids" (1985) 63

⁶ Craig Owens, “Analysis Logical and Ideological”, *Art in America* (May 1985) 26

⁷ Krauss "Grids" (1985) 50

⁸ Rachel Churner, “Ruth Laskey”, *Artforum International* (February 2008) 275

Laskey insists on making everything herself, nothing is outsourced. I would argue that this insistence on hand labor is very related to the concepts of Minimalism and in fact makes Minimalist ideas contemporary complicating them with issues of sustainability and the political and economic complications that outsourcing holds for the artist.

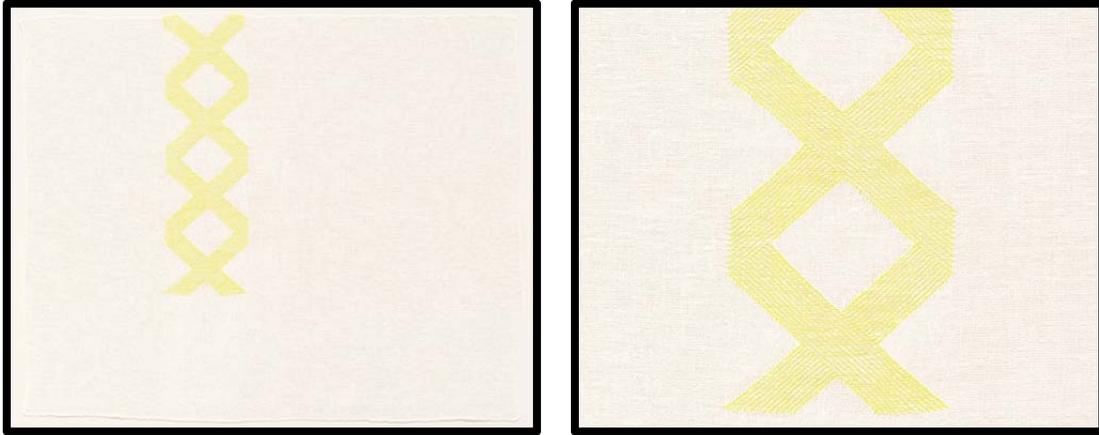


Figure 1 and Figure 2 (detail). Ruth Laskey, Twill Series, Canary, hand woven linen, 18 x 22 inches, 2007, photo courtesy of the artist and Ratio 3

A twill is a common weave structure used to create a weave with prominent diagonal lines running through the structure of the cloth. Using this structure in her Twill series (Fig. 1 and Fig. 2), Laskey exploits the ability weave structures have to maintain visibility and invisibility and reside in a blurry area between figure and ground, image and material. The incorporation of geometric forms into the weavings calls the viewer's attention to the deliberate choice of the artist to create a form of a particular size and shape and of a particular color with a particular weave. In this way weaving shows its relationship to the digital. Given a set of information, a structural binary with many possibilities, making simple choices about up and down, right or left, white thread or blue thread creates a large number of possibilities to realize pattern within these seemingly limiting parameters.

Deborah Valoma, an artist and instructor at the California College of the Arts, writes of the relationship between textiles and patterns:

For generations weavers have experimented with the unique graphic potential of building units within the framework of a grid...Fiber construction developed into more than a technology; it became a fertile ground for an entire aesthetic tradition, the geometric aesthetic, the indigenous language of textiles.⁹

Here the possibility is introduced that the material and immaterial nature of the grid was not first explored in depth in Modernist painting but in the textile arts. The painted canvas is a weaving, and the application of paint does not take away the embedded information of structure in cloth, it simply makes it invisible. Laskey's work makes this visible when looked at in comparison with Modernist painting. Without paint applied, her work is all ground, however, she complicates this

⁹ Deborah Valoma, "The Impermanent Made Permanent: Textiles, Patterns, and the Migration of a Medium." *Fiberarts* (Nov/Dec 2005) 46

belief by making the figure and ground relationship exist in the geometry of the cloth. There is no illusion, however, there is only opticality, a result of the grid in action, a new thread, a new color, a new connection (Fig. 3 and Fig 4.).

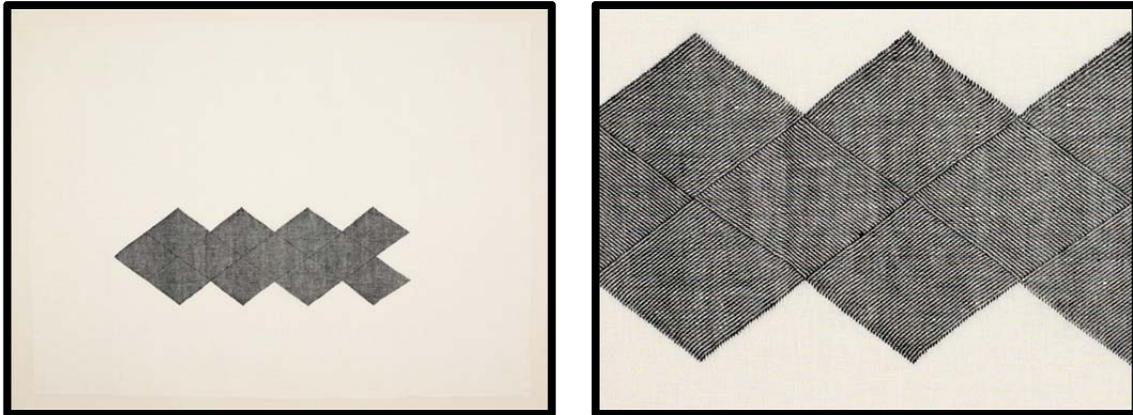


Figure 3 and Figure 4(detail). Ruth Laskey, Twill Series detail (Black 1), hand woven linen, 28 x 37.5 inches, 2008, photo courtesy of the artist and Ratio 3

Christy Matson

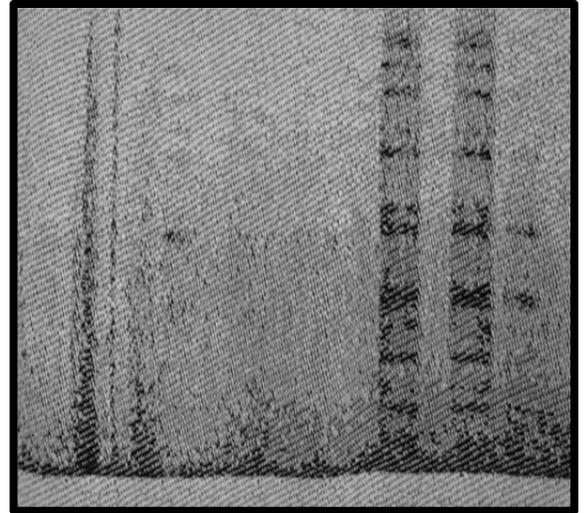
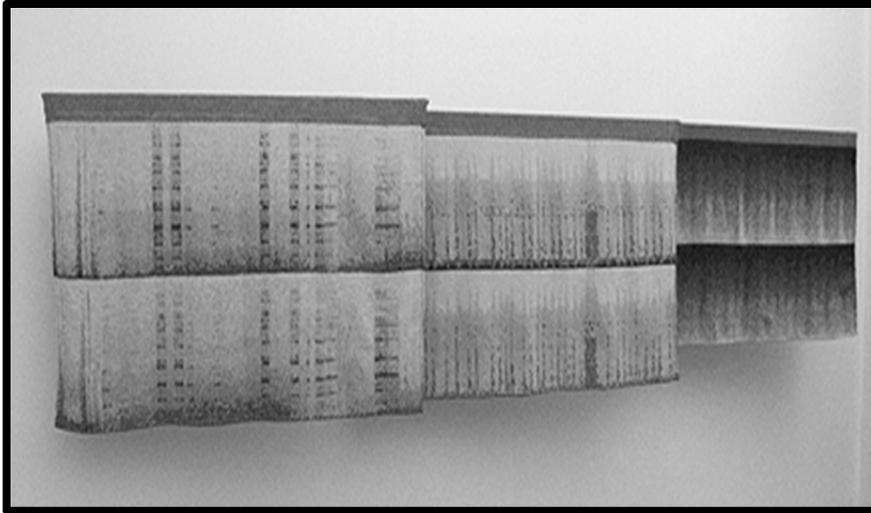
Matson’s work integrates weaving and sound. She weaves on both floor looms and hand and industrial digital Jacquard looms. To weave using a digital Jacquard loom, images are broken down using computer software into a binary system so that the loom can translate the image as a system of zeroes and ones to produce material.

The digital loom is a great example of the merging of traditional and contemporary technology as well as a great introduction to understanding the relationship between the presence of the human hand in slow craft and digital methods of production. It is quite possible that computer programming evolved from the art of hand weaving, the first known binary code being warp and weft. The formal advantage of a digital Jacquard loom is that because of the ability of the software to assist the weaver in realizing much more complicated designs it is possible to embed more irregular structures into the cloth as well as symbols and images the artist chooses to include. These choices can vary from super abstract or simple structures and shapes to actual reproductions of photographs in textile form.

Matson says of using digital processes to weave, “It was a way to make an ancient process feel like it is current and in dialogue with the world that I live in. Presently, I use technology in nearly all aspects of life. Using (computer aided design) in my studio work feels like a natural extension of the life that I am living.”

The idea of the matrix is present in Matson’s weavings. She layers information within the work using a combination of hand and digital processes. Structure references sound structure, sound references woven structure. The grid becomes a way to explore structure and code and the relationship these things have to the body, sound and process.

Matson says, “What I find interesting is that once anything is digitized—a sound file, for example—it is just zeroes and ones, or pure information. This information can be translated into anything else, because code is just code (i.e., a sound can be translated into a visual).”¹⁰



*Figure 5, left. Christy Matson, soundw(e)ave, jacquard woven cotton each 34" x 54", 2004.
Figure 6, right. Christy Matson, soundw(e)ave (detail), jacquard woven cotton each 34" x 54", 2004.*

Photos courtesy of the artist.

In her project *Soundw(e)ave* (Fig 5. and Fig. 6), the work becomes extremely self-referential. She translated audio files of the sound of her weaving on a wooden floor loom, a digital hand operated Jacquard loom, and an industrial Jacquard loom (the artist does the design for this type of loom, it is a form of outsourcing for the artist) into images of spectrograms. All of the weavings were made on the industrial Jacquard loom. Matson writes of the work:

*As all information that is input into a computer becomes a string of code, anything that can be digitized (i.e. a sound) can be output in a completely different form (i.e. a visual image). This transmutability of information in the digital world initially seems to be in opposition to the ways that humans experience the physical world. Neurological conditions however, such as synesthesia, allow for the realization that very often the human brain does, in fact, operate much like a computer.*¹¹

The connection between body and mind and the visualization of sound and movement are important aspects of Matson’s work. She uses the structural grid of weaving to maintain a connection to the physical and the everyday and incorporates the digital matrix to explore the connections and contradictions between the digital and the spiritual.

¹⁰ Bethanne Knudson, “Artmaking with an Industrial Jacquard Loom”, *Fiberarts Magazine* (Sept/Oct 2005) 43

¹¹ Christy Matson, artist’s website, www.cmatson.com

Body and Mind

The author Patience Graybill writes in an essay about grids and matrices:

In contemporary art and thought, one finds a sense that the grid is all-pervasive. The question is whether grids serve humans, offering tools of endless stabilizing and constructive potential, or alienate people, controlling and limiting their everyday perceptions remains a productive debate for artists and thinkers.¹²

Examining the work of Ruth Laskey and Christy Matson made me consider the hand and the digital in contemporary art and the possibility of moving beyond this modernist division reflected in Krauss's idea of the grid. The connection between body and mind, form and function, the sacred and the secular is very apparent in the art of weaving. The grid can be visible or invisible in weaving; it can be a map, a texture, or an abstract idea.

The Imperfect Grid and the Malleable Matrix

I think it is important to acknowledge the ways in which grids and matrixes do not equal perfection particularly in weaving. Because of the viewer's personal knowledge and experience of cloth and clothing, they know that fabric is not indestructible. A mess can be made of a woven grid. Un-weaving is always possible, by chance or choice. Holes happen, the material breaks down, even an automated loom can miss connections or stitches, and a dangling thread has been found on the hem of a coat or skirt. String is weak and strong. Sadie Plant, author and philosopher, writes:

String, which has been dated to 20,000 BC, is thought to be the earliest manufactured thread and crucial to "taking the world to human will and ingenuity" not the least because it is such a multipurpose material. It can be used for carrying, tying, and trapping, and has even been described as "the unseen weapon that allowed the human race to conquer the earth". Textiles underlie the great canvases of Western art, and even the materials of writing. Paper now tends to be made from wood, but it too was woven in its early form, produced from the dense interlacing of natural fibers¹³

Although a weaving emerges from the grid, part of the way cloth rebels against the idea of a dependable structure is its inherent ephemeral quality. Gravity works quickly on textiles and the maker of cloth comes to terms with this. Weavers have often had to reconcile form and function and make concessions. This is inherent in digital culture as well. Those with high exposure to computers and their quirks will find the same issues. Form must reconcile with function. Software *develops*, platforms change. Viruses happen, things need updating. Computers are made of material as well. We touch technology. We can type and delete. This connects with the unraveling possibility cloth holds, to make something from nothing, to always be able to go back and redo, to cut, click, rewind and rework without dire consequences.

Conclusion

In contemporary art the idea of the grid and the matrix have become essential in understanding the conceptual relevance of work that highlights the connection between the hand and the digital. Instead of resisting the inclusion of computer technology to create artwork as a rebellion against

¹² Sabine Eckmann and Lutz Koepnick, *[Grid<>Matrix]* (2007) 56

¹³ Sadie Plant. *Zeroes and Ones: Digital Women and the New Technoculture* (Doubleday, 1997) 61

control and in response to the fear of technology erasing the physical presence, it could be worthwhile to explore the ways the body and the mind, the hand and the machine are related to each other. The process of weaving and the way the idea of the grid plays out in the work of Ruth Laskey and Christy Matson makes it possible to add more layers to the ideas that Krauss, Owens and others began pursuing in the 70's and 80's while exploring the idea of the Modernist grid in painting. The grid bred the matrix and the matrix promises infinite variables, dimensions, mutations, and the strange possibility of becoming more like the human body in the end. Digital technology promises to resemble the human machine more and more as software becomes more intuitive and interfacing becomes more tactile. Touch screens and voice activated programming are just the beginning.



Figure 7, left. Syniva Whitney, *Voyager (crow's feet)*, hand woven on a digital Jacquard loom using tinsel ribbon, cotton and synthetic threads, 30 x 65 inches, 2008, photo: Tom Van Eynde

Figure 8, right. Syniva Whitney, *Object Falling into a White Hole (wart)*, hand woven on a digital Jacquard loom using party ribbon, cotton and synthetic threads, 2 panels, overall approx. 60 x 72 inches, 2009, photo: Tom Van Eynde

Even now the increasing ability we have to view our world on micro and macroscopic levels using ever more sophisticated technology has not ended the debate over our spiritual destinies. Krauss's essay prompted me to examine my own interest in the grid. I have been weaving using the digital Jacquard loom in my own art practice (Fig. 7). I have considered the grid as an effort to define the indefinable, to categorize and compartmentalize information. Starting with photographs I've taken of human flaws (warts (Fig. 8), tumors, wrinkles), I abstract them using

the constraints of the loom. I have considered the grid as a tool that works on a microscopic and intimate level. (Down to zeroes and ones, down to warp and weft, down to atoms) and I have considered it at a macroscopic level (mapping our universe, our galaxy, measuring the temperature of our own sun and any other stars we care to insist upon). Ideas like the matrix and the grid are used to name not only the un-imaginable reaches of space but also the unseen interiors of our own bodies. The grid and the matrix continue to be viable starting points for contemporary artists to explore the possibilities these structures hold to imagine the visible and the invisible and the connection between body and mind.

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