Selected Annotated Bibliography:


Arnheim’s work explains visual art within the realm of Gestalt psychology. He believes that both physical and psychological forces influence experiencing a work of art equally. Overall, this text is an extremely detailed exploration of visual perception. Arnheim takes many fundamental artistic principles such as shape, balance, and color and dissects from a psychological framework. I would recommend this resource for any artist interested in how human visual senses affect the experience of art.


This text explained various types of painting that developed during the Twentieth Century. I explored this source because I was pondering what you said about the comparison between abstraction and reduction. According to Bann, abstraction in art is a manner of “exploring the pictorial problems which had been posed in the early part of the century, but had no need to relate them to the world of nature or the world of the mind.” In other words, pure abstraction is an attempt to express the human condition without applying the boundaries of traditional art process. A new view of reality. This definition is simple and general enough to encompass all art work that is abstract. Bann goes on to mention that work that is reductive can essentially be abstract, yet, reductive art is that which “constitutes a critique and at the same time a reduction of certain basic critical postulates.”


Bell’s text explains Western painting and how it has evolved throughout time. This text is quite impressive, spanning from ancient times to the present. The most provocative part of this book is Bell’s ideas about contemporary painting. Bell explains that contemporary painting is highly based on the personal artistic experience and while paintings do function as representations of present society, they are highly individualized creations and commentaries. This text presented thoughtful insight of the painting tradition. However, Bell’s personal skepticism of the validity of painting is present throughout the book. Perhaps, this cynical slant is due to the fact that Bell was at one point a painter and then gave up the practice. Bell’s choice of voice, while somewhat attention-grabbing, seems to take away from the ideas that he presents to the reader.

A lecture given at Cooper Union (NYC) by Benoit Mandelbrot is the main topic of this article. In addition to the proceedings of this event, this source provided a concise summary of what Mandelbrot’s work is about and about fractals in general. Blangger touches upon the different fields where fractals have been applied. In his view, fractals have mainly been applied to pure mathematics and finance. He sights fractal compression within the programming of the Microsoft’s Encarta program as a main example.

Perhaps the most valuable information found within this text was Blangger’s view that fractal geometry is increasing the interest of mathematics in general. This growing interest in mathematics has expanded beyond the forums of pure math and finance, but has piqued the interest of topographers, scientists, artists and musicians. Also, the academic study of fractals gone beyond strict mathematics students and is being integrated within liberal arts settings.


This text has provided me with a wealth of knowledge. Capra explains scientific conceptions within a language that is directed toward a lay audience. His work is an excellent tool for those not necessarily entrenched within the scientific world. In addition to language, Capra provides a historical background to the growth of systems theory and ideas of complexity. This is beneficial to the reader as well as the actual study of systems. Seeing that it is a relatively new conception finding grounding evidence of its beginnings in the past is a definite benefit. I am continuing to utilize this text as a resource for further artistic study in hopes that its explanations of scientific method will enhance the general understanding of my work.


This resource is a catalogue from an exhibition at the Museum of Modern Art in 1994. This exhibition was quite broad and impressive. It showcased numerous Western artists (Picasso, for example) from this past century who created artwork within the book format. Having a limited knowledge of the book arts, Castleman’s work allowed me to discover the extensive history of this artistic medium.

This article explored design aspects of architecture through the use of fractal geometry. The author argues that classical architecture is more successful and aesthetically pleasing than postmodern architecture due to the use of detail and intricacy. Crompton states that this use of detail exhibits fractal geometry in that the detail executed in small parts of architecture are reminiscent of the entire form. He terms this use of fractal geometry as “compositional scaling”

The most important aspect of this article that I found was that the author placed heavy importance that “compositional scaling” or the application of fractal geometry was not directly applied as a mathematical, constructive principle in either of his given examples. Crompton believes that the presence of fractals within classical architecture arise because of inherent principles used within the art form. In other words, those who created classical structures did not directly apply fractal geometry, but the techniques that are involved within successful ornamentation of a structure are reminiscent of fractals. Once again, I found a source that alludes to the fact that while the end products of art and science and art are similar, they are derived from different means.


This article was one of the first explaining fractal geometry within a popular scientific journal. In general, this source goes into great detail on how to actually construct the Mandelbrot Set and various Julia sets through the aid of a computer. While the wealth of technical information was impressive, it was the computerized images of these specific sets that were truly breathtaking. Coincidently, the cover of this issue of *Scientific American* is a computer-generated image of the Mandelbrot Set. Similar to the article, this cover image was the first of its kind that played into the development of the Mandelbrot Set as a popular cultural icon of the Twentieth Century.

While reading the article, I tried to envision what it would have been like as a scientist or computer programmer in the 1980’s first learning and discovering the applications of fractal geometry. I would recommend this article to those who are interested in the evolution of fractals within society.


This source is a bibliography/interview with artist and scientist John Maeda. Maeda is an engineer and computer programmer by education and an
artist by trade. His artwork is solely based on graphics for its imagery and overall creation. Maeda is most known for his piece “The Reactive Square” which is a graphically generated image of a square solid that changes shape and dimension when the viewer shouts at it.

Throughout this article, Maeda stresses that graphics is the only proper medium for contemporary art. I feel that the “scientist” within Madea is in control of this opinion. I do not agree that graphics is the sole medium of the Twenty-First Century. Computer Graphics is a possible medium, yet not the sole one. Successful art can arise form more traditional mediums.


Dunning explores Western painting and the development of illusionistic space within this book. Perhaps the most provocative aspect of Dunning’s work is his exploration of plastic space and the heightened recognition of the picture plane that developed during the Nineteenth and Twentieth Centuries. Over the course of this time period, painting progressed beyond the traditional window into reality and the physicality of paint and painting’s surface became an integral aspect of the artistic experience. Dunning explains this development from the Impressionist period to the present. In general, this text provides comprehensive account of the history of modern painting techniques.


This article was documentation of an experiment that gauged the presence of fractal exponents present in the human pulse during REM sleep. I must say that this was very difficult to read and extract information from. However, I did realize that my original excitement about the possibility that the human being and their visual attributes are constructed in a manner that is similar to fractals. Alas, this was not quite what the article deals with. The fractals exponents detected were not based in physiological make-up, they were based on electronic data that monitored heart rate. It was interesting that fractals are used to access heart rate and the changed that it undergoes during different level of human consciousness. However, it was not the information that I was looking for.

Although it is directed towards two-dimensional art, this text is a valuable resource for artists of any media or volition. The author (head of the Department of Graphic and Interactive Communication at Ringling School of Art and Design) takes the first half of the book to explain specific theories in geometry that can be directly applied to art. With this base knowledge and information the author then provides an extremely detailed visual analyses of a variety of artwork according to geometric principles.

Throughout the text, various theories about the relationship between art and mathematics are presented. The author states that a clear, academically driven, understanding of geometry is needed for the artist to create a successful work of art. Rebuttals to this theory are presented that stress that the use of geometric principles by the artist is derived solely through inherent artistic talent. This provides a well-rounded view of the application of geometry to design.


Elkins described painting as an alchemic process within this book. He describes the alchemy of painting involves both the act of creation and the viewing experience. On the whole, Elkins ideas are absolutely captivating. Not only does he prove that painting is para-scientific in nature, but he also provides the reader with a in-depth description of traditional alchemy and its function. Elkins’ book resonated with my beliefs about the artistic creative process deeply. He described the mystical character of painting quite poignantly.


This resource is a revised edition of Haeckel’s book that was published originally in 1904. Due to the change in the scientific classification of the life forms that Haeckel depicted, all the original text was omitted and replaced with brief, descriptive titles.

Haeckel’s depictions of plant and animal life are absolutely exquisite. Not only are they drawn in an impeccable fashion, but also the subject matter is also fascinating. The majority of forms that Haeckel drew are miniscule in size and extremely complex in structure. All forms are highly symmetrical and reminiscent of geometric solids. For the artist interested in natural imagery, this text is an excellent resource. It functions as a virtual library of fascinating, organic imagery.

This text is a series of essays that discuss spirals and similar symmetrical forms. Spiral concepts are explained primarily through essays derived by mathematical concepts and theories. However, there are also essays in that spirals are expounded upon within the disciplines of science, history and art. Overall, this text acts as a comprehensive source for the mathematician, scientist, and artist interested in the creation and understanding of spirals.

The most useful and provocative aspects of this text are the essays written about the use of spirals and symmetry in visual art. These artists’ statements provide insight to the connections between mathematics and visual art.


Within this text, Hofmann describes “plastic” creation and space. The idea that the artist can create a painting that is not based on traditional perspective yet can still evoke a sense of landscape or altered sense of reality is brilliant. Hofmann explains that the painter can create this type of illusionist space without destroying the integrity of a flat surface. In addition to depth and space being created by traditional perspective techniques, he explains that other aspects of painting can be utilized as well. For example, the painter can employ color and form to create a visual “push and pull” that evoke spatial depth. This was a fascinating and well-written text. Hofmann’s ideas appeared to justify and support the biomorphic painting tradition.


Homer presents a very fascinating account of Alfred Stieglitz, his work, and his American artistic contemporaries. Alfred Stieglitz was one of the main facilitators of bringing Avant-Garde art trends to the United States. This book paints a fascinating picture of the Stieglitz Circle artists and the artwork they created. Homer gathered a large part of his research through personal interviews and correspondence with individuals involved within the American Avant-Garde art movement. This type of information created a very rich, real depiction of the artists and art movement in question.

This text documents contemporary book artists. Hubert includes an immense amount of written explanation of the meaning behind the work of these selected artists in addition to providing a wealth of visual documentation of the books themselves. This text is an excellent resource for the various bookmaking techniques and formats used at present. Hubert’s book greatly expanded my knowledge of this artistic medium. I was able to directly apply the information provided to my studio work.


This text is an anthology of articles written from scholars from many different venues. Overall, this text attempts to provide a comparison of the scientific world and the art world that stems from many varying point of view. There was much discussion about the inherent connections of art with the examination of Thomas Kuhn’s work *Structure and scientific Revolutions.* Kuhn viewed art and science as strikingly in accordance with each other. I most definitely plan to continue using this text as a resource. While investigating the interrelationship between these two fields.


This book is a catalogue of an exhibition that was organized by the Hayward Gallery in London in 2000. This show presented the intersection art and science through the depiction of the human form. Kemp’s work is the most comprehensive resource dealing with art and science that I have come across. The focus on the human body is the most excellent example of how the two disciplines in question inform each other. This thematic choice combined with the fact that the exhibition showcased figurative work spanning from the 1500’s to the present presented the reader with an amazingly complete resource.


This text is a published copy of Paul Klee’s notes on painting. Frankly, it should be renamed *The Artistic/English Dictionary.* Within his writings, Klee has explored what appear to be the underlining concepts of artistic practice. This is a difficult task due to the fact that the actual methods of artistic practice that are deemed successful are somewhat abstract and hard to define. This resource has
lead to many great, philosophical meditations. I definitely plan to continue to use this text as a resource for my research and overall art practice.


This film discussed Klee’s involvement in political art movements during the early Twentieth Century. It deals mainly with Klee’s early drawings and lithographs. While Klee’s early drawings were more classically representational, they still embodied the artistic intuition that is common throughout his work. A primary focus was placed on his self-portrait *Absorption.* This drawing is a frontal portrait where both the eyes and mouth of the figure are squeezed closed. While the drawing is slightly stylized, it exudes the idea of an introspective artist immersed within revolutionary times.

A poignant aspect of this film was the contrast between the function of art within a communist society and its function within a capitalist society. Within a letter to Kubin, Klee stated that “individualistic art is not suitable for appreciation by all, it is a capitalist luxury.” This is a very strong statement that still rings true today. Klee also stated within the letter that he wanted to create art that would be appreciated by all and thus thought that art would exist better within a communist society. Hearing Klee’s concerns about this matter proved to me that concerns about artistic audience has been a prevalent matter during this past century.


I am not sure how to express this formally but this ENTIRE JOURNAL WAS FANTASTIC! The entire issue was dedicated to the influence of the scientific advancement since the discovery of the genetic code. Artists, art historians and scientists wrote the articles contained within this issue. All provided quite provocative and interesting arguments and perspectives of the relationship between science and visual art. Overall, this journal issue provided explanations to the imagery that I am exploring within my work as well as introduce me to other artists that deal with similar issues.


This article described the 42nd International Venice Biennale of Art. This exhibition highlighted artist that apply science to their work. Perhaps the most interesting aspect of this article would be the ideas presented by the curator. Not only does he explain the application of science from artists such as Leonardo da
Vinci, John James Audubon and Ernst Haeckel, Celli addresses modern applications of science to visual art as well. The curator, Gorgio Celli explains:

“The images of science, which are respected, are extremely similar to these images of modern art in the exhibition because both scientist and artist are viewing the real world, the natural world.”

Also:

“The so-called abstract artists are actually realists, “Naturalists of the invisible.”

Celli believes that modern artists such as Kandinsky, Redon, and the biomorphic surrealists (i.e., Miro, Matta, Ernst) all applied microscopic imagery to their work. According to the article the abstract artist takes imagery from under the microscope and displays it outside its usual setting. I found this very consoling because the microscopic world is something that it a great inspiration to me.


Livingstone has applied the arts to her studies of the human visual system. Basically, she has proven that the visual system of humans is not a single, hierarchical system, but a multi-tiered physiological structure. The various parts of the structure respond to only specific types of stimuli, creating a very complex system of seeing. For example certain parts of the eye and brain only respond to information regarding shape, others respond only to color, and there are elements that deal with solely movement and spatial organization. Overall, it is the interaction of the various parts that combine information to create a complete image.

The article in question provided many examples of modern art where the complexity of the human visual system is apparent. One such example is Op Art. This art movement created visual elements where shape and color were used in such a manner that they create no distinction between foreground and background relationships. This omission of a differentiation between typical visual elements allows the static pieces of art to appear to vibrate or move.


This article deals with the various factors that play into the aesthetics of both visual art and organic forms. Matthews argues mainly that aesthetic appreciation of nature and art have moved beyond strict empirical analysis. She proposed that there are multiple factors that play into the visual appreciation of nature and art that alter the aesthetics of the objects that are under observation. Namely the individual’s knowledge of biology (in terms of nature) or art history
(in terms of visual art) greatly alters the perception of a natural or art object. Both naturally occurring forms and art objects are placed in specific categories that are created to aid in the understanding of the general entirety of both types of forms (i.e. all natural objects or all visual art objects past and present). This article brought about some interesting connections between art and nature. The writing style was almost overly formal, yet the article leads the way to some interesting meditation.


This book functioned effectively in two separate ways. First, its descriptions of different aspects of fractal geometry were very understandable. The author delves into the construction of fractals within a pure mathematical venue in the beginning. Considering the fact that pure mathematical description is imposing McGuire was quite successful in providing a clear, and concise method of explaining the mathematical existence of fractals. I definitely appreciated his approach in this matter seeing that I am not a mathematician by any means. I would direct this text to those “wanna-be” math geeks like myself who are interested in fractals.

The second effective trait of this book would be its visual content. The author provided various depictions of fractals. Examples of computer-generated fractals are provided for the viewer in absolutely phantasmal colors. Images also include photographs depicting naturally occurring fractal patterns. These images were taken by the author. The photographs include images of rock formations, hardened lava, trees and leaf patterns. The natural photographs were quite helpful in that they provided a direct resource for the subject matter that I am dealing with in my work. Overall, I spent days with this book and found that I had discovered a very valuable resource.


This book was an interdisciplinary biography. The author described the lives of both Albert Einstein and Pablo Picasso with a main focus being the time in their life when they were at their peak of discoveries. These men are considered to be intellectual giants within this past century and within their respective fields. Picasso being the catalyst of modern art and Einstein in modern physics reciprocally. Within this text the author brings to light the similarities of lifestyle, social class, and love life to postulate that these great minds may have more connections other than their revolutionary placement in history.

Overall, this was a fascinating text and a pleasure to read. It provided insight into the lives of both the men in question. The connection created
between art and science was explained in a very interesting manner. Other than
the similarities of lifestyle, the author provided no analytical evidence proving the
connection between science and art. Instead, Miller alludes to the idea that the
minds that are capable of creating science and art are similar, yet their work is
only connected on an esoteric level.

This book was quite a deviating source for me in comparison to the other
resources that I have been utilizing. The author’s focus on lifestyle and sole
connection between science and art had quite and impact on me. Perhaps the
reassessment and reflection of my research that I have been experiencing could
partly stem from the views expressed in this text.

Nadeau, Maurice.  **History of Surrealism.**  Trans. Richard Howard.  Cambridge:

This book documents the Surrealist movement in Europe from the end of
World War I till the beginning of World War II. It is a fabulously crafted text.
Nadeau’s work provides a well written (and well translated) account of this
artistic movement, it also includes numerous letters, manifestos, and art work
crafted by the founders of Surrealism. While this text is concise it is an extremely
thorough and organized history of the Surrealist movement. I highly recommend
this text to anyone interested in European Surrealism and the Avant-Garde.


This article was more humorous than informative. This could be
explained by two possible reasons. The first reason is that the slapstick quality of
the written text reflected the overall original reception of the psychedelic art
movement, which was quite poor. The second possible reason stems from the fact
that the writer who crafted this article was an amateur stand-up comic. Overall,
the text did provide some basic information about the artistic movement; it’s
reception, and its philosophy. This text touches upon Masters and Houston’s text
*Psychedelic Art* that molded the movement theoretically. The article also
mentions numerous New York artists that were involved in this drug-induced art
movement during the 1960s. The idea that visual art should act as a tool for mind
expansion resonates quite deeply within my work and myself. O’Brien did point
out the fact that art other than drug-induced art could function as a mind-
expanding entity. I would have to agree with the author.

Despite the overall sarcasm of the article, O’Brien did have a positive
view of current art trends (those in the 80’s of course). He believed that visual art
intrinsically has the power to “expand” perception and the mind. As stated:
“I think we’re making some progress here. We seem to have learned from seeing stars and unreal comets, learned from turning on, tuning in, and then asking, hey, where’s the fine tuning?”


Apart from being a prominent contemporary painter, Leon Golub is also a talented writer and activist. Orbist’s book presents both these aspects of this artist. This resource includes numerous reproductions of Golub’s paintings and drawing as well as his literary discourse. Golub has written articles for many art magazines and journals and the body of written work presented by Orbist comes from these sources. Golub’s ideas surrounding the nature and purpose of art are realistic, non-romantic and witty. Similar to his artwork, Golub’s writing is an honest account of art process and the human condition. Orbist provided a very holistic view of this prominent artist.


This anonymous article discusses the work of Richard Taylor. Taylor is a physics and art historian from the University of Oregon at Eugene. He has conducted research in which twenty paintings by Jackson Pollock were analyzed by a mathematical computer program. All of the Pollock’s paintings exhibited fractal imagery. Taylor also analyzed the “drip paintings” of non-trained (i.e. not professional artists), all of which contained no fractal imagery. The article postulates that the presence of fractals may be the reason that Pollock’s work is held in such revere and considered beautiful to view.

When I first came across this article, I could not believe that fractal geometry could be present in abstract expressionism. However, after reading the article and looking more closely at Pollock’s work, lifestyle and art theory, I began to understand the connection. You mentioned that abstract expressionist like Pollock applied the actual rhythm of the painting process to their imagery. I agree with this idea and much of what Pollock said about his work reflects this as well. Perhaps this tapping into the actual movement of painting created imagery that is closer to nature or reality. Maybe one can say that fractal geometry is a way in which to gauge this elevated sense of perception.

Pelli’s article provides scientific insight to Chuck Close’s portraits. This article deals mainly with the variants of human perception due to shape and distance. There is a scientific assumption that humans see shape in the same manner regardless of sizes due to the fact that humans have the ability to recognize images. According to this assumption, humans can recognize people or objects due to the fact that they do not view images differently at each distance or size. Pelli, argues that modern artists have been able to go beyond this assumption and prove it false. Chuck Close’s portraits provide an excellent example.

The portraits in question prove that size can dramatically affect what shapes humans perceive. Close’s portraits are gigantic in size and to construct these huge heads, Close applied a grid method. Close’s earlier portraits (1970’s) employed this grid technique, yet were done with a photo realistic airbrush technique. His later works apply the grid, yet there is a dramatic difference between what is depicted within each individual square and the painting as a whole. While the whole piece is a recognizable human head, each square of the grid is a conglomerate of abstract colors and shapes. According to Pelli, the ability of the paintings to appear realistic at a distance and abstract from up close is due to a threshold within human perception. This border is between what is described as human ability to perceive solid objects from afar and flat shapes from up close. Close has been able to create the effects of both sides of the threshold within his paintings.


This article showcases the work and theory of painter and installation artist Matthew Ritchie. His work is described as:

“A mix of molecular diagrams and less clearly defined polygons, dominated by writhing blue arms that suggest some monumental specimen of marine life…. his work is both visual and verbal, in his voracious appetite for connecting everything – the spiritual and the material, logic and science, epic and comic voices, ecstasy and paranoia – with everything else.”

Ritchie applies microscopic scientific imagery within a completely phantasmal context. The installations described within this article start from extremely dense and surreal paintings. The forms from the painting are then painted on the surrounding wall, spilling out of the canvas, pouring to the floor. To meet the sprawling forms upon the wall there are painted pieces of modeled sintra (a malleable Formica-like material) decorated with the same imagery.

Ritchie considers and describes art within an almost scientific language. When addressing the art of painting, Ritchie states:
“Painting is an infinite battery, is violates the laws of thermo-dynamics, it’s not entopic.”

Ritchie describes his on work as:

“The story of origins, of genesis and fall, as a metaphor of the construction of art…the theme is a new look at the balance of energy in the world.”


This article presents the artwork and ideas of Franka Kupka. This artist utilizes plastic space both technically and theoretically. Kupka views plastic space in a spiritual and philosophical sense. He views plastic space as going beyond technical approaches in painting and expands this idea to the physical space of reality and the bodily space of human beings within this reality. Railing’s article is an informative piece that provides a close look at the life and ideas of the artist in question.


This text is an overview of how artistic concepts and scientific theories have reciprocally worked for each other since the wake of the Renaissance. Rhodes provided quite an insightful, historical overview of these interrelations. However, most of this text was dedicated to the technical and mathematical elements of art forms other than painting and other types of two-dimensional art forms. I mostly utilized this source for it’s historical writings.


This article did deal with interdisciplinary study of mathematics and visual art. It explained the recent work of the mathematician Dr. Hendrick Lenstra (an acting professor of mathematics at both the University of California at Berkeley and the University of Leiden in the Netherlands).

Dr. Lenstra conducted a two-year study at the University of Leiden that successfully created the correct mathematical equation that created M.C. Escher’s “Print Gallery.” The main purpose of this comprehensive study was to visually figure out what Escher excluded from the print. As you know, most of the objects and environments that were created by Escher dealt with infinite structures. However, due to the fact that his prints have a solely visual purpose, he omitted some representations of infinity and relied upon visual illusion.

What Dr. Lenstra discovered was that “Print Gallery” was based upon a type of mathematics called Elliptic Curve Theory and its main product,
Conformal maps (maps where small regions of a plane are distorted, yet the angles between lines remain the same).

This study reinforces the fact that mathematics and art may produce similar visual product in some circumstances, yet their inspiration and means toward the completion of this imagery can vary greatly.


This article explained the ideas and work of scientist and painter Desmond Morris. All the work of this artist/scientists revolves around the idea that one “must take the mundane things out of the their usual context to arrive at an unusual perspective.” In the science world, Morris is most known for his unconventional scientific studies of human and animal behavior. One of his most popular publications, *The Naked Ape* (1967), explained his manner of study and his overall results into the connections between animal and human activities. On Morris’s art side, he works mainly as a surrealist painter and installation artist.

The most useful aspect of this biographical article was its explanation of the motivation and ideas behind Morris’s practice. He believes that the insight that drives his study within both disciplines comes from the same source. This similar source of inspiration is namely dreams. Morris believes that through his dreams he is able to determine a “feeling of visualization” that he employs to either scientific logic or visual aesthetic only after the feeling is fully realized. The original feeling Morris describes as “purely sensual.” The application of the original feeling is applied to scientific logic or artistic practice for the sole reason of being able to communicate the idea to others.

Morris believes the artist/scientist must be thoroughly engrossed with their work. Morris, quite poignantly, quotes Barbara McClintock (Nobel Prize winning scientist for her work in genetics) as saying, “The main thing you forget is yourself (when at work).”

In addition to Morris’ acceptance of the similarity of the necessary “work” mind frame of the artist or scientist, he also advocates interdisciplinary study of the arts and sciences. Root-Bernstein explains:

“Morris advocates teaching people purposefully to combine the imaginative and the analytical- the artist and scientist- to be both at once. Only this way can current dogmas be challenged, the unknown imagined and the realms of the possible explored.”


This film is about the artistic practice of Max Ernst. The artist himself narrates this film. The entire piece consists of live footage of the artist as an older
man entrenched within his practice. There is also documentation of a large amount of artwork spanning his entire career. Throughout the film Ernst discusses his exploration into the nature of materials. He explains the emotional significance of the artist’s medium as a method of artistic development.

Ernst was involved in both the DADA and Surrealist art movements of the early Twentieth Century. The artist mentioned that both the artwork and the philosophies of these movements were in general a reaction to war that was plaguing Europe at this time. These movements did not strive to alienate society, which was a typical response to both these movements. The artists involved merely created art that functioned beyond the destruction that they were living against. According to Ernst, their art attempted to break “conventional stupidity.”


This text is an in-depth analysis of archetypal mathematics. The author provides a detailed assessment of each of the naturally occurring real numbers (1-10) and applies each of these numbers to art, nature, the human form and geometry. The reader is provided with a wealth of information that heightens their sensitivity to the natural construction of themselves, the environment at large, and their artistic creations. Schneider not only explained mathematics through nature and biology, but he also went into specific detail about the usage and meaning of geometry throughout history. This historical explanation of basic geometry greatly enhanced the conceptions of archetypal mathematics within the text. Overall, Schneider has created a comprehensive resource that revitalizes and invigorates the connections between art, science, and mathematics.

This text is perhaps the most influential resource that I have come across during my preliminary research. This text’s assessment of mathematics in light of the human condition (nature, art, etc.) aided me in understanding the biological connections between my self and the imagery that I create. This text pushed me to question and investigate my use of imagery and composition within my work. I began to reevaluate my imagery on a simple scale. For example, after reading the text in question I discovered that the majority of the leaf formations that infiltrate my recent work are formed in groups of three or four. I also started accessing my art practice in light of archetypal mathematics. I extracted deeper meaning in the fact that my small-scale studies were painted in three series of three and culminated in a final larger piece, my tenth painting. In turn, I have developed a heightened awareness of naturally occurring mathematics within the environments that I live in. I’ve started staring at roadside plants when I am jogging or cracks in my kitchen ceiling. Conclusively, this text has been a powerful tool and will remain a great influence to my self and my artwork.

I was only able to skim this source, however, I did find some interesting food for thought. Shlain proposes that both modern art and modern physics are systems of thinking that are somewhat impenetrable to most of society. He says this is true due to the fact that most people “don’t get” modern art and no one is really exposed to modern physics (i.e. Einstein’s theories are not regularly taught or discussed in secondary and collegiate education). Shlain goes on to state that both revolutionary art and physics of the current era are similar in that they are investigations into the true nature of reality.

I most definitely will continue to use this as a source. Although I only breached the surface of this text, I did find some interesting quotes to meditate on. For example, in relation to science, art, and the creative process in general, Shlain was discussing the ideas of Descartes.

“…all knowledge comes from experience and through our senses……there is nothing in the mind except what was first in the senses.”


David Stairs provided an intense critique on an exhibition entitled “Art+Bio” at Central Michigan University in March 1998. This exhibition showcased artists that explore concepts of biology within their work. The article goes into detail about each individual artist, the technical aspects of their work and the conceptual ideas behind their work. Having the ability to inspect art that deals with natural, biological imagery was quite informative. It also reinforces my opinion that science-based ideas are a wealth of inspiration to visual artists. As Stairs explained quite poignantly:

“As human beings enter a new millennium with an increased awareness of and sensitivity to the natural environment, it’s to reason that such issues will be reflected in art.”


This is a review of the work of two scientists, Ramachandran and Hirstein. Their work has dealt with narrowing down visual art to eight key principles. Ramachandran and Hirstein have titled these maxims as the “Eight Laws of Aesthetic Experience” These principles are as follows:

1) Visual art must enhance features that deviate from the average.
2) There must exist an isolation of key aspects of the composition.
3) There is a grouping of related features.
4) A contrast must exist between segregated features.
5) The viewer must undergo perceptual problem solving to extract relevant information.
6) A visual metaphor is applied.
7) Symmetry must exist.

According to the scientist, these principles were “developed within the scope of psychology, evolutionary biology, and neurological deficits.”

While these are interesting principles, I believe that they are based upon more classical examples of visual art and aesthetics rather than contemporary art issues. For example, the exaggeration of specific anatomical elements of humans to indicate stature or importance was a technique mainly used in the Renaissance. While some representational work, whether modern or classic, does use exaggeration with accordance to understandable perspective, it is not a necessary artistic element today.

Van der Rohe, Georgia, dir. **Paul Klee.** Anthony Roland Films on Art, 1976.

This film is a brief summary of Paul Klee’s life and work. While his life was discussed, the primary focus of this source was the evolution of his work and his painting philosophy. The fact that Klee was not an abstract painter was stressed. His work depicted the human figure, landscapes, and manmade objects. What places Klee’s work into the realm of the abstract is the technical creative process in which he worked. Klee’s work combines artistic intuition with technical precision of composition, form and color. He believed that a “discipline of economy” should be a professional objective of the artist and because of this his work’s subject matter became simplified and reduced.

Klee is a fascinating artist. He was extremely prolific; he is the creator of over 9,000 documented works. His artistic philosophy resonates within my practice. The attempt of finding new perspectives of the human condition through painting is something that I practice within my work. Also, Klee believed that ultimately art should bring happiness. I completely agree with this belief. Klee lived during very hectic times in Germany and his work is reflective of this fact. However, there still existed an underlying positivism within his work. I apply this philosophy to my work and practice and, overall, see Klee as a wonderful resource and inspiration.

The film in question provided an excellent “crash-course” in Paul Klee. This piece showed and large body of Klee’s work that provided the viewer with a through investigation of the artist’s practice. I would definitely recommend this source to any “abstract” painter of the present.