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Catalyst

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CATALYST

by

JOSEPH HADDEN

Under the Direction of Matthew Sugarman

ABSTRACT

My thesis exhibition consists of a series of mixed media paintings and sculpture derived through experimentation with materials. I have appropriated alchemical processes to describe and generate the abstract landscape. The work emphasizes process and chemical reactions and is comprised of fluid fortuitous marks, free of conscious control, that work in tandem to create deep space that invites immersion and tempts interaction. The viewer is both an integral component of the piece and a foreign sightseeing entity, removed from the known world and placed in a bizarre offshoot.

INDEX WORDS: Alchemy, Memory Traces, Pataphysics, Abstract Geological Landscape,
Immersion, Interaction

CATALYST

by

JOSEPH HADDEN

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of

Master of Fine Arts

in the College of Arts and Sciences

Georgia State University

2017

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2017

CATALYST

by

JOSEPH HADDEN

Committee Chair: Matthew Sugarman, Professor

Committee: Craig Dongoski, Professor

Joseph Peragine, Professor

William Downs, Lecturer

Electronic Version Approved:

Office of Graduate Studies

College of Arts and Sciences

Georgia State University

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DEDICATION

This Thesis is dedicated to my parents, Jeffery and Tracy Hadden, and to my brothers and sister in law, Sam, Will and Liz Hadden. This Thesis would not have been possible without the many years of love and support. Thank You.

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS	V
LIST OF FIGURES	VII
1 INTRODUCTION.....	1
2 ABSTRACT GEOLOGICAL ENVIRONMENT	2
2.1 Immersion	3
2.1.1 Sensory/Experince	5
2.2 Interaction.....	6
3 PROCESS	ERROR! BOOKMARK NOT DEFINED.
3.1 Material Studies.....	9
3.1.1 Surprise	11
3.2 Techniques/Alterations	12
4 MEMORY	15
4.1 Iconic/STM/LTM	17
4.2 Echoic/STM/LTM	19
4.3 Resonance/Reverberate	21
5 CONCLUSION	23
REFERENCES.....	44

LIST OF FIGURES

<i>Figure 1. 5.1 452B. (2016) 10 x 13 x 12 feet. Mixed Media.....</i>	<i>24</i>
<i>Figure 2. 5.1 13.1. (2017) 36 x 48 inches. Mixed Media.....</i>	<i>25</i>
<i>Figure 3. 5.1 Crug. (2017) 13 x 17 inches. Mixed Media.....</i>	<i>26</i>
<i>Figure 4. 5.1 Andesite. (2017) 48 x 60 inches. Mixed Media.....</i>	<i>27</i>
<i>Figure 5. 5.1 665.2. (2017) 23.5 x 34.5 inches. Mixed Media.....</i>	<i>28</i>
<i>Figure 6. 5.1 Dag Gummit. (2017) 30.5 x 22 inches. Mixed Media.....</i>	<i>29</i>
<i>Figure 7. 5.1 Generator Vat #1. (2017) Varying Dimensions. Mixed Media.....</i>	<i>30</i>
<i>Figure 8. 5.1 Generator Vat #2. (2017) Varying Dimensions. Mixed Media.....</i>	<i>31</i>
<i>Figure 9. 5.1 Generated. (2017) 24 x 27 inches. Mixed Media.....</i>	<i>32</i>
<i>Figure 10. 5.1 Drip. (2017) 30 x 40.5 inches. Mixed Media.....</i>	<i>33</i>
<i>Figure 11. 5.1 Floated. (2017) 25 x 17 inches. Mixed Media.....</i>	<i>34</i>
<i>Figure 12. 5.1 Boil. (2017) 18 x 12 inches. Mixed Media.....</i>	<i>35</i>
<i>Figure 13. 5.1 Dag Nabbit. (2017) 16 x 11 inches. Mixed Media.....</i>	<i>36</i>
<i>Figure 14. 5.1 Sensory Memory. (2017) 9 x 12 inches. Mixed Media.....</i>	<i>37</i>

Figure 15. 5.1 Sigmar Pole, The Axis of Time (2007) 1/7.....38

Figure 16. 5.1 Glen Onwin, As Above So Below (1991).....39

Figure 17. 5.1 David Alfaro Siqueiros, Collective Suicide (1936) 49" x 6'. Lacquer on wood with applied sections.....40

Figure 18. 5.1 Yves Tanguy, Slowly Toward the North (1942) 43 1/4 x 56 1/4 inches. Oil on Canvas.....41

Figure 19. 5.1 Max Ernst, L'oeil du Silence (The Eye of Silence) (1943-44) 42 x 36 inches. Oil on Canvas.....42

Figure 20. 5.1 Anechoic room with loudspeaker setup and subject. Experiments on Authenticity and Plausibility of Binaural Reproduction via Headphones Employing Different Recording Methods.....43

Figure 21. 5.1 Shiraga Kazuo Challenging Mud, (1955).....43

1 INTRODUCTION

I conduct experiments catalyzing material processes into concrete forms. These forms make up the artifacts of my artistic practice. Through alchemical procedures I gain knowledge relating to the chemistry, biology and physics of a wide range of art materials, household ingredients and toxic chemicals. The resulting imagery often depicts deep space that is both macrocosmic and subatomic. Like an alchemist's use of the Philosopher's Stone to turn base metal to gold, I use investigational chemical processes to achieve a painting capable of immersion into environments that evoke a desire for interaction and exploration. This thesis series, *Catalyst*, exhibits a culmination of many alchemical transmutations that reference the abstract geological landscape.

I utilize vats filled with a chemical mixture and a singular geological element. The mixture permits the geological component to generate and produce the foundational materials for my paintings. The geological element starts as a found piece of wood that is then covered in numerous alternating layers of wax and paint. The layers of paint are slowly eroded away by the fluid mixture they are suspended in, exposing a coating of subterranean wax. The wax reacts with the salt in the mixture to produce crystals. These crystals then break off from the center mass and become trapped between resin-based stalactites and stalagmites. As the vats fill, new material compounds can be collected and repurposed in the subsequent painting. The painting then continues to grow and change as I employ my personal updated interpretation of the Philosopher's Stone. When I feel I've reached my goals with a piece, the progression is frozen in resin, or by some other means, and displayed as an artifact of the transformation and a sample of a newly discovered land surface.

My studio has become a laboratory, a workshop, a testing ground, a museum, a home, and a foreign environment, but perhaps most importantly it is a place of imaginary solutions and motivating surprises.

2 ABSTRACT GEOLOGICAL ENVIRONMENT

Land surface and immersive environments have the ability to create deep space or deep nature. 452B is the title I gave an immersive and interactive abstract geological installation that took the shape of a cave and had engulfed my studio for approximately two years. This investigative endeavor was the precursor and influence for my current process. Living and working in the cave space taught me that an immersive and interactive environment produces individually unique and thought-provoking experiences that can be powerful for both the creator and the visitor. The subsequent paintings then become re-enactments of forces, impressions or events that occur within the abstract geological environment, while creating a new atmosphere or habitat that awaits exploration, invites immersion, and tempts interaction. Renowned physicist Steven Weinberg asks the question “How can we get the ideas we need to a realm where all intuitions derived from life in space-time become inapplicable? Namely, how do we get beyond our present intuitions of space/time and move forward imaginatively into another dimension of space-time?” In the book, Char Davies’ *Immersive Virtual Art and the Essence of Spatiality*, Artist Char Davies tackles these questions and ideas, proposed by Weinberg, via her immersive virtual environments that place the viewer in similarly imaginative environments to 452B. Davies targets the body’s biochemical responses with immersive images that have a direct effect on the visual brain. The atmospheres she provides allow for the viewer to be more attuned to the spatial dimensions that we find in dream space. The immersive elements in her pieces serve not only as a mental exercise but also as a physical experience. Through this physical experience Davies hopes to open doors to new perceptions of reality. Using only vision to arrive at this new perception, Davies blurs the dream and awake states and creates a space between consciousness

and unconsciousness.¹ I find this approach helps to give the abstract geological environment more weight, so it can be perceived as being an actual place or gateway to a new way of thinking. The viewer is then forced to think about location, space and time on top of the other more immediate experience of being wholly immersed.

2.1 Immersion

Absolute immersion in the subatomic and macrocosmic elements of the abstracted land surface I create provides passage to an environment unlike any in the natural world. Each work is created via inimitable and exploratory processes and provides an idiosyncratic domain. This new territory beckons further exploration both visually and tactilely and, in doing so, can wholly immerse the viewer, perhaps even unsuspectingly. This breed of absorption is examined in Oliver Grau's book, *Virtual Art*. Grau traces the origin of virtual art back to a history of immersive images and illusions. He recounts the evolution of art concepts and relates them to interactive and immersive art to better understand virtual reality.

Virtual immersive space is capable of being all embracing. The viewer is able to completely fuse with the image and become a part of it. Can the non-hermetic effects of my paintings capture this "fusion" with the image or does a virtual or actual (360°) environment have to be created to overwhelm the senses and ultimately achieve immersion? Can suspension of disbelief be enough to transport a viewer to an alternate reality, landscape, or environment? I am confronted with these hurdles perpetually in my practice and my work has gone through many

¹ McRobert, Laurie. *Char Davies' Immersive Virtual Art and the Essence of Spatiality*. Toronto: U of Toronto, 2007. Print.

phases including video, sound, installation, computer graphics/animation, and other immersive formats in search of the best solution. My work now largely sits in the realm of painting, as I have found that materializing a land surface that tempts tactile interaction leads to a powerful and complete form of immersion. With a suspension of disbelief, the viewer becomes entangled with the microcosmic nuances on and below the surface and, in doing so, inadvertently slips into the larger macrocosm where exploration and inquisition reign.

“The technological goal, as stated by nearly all researchers of presence, is to give the viewer the strongest impression possible of being at the location where the images are, This requires the most exact adaptation of illusionary information to the physiological disposition of the human senses.”²

452B appealed to all the senses to give the impression of being completely immersed in an artificial world that I deemed the abstract geological environment. It was only in its completion, with a now much clearer understanding of 3-dimensional abstract space, that I discovered the transportation of a viewer to a new environment via visual immersion could be achieved in a singular non-surrounding image. The paintings that make up *Catalyst* do just that. While I continue to work in other mediums to expand my practice, the paintings and sculptures of *Catalyst* successfully generate the immersion I sought after in its inception. The active viewership that my paintings require, ultimately creates significantly more active paintings and transforms the viewer into a participant in the work.

² Grau, Oliver. *Virtual Art: From Illusion to Immersion*. Cambridge, MA: MIT, 2003. Print.

2.1.1 Sensory Experience

The partnership between the artist and the painting is just as important as the aforementioned partnership between the painting and the viewer/participant. This relationship becomes overwhelmingly evident when control is not the focus, but rather when gestural intuitive mark making takes over. Instead of fighting with the painting material and forcing it into position, the artist that relinquishes total control and imparts life to matter is creating a partnership and odd sense of trust that ultimately results in an image that both conveys the initial idea and allows the medium to behave naturally. When texture is introduced in my work, it evokes the human behavior of desiring to touch the surface to fully understand it visually. For me, this is an important and possibly necessary component that creates a bond between the image and the viewer.

Sigmar Polke, whose work is deeply rooted in philosophy, chemistry and ancient mythology, describes his paintings as "...the meeting point of ideas and materials coming together... You see what you want, but you have to work with the painting, and the results are always different." Polke's career is described as being a constant stream of experiments, which I think is necessary for creating exciting new works for both the artist and the viewer. In the 1980's Polke began experimenting with toxic substances because 'store-bought pigments often lacked the brilliant hues that he craved.' In my use of toxic substances, I have found that they often produce surprising changes in color, surface, or texture and, at its core, my work is driven by these surprises. The reactions that occur when toxic chemicals are introduced can be learned,

reproduced and later added upon to create new reactions and new outcomes. Nicholas Serota, the director of the Tate in London, makes the alchemists connection with Polke saying, “He turns base metal into gold and base fabrics into great paintings.” In Polke’s 2007 painting, *The Axis of Time*, he applied violet to layers of translucent fabrics and the image literally turned gold. We share an affinity for paintings that serve as impressions and as Polke put it, “A finished painting is an impression of millions of impressions.”³ My interaction with the materials and the materials interactions with one another is what I learn the most from in my practice. These components are also responsible for creating the viewers desire for tactile interaction in the finished work.

2.2 Interaction

Two generator vats were featured in the *Catalyst* exhibition. The content of the vats undergo various transmutations in real time. The vats are perhaps the most transparent in exposing their interactive process and are central to this series, as they create and produce a large majority of the materials I implement in other works. I owe the germ of the idea to create and harvest from the vats to the alchemical artist Glen Onwin. Onwin creates site-specific installations that reflect the natural process of change and generational decay via practical chemical reactions. Onwin took an interest in synthetic biology, the construction of new biological parts, systems and devices. In his practice he sustains the evolution of the landscape and its minerals. The works constantly change as they grow crystals, change colors, and have

³ Vogel, Carol. "The Alchemist's Moment: The Reclusive Mr. Polke." *The New York Times*. N.p., 27 May 2007. Web.

many other chemical reactions in their life span. This evolution is prevalent in many of his works and is perhaps most notably apparent in his mixed-media installation, Emerald Table, As Above So Below. This installation was born from Onwin's interest in common salt and crystalline reactions that occur within natural saltpans. The installation was located at the Square Chapel in Halifax; a three story building that is entirely activated by multiple installations. The building had been stripped down to just brick walls and wood floors. Each floor contained large receptacles that had been heavily manipulated by Onwin.⁴

The first receptacle was filled with dyed black salt-water and wax that, over of the course of a couple weeks, produced ever changing chemical reactions. Crystals began to form along the edges of the wax, changing in color, size and quantity as time went on. This receptacle was experienced first when you walked into the top 3rd floor of the building. This installation was titled "Nigredo" meaning the blackening or death. The viewer would then travel down a dark staircase that was lined with glass tubes filled with green dyed water and botanical solution that were lit green and red. On the second floor the viewer would encounter a room named "Its Nurse is the Earth" filled with bitumen and a copper sulphate solution and in the next room on the same floor was a green-lit receptacle named "The One to The One" filled with black and white dyed gypsum, brine and coal. The first floor had a tank titled "Uroboros" after the alchemical serpent

⁴ Onwin, Glenn, and Jim Birrell, As Above So Below N.p.: Henry Moore Sculpture Trust. Leeds. N.d. Print.

that represents the perfected ‘Philosophers Stone’ or gold that was an aluminum tank filled with brine, a plastic tube and green dye, lit green.^{ibid.}

Since learning of this installation, I have taken an avid interest in synthetic biology. The opportunity to discover new reactions through alchemical interaction is endless. Any number of substances can be added or taken away to produce individually unique results. The continual growth and changes in viscosity, color, and texture breathe life into each work.

3 PROCESS

Alchemy has often been described as a magical transformation of materials. Contemporary critics and artists have used the term to describe works that conjure material mutation or that experiment with material temporality. Alchemy is tied to the realm of aesthetics with a close connection to painting, drawing, photography, and, earlier, to printmaking. James Acord, an artist utilizing alchemical practices, is a special kind of alchemist in that he is the only artist licensed to work with radioactive material. Authorities have closed the loopholes he used to gain access to these materials so it is likely that he will remain not only the world’s first but the world’s only nuclear sculptor. Acord spent years learning how to perform, what was to him, the most modern alchemy: the transformation of radioactive waste into inactive material and subsequently into sculptures. His artistic goal was to cast light on how society cloaks the nuclear industry in a dense cloud of security and secrecy. The essence of James Acord is perhaps best captured in this passage:

^{ibid.} Onwin, Glenn, and Jim Birrell, *As Above So Below* N.p.: Henry Moore Sculpture Trust. Leeds. N.d. Print.

“Acord recognized that the idea of transmutation, central to alchemy, was equally applicable to radioactivity and also to sculpture, both of which involve the mysterious transformation of elemental materials. In addition, alchemy provided a moral underpinning for all his work. “The base man who desired only for wealth would always fail,” he said. “The higher adepts, the true alchemists, knew that what they were really transforming was themselves. The real lead was in their own hearts, and only through purity of motivation could they transform that lead into gold.”⁵

I am motivated by surprises occurring in the works chemical transmutation. I hope to always be surprised by my work and by the reactions occurring within a piece and hope to transform myself along with the work. These surprises take many forms, some of which include: changes in color or viscosity, emerging textures or pockets of corrosion, glowing phosphorescence and growing crystalline forms. The end result produces artifacts that emphasize and magnify process.

3.1 Material Studies

Process plays an integral role in my art practice. Often the process involves chemical reactions and is entirely experimental, which results in an outcome full of surprises. These outcomes can be built upon or stripped away to create a final artwork. However, I also build

⁵ Michaud, Jon. “Postscript: James Acord, Alchemist for the Nuclear Age.” *The New Yorker*, 17 July 2014. Web. 24 Jan. 2017

upon techniques and material process from artists or fluid mechanic physicists that have come before me. I have most frequently adapted surrealist's techniques into my practice to use as a baseline or starting point but do not limit myself to the movement. In researching fluid mechanics I came across artist David Alfaro Siqueiros, a Mexican social realist painter known for his large murals. Siqueiros discovered what has been deemed his 'accidental painting' technique in the 1930's and is the base technique used in the painting, *Andesite*. (Figure 4. 5.1) Aesthetically the technique looks ethereal and fluid and is the effect of two paints of different densities and viscosities naturally fighting for their place on a surface. First the less dense paint is poured over an entire surface (in my case this was on a canvas that had been walled off on all sides to avoid any spillage). Before the first layer has a chance to dry you then pour a layer of paint over top that is denser. The top fluid has the desire to move downwards, which causes the two paints to mix in, coalesce and spread. The fluctuating compounds in different pigments change the overall density and viscosity of the paint. In physics, this clash between densities is known as Rayleigh-Taylor instability and it is what creates the desired 'accidental painting' techniques.

This technique did not garner as much attention as some of the surrealist techniques but it did catch the attention of Sandra Zetina, an art historian and Roberto Zenit, a physicist at the National Autonomous University of Mexico. Zetina and Zenit replicated the process and found that it worked best with black paint (black = 1002 kg/m^3 , black = 11.7 Pa s) on the bottom and white paint (white = 1110 kg/m^3 , white = 2.5 Pa s) on the top. Because the white paint is denser it wants to move downward through the black paint but if cured correctly, all the paint will dry

before the process is complete and you are left with some remarkable imagery.⁶ In my painting, I too used black and white for the ‘accidental painting’ portion of the process but then built open that by adding chemicals like bleach and nitric acid to change the make up and aesthetic of the paint. Then multiple glazes were applied, tinting and saturating the surface with each pass. These processes can be manipulated and altered time and time again to create new and surprising results.

3.1.1 Surprise

Alchemical studies and experiments combining both traditional and untraditional mediums make up my artistic process and challenge the capabilities of given constituents, allowing me to, in turn, test the limits of my drawing and painting abilities. Alchemy in Contemporary Art by Urszula Szulakowska chronicles twentieth-century artists, beginning with the French Surrealists of the 1920s, as they explore concepts and imagery from the western alchemical tradition. I was drawn to this book as my work has shifted to testing the limits of multiple mixed mediums through forms of alchemy. I am also very interested in Surrealism and the artists that make up the movement, namely André Breton and Yves Tanguy, who have adapted the historical alchemical discourse to align with their practice.

In medieval and Renaissance times, alchemy was a combination of both practical chemistry and introspective contemplation. Practitioners believed that the process of alchemy

⁶ Jacobsmeyer, Brian. "Art and Physics Converge: Accidental Painting." Physicscentral.com. N.p., n.d. Web. 17 Nov. 2016.

would purify the chemical materials as well as themselves and their environment. The alchemists practiced with hopes of transforming base matter into gold and creating the mysterious entity known as the “Philosophers Stone”. This search for a mythical substance through alchemical processes is not unlike the contemporary artist’s search for a finished painting or artwork capable of absolute immersion. The stone was said to have properties comparable to that of Jesus Christ and it was believed that the alchemist, having found this substance, would be transformed into a superhuman being. The superhuman image of a renaissance alchemist and magician would, by the early twentieth century, be shifted onto the artist. Art products would be viewed as almost sacred artifacts discovered by the artist who took on the role of a seer or prophet.⁷ The title of alchemist continues to change as it applies to artists but still remains relevant, and the term alchemy most aptly describes my process and techniques for arriving at a finished artwork.

3.2 Techniques/Alterations

Though I work in tandem with my materials and allow them to react and interact on their own, there are still many techniques I implement to distribute the materials in the most efficient and advantageous fashion. The techniques parsemage and decalcomania are especially present in the initial base layers of my work. These techniques allow me to better remove my hand from a piece and, in turn, let gestural marks free off conscious control interact chemically on a given surface and produce a more natural and geological outcome. Parsemage is the act of dropping crushed charcoal, chalk, or pigment onto the surface of water and then sifting a stiff piece of paper or primed canvas under the surface of the water, allowing the water to determine where the

⁷ Szulakowska, Urszula. *Alchemy in Contemporary Art*. Farham: Ashgate Pub., 2011. Print.

residue will settle and how it will separate. Decalcomania is a process of spreading paint on a canvas or piece of paper, then, while it is still wet, covering it with further material such as thin paper, trash bags or aluminum foil. This covering is then removed and results in an intricate and randomized paint pattern. I often use these techniques in tandem, first using the parsemage technique and allowing it to dry more quickly using decalcomania. These techniques function as a jumping off point where I can then add materials from the generator vats and go from there. The end result produces imagery that is equivalent to the landscape, rather than a portrayal of it.

The artist Max Ernst, an influence of note, often employed parsemage and decalcomania evoking the pataphysical spirit, but he also adopted pataphysical themes in his painting *Ubu Emperor*. The name Ubu is derived from Alfred Jarry's play *Ubu the King/King Ubu*. According to Jane Taylor, "the central character (Ubu) is notorious for his infantile engagement with his world. Ubu inhabits a domain of greedy self-gratification." This was Jarry's stand in for the modern man. Max Ernst adopted Ubu as a symbol of dictatorship. Ernst saw Ubu as an enormous redbrick structure rendered as a spinning top, with a hen's beak, human hands and navel, green hair and shawl, with a needle nearby, in a desert landscape. Ernst's *Ubu Emperor* attacks all dictators. The spirit of Ubu provided a great source of energy for many artists through the years; so much so that a distorted picture of Jarry's work, that of the creator of the singular character Ubu and nothing more, was formed that somewhat persists to this day.⁸

⁸ Bök, C. (2002). *Pataphysics: The poetics of an imaginary science*. Evanston, IL: Northwestern University Press.

3.3 Pataphysics

Pataphysics is a word that attempts to escape precise definition and eliminate itself from the dictionary. It is largely useless or ‘inutilious’ as pataphysicians say, however it still directly informs and modifies the world. Alfred Jarry could be considered the most influential and key pataphysician in the field. His concise definition of pataphysics is as following:

“DEFENITION. Pataphysics is the science of imaginary solutions, which symbolically attributes the properties of objects, described by their virtuality, to their lineaments.” This does not quite get at the heart of what pataphysics is because there really is no heart. Pataphysicians have attempted to break the term down even further into four bullet points.

- Pataphysics is the science of imaginary solutions
- Pataphysics is to metaphysics as metaphysics is to physics
- Pataphysics is the science of the particular and the laws governing exceptions
- Pataphysics describes a universe supplementary to this one

So, one can begin to think about pataphysics as the science of the realm beyond metaphysics. Pataphysics borders the line between science and philosophy and can be both thought of as a way of life/attitude of mind or as a complete hoax/the ultimate prank. Regardless, it has had a noticeable impact on art, music, theater and so on, as well as, politics, economics, and the larger social sciences. Pataphysics exists as an artistic theoretical proposition and never proposed itself as a movement or published a manifesto. Christian Bök, a Canadian experimental poet and scholar, posits that “Jarry suggests through pataphysics that reality does not exist, except as the interpretive projection of phenomenal perspective – which is to say that reality is never as it is but always as if it is.” Bök challenges poetry’s stake in the world of science and

wonders how science might benefit from its own poetic irony, as if the terms science and poetry are philosophically interchangeable. I would like to suggest the same could be done and said for visual art. So that one, science, is fixed while the other, art, is malleable. Science reproduces the truth as it is and art actively engages in the experimental process of questioning, developing and, in the case of pataphysics, purposefully misunderstanding truth, as if it is.

Many different scholars, thinkers and artists, have interpreted the legacy of Alfred Jarry in distinctive ways, each claiming him as a precursor. Chief among these was André Breton who championed Jarry's work and included him in the surrealist group's list of approved authors. Breton's interest in Jarry and pataphysics largely inspired the entire surrealist movement and the artists, works, and writings that came out of it.⁹ It is perhaps the techniques; frottage, parrimage, grattage, and decalcomania, that most influence my practice and most evoke the pataphysical spirit in their corresponding images and materials.

3.2.1.1

4 MEMORY

After de-installing the abstract geological landscape 452B to begin my work on the *Catalyst* exhibition, my work shifted and often became recreations from memory of forms, feelings, or landscapes associated with the installation.

⁹ Hugill, A. (2012). 'Pataphysics: A useless guide. Cambridge, Mass.: MIT Press.

In researching memory to better connect with my work I came across the Atkinson-Shiffrin Memory Model, often referred to as the “modal model”. Though flawed, the modal model is commonly considered the quintessential memory model. It is made up of three major stores: sensory memory (SM), short-term memory or working memory (STM/WM) and long-term memory (LM). All of these components are applied in my work and everyday life but to better understand them I had to first better comprehend their science and history as well as the changes that they have undergone.

The sensory memory store is what I find most compelling and applicable to painting. SM, also referred to as iconic memory, stores large amounts of external input but it all decays within a few hundred milliseconds. Only a limited amount of information is passed on from SM to STM. The information we receive in SM directly reflects the remarkable richness of any given optical experience but it falters when motion is introduced, as described by Coltheart: “Any relative motion between the observer’s retinae and the external environment will cause a shift in retinotopic coordinates for the stimulus received by SM. These shifts, in turn, will cause blurring...” Essentially any new information presented while in motion would mask previous information making it obsolete.

This idea that motion would hinder the ability of iconic memory to function in normal viewing conditions, questioned its role in information processing and suggested it would block crucial information headed to the other stores. These shortcomings almost led to sensory memory being removed from textbooks altogether. However, Haluk Ögmen and Machael H. Herzog suggest in their article, A New Conceptualization of Human Visual Sensory-Memory, that there

is a new model altogether with a fourth store. This store is called non-retinotopic sensory memory or (nrSM). This store is not anchored in retinotopic coordinates/does not rely on retinal mapping but rather, uses motion groupings to transfer information to STM. nrSM is immune to masking allowing it to coexist with SM as they work together to transfer information to STM in often less than 120ms.¹⁰ I am drawn to intense textured and colorful surfaces/images and compelled to commit these images to memory. I rely on SM and nrSM to relay this information on to STM and LTM in order to create the work. I am also interested in the visual information that is passed on and that which is lost indefinitely.

4.1 Iconic/STM/LTM

Attending to visual memory traces when an object is no longer present was the inspiration for *Catalyst*. In conjunction with the paintings that recall the forces of 452B, I created auditory “binaural walkthroughs” of similar environments in response to memory traces. These walkthroughs consist of binaural recordings of a given space, along with foreign Foley sounds to create an abstract soundscape that ideally evokes an autonomous sensory meridian response within the listener. Autonomous sensory meridian response (ASMR) is a term that recently arose online to define an enigmatic tingling feeling in reaction to particular audiovisual and interpersonal prompts. Though the exhibition, *Catalyst*, was comprised of physical paintings and sculptures, they were very much informed and inspired by these binaural walkthroughs.

¹⁰ Ögmen, Haluk, and Michael H. Herzog. "A New Conceptualization of Human Visual Sensory-Memory." *Frontiers in Psychology Front. Psychol.* 7 (2016): n. pag. Web.

My interest in these prompts and memory traces led me to the article, *Attending to Auditory Memory*. This article investigates reflective attention as it applies to auditory memory in the absence of linked external stimuli and proposes that auditory attention is paid to memory pathways after the stimuli passes through the sensory memory store. Auditory attention can be described as the selective filtering of certain sounds in an over-saturated auditory scene, such as a loud party etc. Like visual memory, auditory memory is comprised of sensory memory, short-term memory, and long-term memory. The article suggests that the information stored in STM and LTM can be recalled and activated, while reflective attention to information in the sensory memory store may not be possible. The information that is lost in translation I find very interesting and is an area that I explore in my work. This becomes especially interesting when different environments are introduced and paired with a soundscape. A studied phenomenon called “change deafness” takes participants and subjects them to two largely identical soundscapes. A change in the soundscape is introduced, as well as a change in the environment, speakers, location etc... The participant is then asked to recall any changes in the auditory scene but because incoming information is selectively attended to, the participants demonstrated failures to detect auditory changes.¹¹

The unfamiliar and ever-changing immersive environments that make up my work, highlight both what is retained and what is lost in our visual and auditory memory. An improved understanding of the inner workings of memory stores, allows me to better manipulate

¹¹ Zimmermann, Jacqueline F., Morris Moscovitch, and Claude Alain. "Attending to Auditory Memory." *Brain Research* 1640 (2016): 208-21. Web.

paintings/soundscapes to more accurately recall and evoke thought about environments no longer in existence. These recollections riddled with misinformation, due to the faultiness of auditory attention and visual memory stores, in turn, create new and exciting environments that can be misremembered and reimagined indefinitely.

4.2 Echoic/STM/LTM

A binaural reproduction is the result of a method of recording that uses two carefully arranged microphones to create a 3-D stereo sound sensation for the listener. Binaural recordings have the ability to place a listener in an entirely different environment and have made their way into my audio practice in the form of what I call, binaural walkthroughs. The article, *Experiments on Authenticity and Plausibility of Binaural Reproduction Via Headphones Employing Different Recording Methods*, focuses on the perceived quality of binaural reproductions. A successful binaural reproduction could lead to accurate localization performances and create authentic and plausible soundscapes or scenes. Therefore, perceptually distinguishing a binaural reproduction from a real source is an important and interesting study.

This article describes a study involving 80 participants, which consisted of two separate experiments, one to test authenticity and the other to test plausibility. In Experiment A, the subjects were asked to distinguish between the real source and the binaural reproduction given the stimuli, noise, speech and music. The real sources and binaural syntheses were presented directly after another. The participants wore headphones throughout the entire experiment and listened to one stimulus, (e.g. pink noise) played three times in a row. The listener was placed in a chair surrounded by a cage with loudspeakers and wore headphones in the center of the cage.

The real source was played once over loudspeaker while the synthesized binaural reproduction was played twice through headphones. The three sounds were played in random order for all 80 participants, the possible orders being aab, aba, baa, bba, bab, and abb. Written instructions told the listener to pick the sound that differed and nothing more. The three noises could be played back a total of three times. The participants were largely not able to distinguish any difference between the binaural reproduction and the actual source.

Experiment B differed from Experiment A in that, the 80 subjects were played only one reproduced sound and had to answer whether they thought the reproduction came from the actual source, played over the loudspeakers, or if it was the binaural reproduction, played via headphones. Each participant underwent 10 trials within Experiment B. The results showed that all the participants had difficulties distinguishing between the real source and the binaural reproduction. Both the experiments also showed that there were no significant dissimilarities from chance guesses.¹²

Moving forward, future installations, not unlike 452B, will feature stimuli from the actual source played over loudspeakers within the installation, as well as, binaural reproductions played through headphones. These elements have always been present in the “binaural walkthroughs” but will now move into the realm of the installation. These methods can be used to focus on the

¹² Oberem, Josefa, Bruno Masiero, and Janina Fels. "Experiments on Authenticity and Plausibility of Binaural Reproduction via Headphones Employing Different Recording Methods." *Applied Acoustics* 114 (2016): 71-78. Web.

effects of localization and, furthermore, the physiological effects of auditory attention. A mixture of recognizable and abstract sounds within the soundscape will mirror the aesthetics of the visual landscape, as well as, the atmosphere of the environment. The method for then getting to these aesthetics relies on how I treat my materials and process, which is largely influenced by the Gutai Art movement.

4.3 Resonance/Reverberate

“We have decided to pursue enthusiastically the possibilities of pure creativity. We believe that by merging human qualities and material properties, we can concretely comprehend abstract space.”¹³

This excerpt from the Gutai Art Manifesto conveys excellently just how immense the concepts and goals of the movement were. The Gutai group set out to do incredible things. They aimed to give life to inanimate matter, to create what had never before existed, to capture a moment in time and to meld the human spirit with the properties of raw material. They hoped to unlock true authenticity and create organic and original art works that captured both the gesture and essence of the individual artist and the freedom of any given material. Through the happenings of chance, and spirit of human intervention, Gutai was born.

There are many parallels between the Gutai movement and others such as Dadaism, Surrealism, etcetera, but it is Abstract Expressionism that is most responsible for instilling similar interests in the artists of the Gutai group. Much like Gutai, Abstract expressionism strives

¹³ Yoshihara, Jiro. "Gutai Art Manifesto." N.p., n.d. Web.
<<http://web.guggenheim.org/exhibitions/gutai/data/manifesto.html>>.

to achieve authenticity through automatism and immediate expressive mark making methods or techniques. An abstract expressionist painting is intended to be an admission of an artist's true identity through the manipulation of matter, to create what has never before existed, much like Gutai. However, Gutai differs in that it is less concerned with the product as an image of an artist's individuality and spirituality, but rather concerned with the action of manipulating matter and combining both the human and non-human qualities to create what has never before existed. Abstract expressionist paintings reveal the gesture as the artist's signature, which exposes the process of the creation of a piece.¹⁴ This idea of imparting life to matter is something I cherish in my work and experiments. I feel I am allowing the materials to react and interact on their own and the final result is co-creation that comes from both my hand and the material's desires. Alchemical experiments, integral to my work, push this to an extreme and, to me, create a painting that is more alive and unbound.

¹⁴ Kaprow, Allan. *Assemblage, Environments and Happenings: Text and Design* by Allan Kaprow. With Selection of Scenarios by 9 Japanese of the Gutai Group, Jean-Jacques Lebel, Wolf Vostell, George Brecht... New York: n.p., 1966. 21-214. Print.

5 CONCLUSION

At its core, *Catalyst* is an exploration of material and the immersive qualities of painting. In my time spent exploring, I have taken many excursions that ultimately led to a better understanding of the abstract landscape. These jaunts have taken the form of installations, soundscapes, virtual environments and a variety of other mediums untraditional to painting. However, I found that a singular painting could be just as powerful a source of total immersion as any of the aforementioned. *Catalyst* was comprised of paintings on stretcher bars, cooking trays, freestanding chunks of resin and self-generative paintings/sculptures inside of chemical vats. I found, over time, that these parameters best support my alchemical process, as well as, provide a platform that is accessible and capable of transportation to an otherwise unattainable and unimaginable location. However, this strain of immersion and interaction is not exclusive to painting. I will continue to explore all mediums capable of intense entanglement, as I believe; immersion in an artwork is essential to a strong resonating connectivity with a piece.

Material studies and experimentation are central to the work and incite the necessary surprises I hope to encounter and learn from while creating. The reactions and interactions that occur provoke the transmutations in the work that transform me as a person and promote my growth as an artist. *Catalyst* exhibits a strong record and culmination of my many interests,

studies and expeditions. The working methods that make up *Catalyst* provide the opportunity to create infinite iterations of environment, land surface and deep space that beg exploration, interaction and inquisition.



Figure 1. 5.1 452B. (2016) 10 x 13 x 12 feet. Mixed Media



Figure 2. 5.1 13.1. (2017) 36 x 48 inches. Mixed Media



Figure 3. 5.1 Crug. (2017) 13 x 17 inches. Mixed Media



Figure 4. 5.1 Andesite. (2017) 48 x 60 inches. Mixed Media



Figure 5. 5.1 665.2. (2017) 23.5 x 34.5 inches. Mixed Media



Figure 6. 5.1 Dag Gummit. (2017) 30.5 x 22 inches. Mixed Media

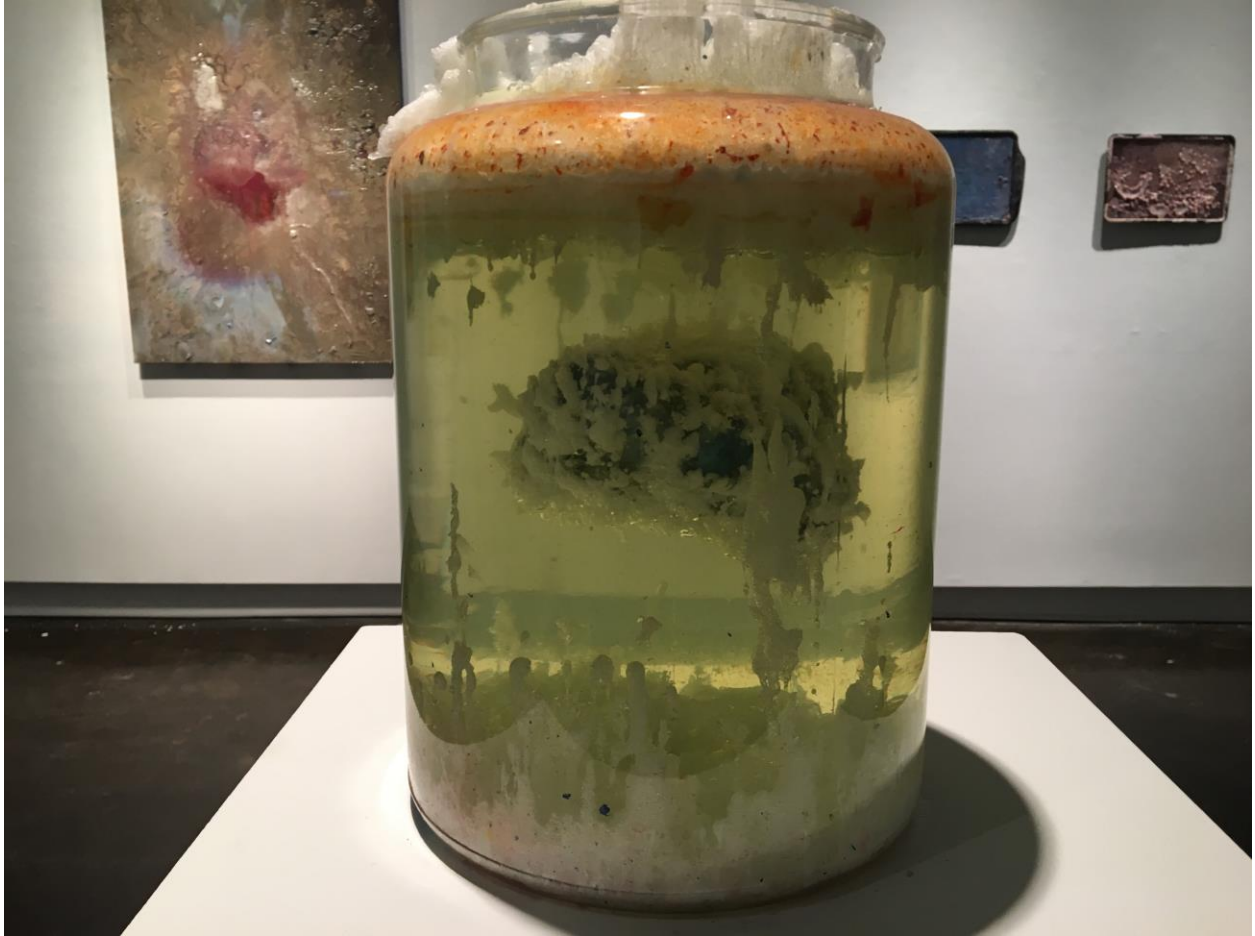


Figure 7. 5.1 Generator Vat #1. (2017) Varying Dimensions. Mixed Media



Figure 8. 5.1 Generator Vat #2. (2017) Varying Dimensions. Mixed Media



Figure 9. 5.1 Generated. (2017) 24 x 27 inches. Mixed Media



Figure 10. 5.1 Drip. (2017) 30 x 40.5 inches. Mixed Media



Figure 11. 5.1 Floated. (2017) 25 x 17 inches. Mixed Media



Figure 12. 5.1 Boil. (2017) 18 x 12 inches. Mixed Media

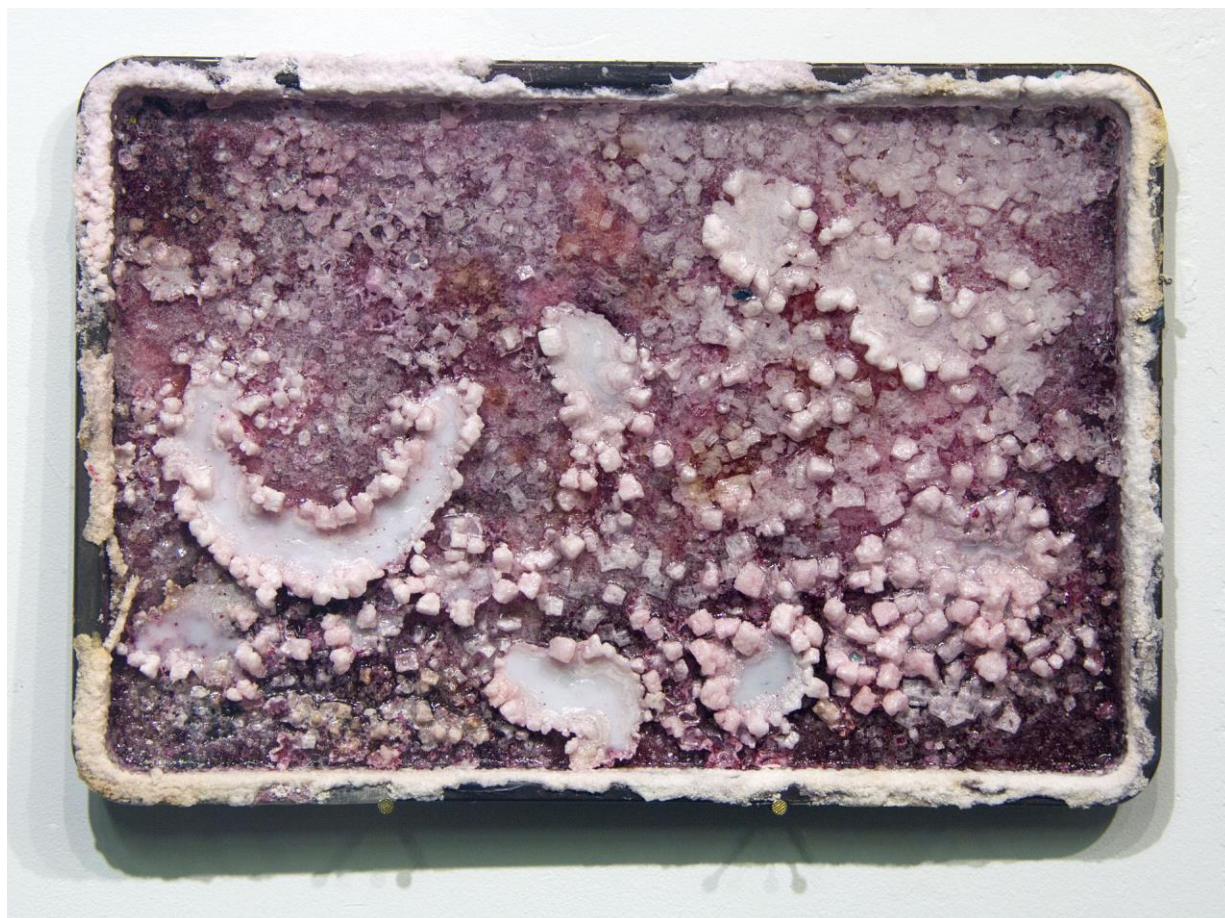


Figure 13. 5.1 Dag Nabbit. (2017) 16 x 11 inches. Mixed Media



Figure 14. 5.1 Sensory Memory. (2017) 9 x 12 inches. Mixed Media



Figure 15. 5.1 Sigmar Pole, The Axis of Time (2007) 1/7



Figure 16. 5.1 Glen Onwin, As Above So Below (1991)



Figure 17. 5.1 David Alfaro Siqueiros, Collective Suicide (1936) 49" x 6'. Lacquer on wood with applied sections



Figure 18. 5.1 Yves Tanguy, *Slowly Toward the North* (1942) 43 1/4 x 56 1/4 inches. Oil on Canvas



Figure 19. 5.1 Max Ernst, *L'oeil du Silence (The Eye of Silence)* (1943-44) 42 x 36 inches. Oil on Canvas



Figure 20. 5.1 Anechoic room with loudspeaker setup and subject. Experiments on Authenticity and Plausibility of Binaural Reproduction via Headphones Employing Different Recording Methods



Figure 21. 5.1 Shiraga Kazuo Challenging Mud, (1955)

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