

*A Temporal Paradox*

By

Corrina Espinosa


B.F.A., Metropolitan State University of Denver, 2011

A thesis submitted to the  
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This thesis entitled  
A Temporal Paradox  
written by Corrina Espinosa  
has been approved for the Department of Art & Art History




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George Rivera



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Melanie Walker



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Luis Valdovino

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The final copy of this thesis has been examined by the signatories, and we  
Find that both the content and the form meet acceptable presentation standards  
Of scholarly work in the above mentioned discipline.





## ABSTRACT

Espinosa, Corrina (Department of Art and Art History  
Thesis directed by George Rivera, Ph.D.  
*A Temporal Paradox*, 2017, kinetic collage

*"There are things that go faster than light, like shadows on the wall."  
—Robert Nemiroff, physicist, Michigan Technological University*

Traveling through time is astoundingly easy. Einstein's theories indicate that people experience time at different rates depending on how they move in relation to one another. Once motion approaches the speed of light, significant leaps in time are possible. This thesis experiment was informed by spurious research in quantum physics, theories of special and general relativity, and pop-culture "science" of time travel.

No DeLorean? No problem! This time machine is housed in a standard curio cabinet, encoded with high frequency pink and violet lights vibrating at a precise rate with a "high-power, plutonium-alternative cam system," making time travel possible! Unfortunately, the machine has become stuck in a temporal paradox. There is no forward or backward motion, only the smearing hybridization of a handful of characters from various eras all hopelessly trapped in an infinite loop.

Nevertheless, the machine works its magic—by the time you have finished gazing into its windows, you will have traveled some distance through time.



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Figure 1: A Temporal *Paradox*, with viewers at the CU Art Museum, image credit: Alicia Seidle

## I. Time Machine

At the beginning, if there is such a thing, I embarked on a mission to build the impossible. It would be a technical, conceptual and aesthetic feat and also an exemplar synthesis of the research and theories that have fundamentally informed my art practice over the last three years. This project is the natural consequence of an academic working at the intersection of Technology and Art, Science and Fiction, that frequently integrates facts with fantasy, evidence with pop culture hearsay, and fits them into uncanny collages and other mechanical artworks. This is the very specious story of how I built a time machine for my MFA thesis.



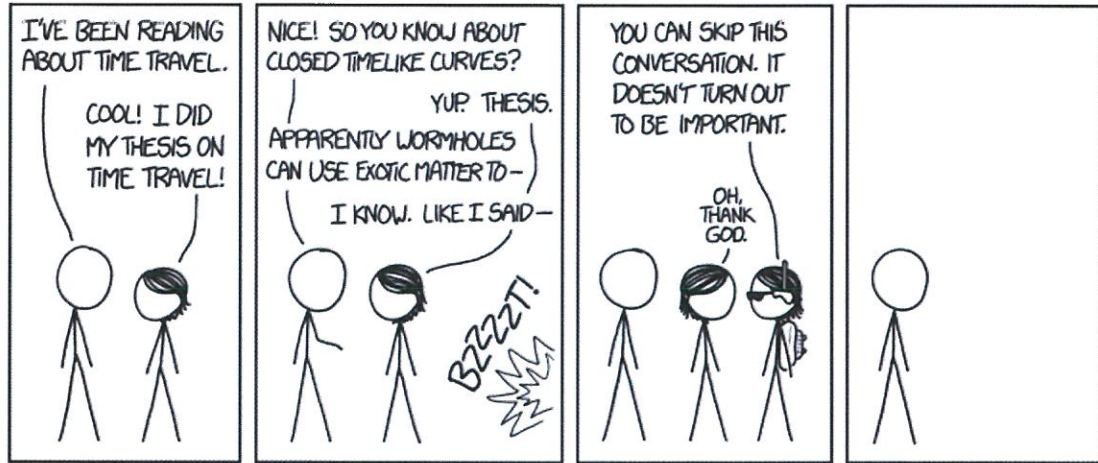


Figure 2: Image by Randall Munroe, [www.xkcd.com](http://www.xkcd.com)

The unconventional circumstance of having built a “time machine” begs the question: does it actually work? To which I will forever and always answer with a resounding yes! This undertaking is the fruit of my academic training; it is my life’s work. It is an important pseudoscientific development, which I take very seriously. Time travel is very real, and this apparatus actually *is* a functioning time machine.

Under the most inclusive explanation of the term “time machine,”—a machine whose function has something to do with time— a wide range of contraptions from clocks and watches, microwaves, radios, metronomes, appliances, computers, cars, planes and children’s toys could qualify as time machines. For instance, Christian Marclay’s *The Clock*, a 2010 cinematic masterpiece literally functions as a timepiece.<sup>1</sup> A more exclusive pop-culture consensus of what constitutes a “time machine” is rooted in treasured childhood tales. One of the first appearances in the classic science fiction novel *The Time Machine* by H. G. Wells was published in 1895. Wells’ time traveler takes a giant leap into the future where he encounters the

<sup>1</sup> Museum of Fine Arts Boston. “Christian Marclay: The Clock.”





unusual impending civilization of the year 802,701 and indulges in a quick romance with one of the inhabitants.<sup>2</sup>

In 1952 Ray Bradbury's short story, *The Sound of Thunder*, took readers to the year 2055 with an adventurous time traveler who jumps on the opportunity to travel back in time and hunt extinct species of dinosaurs, only to find himself in a pickle after his realization that the time machine cannot return to any point in time it has already been to avoid producing a paradox.<sup>3</sup> Albert Einstein's theories of general and special relativity suggest that time travel is actually possible, but it is Dr. Who's TARDIS, Marty McFly's flux capacitor, Meg Murry's tesseract and the other icons of pop culture time travel that fortify a concrete image of what a "time machine" is and how it should serve us.



Figure 3: Dr. Who's TARDIS, image credit: Blurpppy.com

For this rendition of a "time machine," the Merriam-Webster definition of the term will suffice: "A hypothetical device that permits travel into the past and future."<sup>4</sup> In this scenario, by its very definition this machine is innately hypothetical; all of its subsistence is grounded solely on the gamble of a hypothesis. This gives my machine, as well as the science behind it, unusual flexibility in how its precise functionality is

<sup>2</sup> Wells, 2008.

<sup>3</sup> *The Ray Bradbury Chronicles*, 1993

<sup>4</sup> Merriam-Webster's Collegiate Online, 2017



delineated and how that translates as a realization of our concept of a “time machine.” One thing is sure, anyone who comes into contact with this machine, sits in its chairs and wears its telepathic transmission helmets will travel some distance through time.

## II. Post-Truth-Era & Humor

“The famous pipe. How people reproached me for it! And yet, could you stuff my pipe? No, it's just a representation, is it not? So if I had written on my picture 'This is a pipe', I'd have been lying”— René Magritte



Figure 4: René Magritte's, *Treachery of Images*

Artists were illusionists long before society was confronted with what is now being called “the post-truth era.” An era in which “evidence, critical thinking, and analysis

are pushed aside in favor of emotion and intuition as bases for action and judgment.”<sup>5</sup> The “post-truth era” is certainly not lost on me; deception happens to be my aesthetic. “*Ceci n'est pas une pipe*,” the dang treachery of images!<sup>6</sup> While René Magritte was being honest in exposing and confessing the deception of art’s illusion, another more contemporary artist named Shea Hembrey taught me to never break character. *Never!*

<sup>5</sup> Pazzanese, 2017

<sup>6</sup> Torczyner and Miller, 1977



Hembrey “seriously explores our best current understanding of the structure of reality while also often playing trickster.”<sup>7</sup> Shea Hembrey's work probes reality. His body of physical works is incredibly eclectic, with an astonishing level of craft, conceptualism and clear visual literacy, which is shadowed only by its stark presentation out of pure and flagrant deception. Hembrey, who spent a year studying

Maori art in New Zealand and holds an M.F.A. from Cornell University, was featured on a TED talk called *Artistry and Illusion: How I Became 100 artists*.<sup>8</sup> In his talk he



reveals a bombshell of [Figure 5: Shea Hembrey's TED Talk, image credit: TED.com](#) secret about the international biennial art show, with two fascinating curators and works from 100 different international artists that he showcased and catalogued.<sup>9</sup>

The big secret— in “reality” there aren’t 100 artists or any curators as he had initially claimed. “The biennial catalog is itself a sort of meta-piece of art, and the artists represented are really only one artist— a guy who has chosen to bifurcate and fracture and channel himself in a hundred different ways. Every work in the book, in other words, was conceived of and handmade by a single person— a 37-year-old named Shea Hembrey— over a two-year period, in a mad and, he would tell you, somewhat desperate attempt to answer his own questions about what makes art

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<sup>7</sup> Hembrey, 2017

<sup>8</sup> TED, 2011

<sup>9</sup> Tang et al. 2017





meaningful.”<sup>10</sup> Hembrey fabricated 100 imaginary artists, complete with detailed statements ND back stories, obtained their supplies and generated all their unique works of art, approximately 400 pieces of art executed in 100 diverse styles, in only two years. The entire extravaganza is collected in a curious 412-page book called *Seek: 100 in 2011*.<sup>11</sup> It is a biennial of lies, and a damn impressive one at that.

Hembrey only refers to “his artists” as if they were tangible, existent people. To him, they *are* real people, even though he *knows* they are not. It’s the same magic that transpires on the theater’s stage, the unbreakable deception lifts you right out of your seat and takes you away with the story. This commitment to the lie gives his art *life, aura, and power*. It is in this spirit that I make this proclamation: I fancy myself an evil, mad scientist. This *is* who I am. My studio is my laboratory where I built a time machine, which is fueled by a high-power plutonium alternative. These truths are indistinct, warily phrased, indulge in humor and perplex reality, but they are the vague and obscure facts with which I defend this thesis.

"There's no use trying, one can't believe impossible things."

"I daresay you haven't had much practice, when I was younger, I always did it for half an hour a day. Why, sometimes I've believed as many as six impossible things before breakfast."—Alice & The Queen, Alice In Wonderland, Lewis Carroll

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<sup>10</sup> Corbett, 2011

<sup>11</sup> Hembrey, 2011







**Figure 6: Donnelly's comic pokes fun at Trump while drawing attention to serious taboos**

The benefit of deceptive art is when the stories become so obvious, ridiculous and absurd that they develop into humor. The absurdity makes us laugh and it also forces us to think and consider possibilities that we have never even imagined, imposing a fresh perspective. In an article published in

*Americans for the Arts*, award-winning cartoonist Liza Donnelly reflects on

the power of humor in artwork. She explains that it's ability to access some very serious places comes from its tendency to feed off of societies' anxieties and holds the power to manipulate it. "Comedy keeps us honest, helps us think and helps us see," she says. Humor comes out of the unanticipated; a contortion of the usual, and that incongruity provokes a chuckle. Humor brings to light new ideas by exposing them realistically in both a good light and bad light.<sup>12</sup>



**Figure 7: Liza Donnelly**

<sup>12</sup> Donnelly, 2013



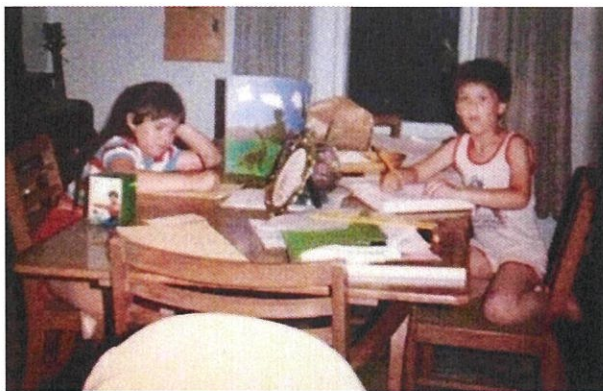
### III. Curiosity

“I have no special talents. I am only passionately curious.”—Albert Einstein

What a strange world we live in, an oasis of wonder for the creative and the curious. When I was little I thought growing up meant understanding everything, knowing how it all works and why. My curiosity could swallow many lifetimes of research without much gratification. Alas, even with all of its investigating, scrutinizing and scholarly fervor, humanity is still largely in the dark when it comes to the great mysteries of life. This disappointment has led art, literature, and popular culture to rely heavily on fantasy to form spurious scientific conclusions to explain the unexplainable.

#### In The Past...

“My name is Corrina. I am 6 years old. When I grow up I want to be a writer, because I love stories. I can’t wait to be a grown up because then I will know what everything means. I want to know why we are alive and I think there should just be nothing. At night I try to think about what nothing looks like but I can’t. When I grow up, I want to know what nothing and everything looks like.” –About The Author page from a book I wrote in 1<sup>st</sup> grade, 1986



**Figure 8: Drawing with my big brother, 1986**

Human curiosity requires answers! So much that even answers constructed of lies are devoured knowingly and eagerly. Tell me a great story and you’ll have a friend for life. The more outlandish the deception, the more



heartily it sits in our mind's belly. Fan fiction galore! This ravenous appetite for stimulating notions and lyrics is so voracious that it elucidates the artwork and this is the point where Science Fiction ensues. Storytelling is what artists do best, visually. New York-based, Hungarian artist Andrea Dezsö's spectacular illustrations and visual stories are exhibited in museums and galleries around the world. Her deeply peculiar narratives combine paper cut in layers with interactive LED lighting.<sup>13</sup> A potent aesthetic that influenced the treatment of light and animated cut paper forms in my own work. This technique gives her compositions a theatrical, screen-like quality, which grants her paper personalities a breath of air and elevates the storytelling to an astonishing level of authenticity.



Figure 9: *Mushroom Forest*, by Andrea Dezsö

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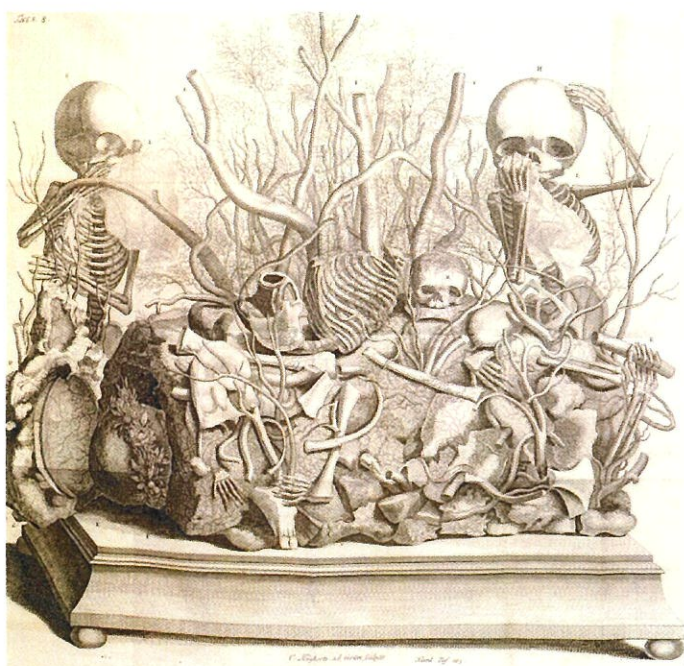
<sup>13</sup> Andrea Dezsö, 2017





## IV. Creativity

What humankind lacks in truth, it offsets in imagined verities and obscure possibilities concocted in the most severe corners of the human psyche. Creativity is a form of problem solving, which requires a visceral playfulness. Play is research; it's the core foundation of my studio practice. In this dominion, "art brain" and "science brain" are entwined and though the outcomes might be preposterous, fallacious and



**Figure 10: Amsterdam, 1744. Etching with engraving. National Library of Medicine. Frederick Ruysch**

often unfeasible, they are nonetheless as fantastic as they are boundless. This thesis project is the fruit of such mixture—curiosity and creativity, art and science tied. An amalgamation perfected long ago by the anatomist Frederick Ruysch (1638 - 1731) whose "cabinets of curiosities," also referred to as

"wonder rooms", flaunted collections of tiny extraordinary objects, which conjure up the spectacles and oddities of the natural world in the minds of those who gaze upon them.<sup>14</sup> One cannot build a time machine in a curio cabinet and not reference the curiosity cabinets of the past.

<sup>14</sup> "Cabinet Of Curiosities" 2017





## V. Cabinetry

Ruysch was as much an artist as he was a scientist. He held public dissections by candlelight, accompanied by music with the provision of refreshments. His curiosities on view for the public at numerous Amsterdam houses gained a reputation as “the 8th wonder of the world.”<sup>15</sup> His tiny scenes presented visually gripping items, carefully collected, categorized and strategically placed into telling compositions. Human and animal fetuses, preserved organs and body parts with dainty cuffs or collars gently placed over dead necks and arms, resided alongside exotic bugs, butterflies, birds, and plants. Minute skeletons were playfully placed to mimic the living world. The objects speak silently. Some are sporting jewelry, others hold instruments with their delicate bones situated for them to weep into their palmed hankies.<sup>16</sup>

Cabinets of curiosities vary greatly in content and aesthetics, but all seem to be inherently intent on telling dreamlike stories conveying existential themes about the nature of life such as, “nature



**Figure 11: Cabinet of Curiosities 2000, Natasha Nicholson**

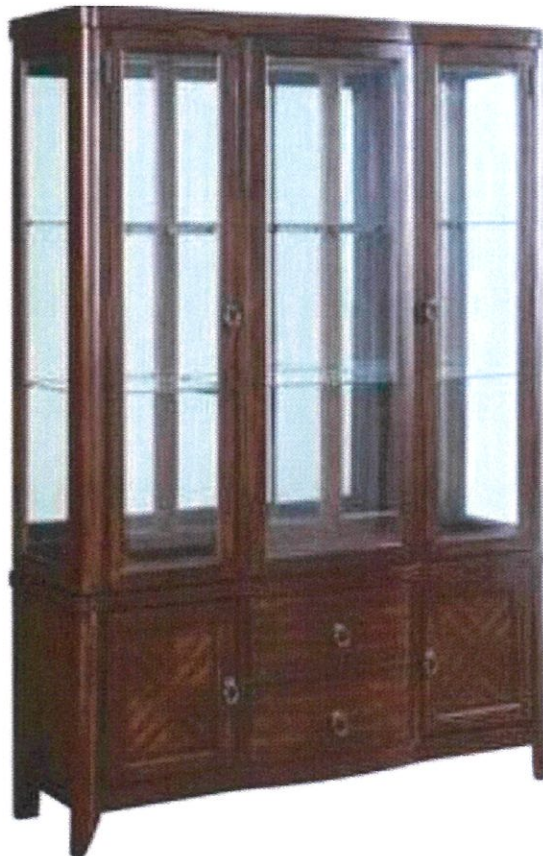
is cruel” or “life on Earth is short.”<sup>17</sup> This is what I had in mind when I found my curio cabinet at a second hand store. It was a lovely find, a thirty-three-dollar score and the kind of cabinet that

<sup>15</sup> "Cabinet Of Curiosities" 2017

<sup>16</sup> Martinez, 2013



could be found in any grandma's house filled with crystal unicorns, ceramic cats, fine china, and other precious collectables. Knowing that I would be painting over its illustrious varnish, ripping out its shelves and drawers and drilling holes through it gave me a spine tingling thrill elevated by the fact that I found an equivalent cabinet on an antique website selling for over a grand. It was a true found object triumph.



The cabinet is tall and elegant, made of real hardwood, and at nearly two-hundred-pounds it is as sturdy as it is difficult to move around. It's nearly seven feet tall and is split into a dominant top section with a mirrored back, encased in inlaid beveled glass—viewing windows—for displaying curiosities, and a bottom section of drawers for storing accessories and other effects out of sight. The top

**Figure 12: Raw curio cabinet, empty vessel/canvas for the time machine**

is the perfect stage for kinetic collage and after removing the drawers the bottom is ideal for housing electronics.





The time machine needs to be precise colors—fleshy peach outside, crimson red inside—as a thoughtful reference to Jack Kerouac’s introduction to Robert Frank’s seminal book, *The Americans*, where Kerouac credits Frank’s very raw photographs as having captured “the actual pink juice of human kind.”<sup>18</sup>

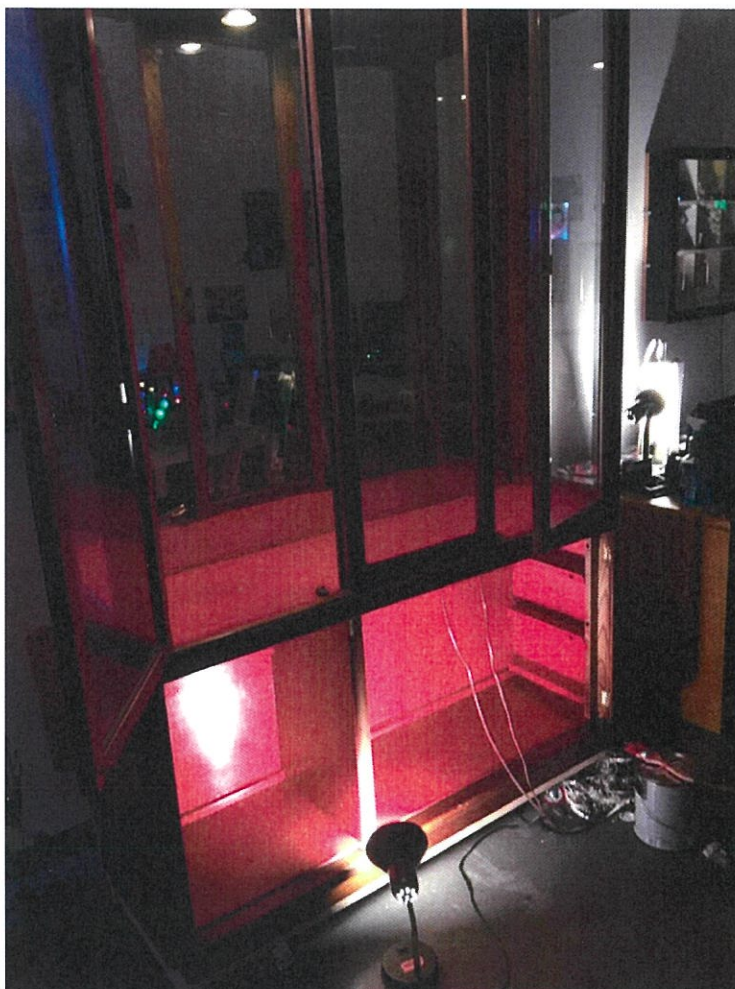


Figure 13: Process shot of the time machine in very early stage of development

More importantly there is a clear nod to the capacity for time travel capabilities based on speed and duration of color frequency described in the 1920 book by Francis James and Edna G. Benson, *Color tablet: practical problems in applied color*.<sup>19</sup> Once the cabinet is fully saturated with high frequency colors inside and out, it will be ready for the installation of the components and mechanisms that make time travel possible.

<sup>18</sup> Frank 1978

<sup>19</sup> James, 1920.



## VI. Cam & Follower

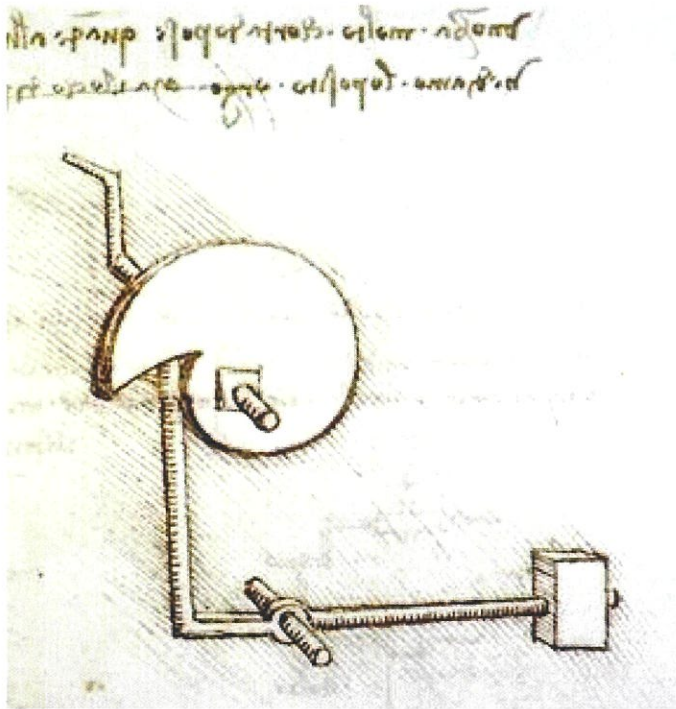


Figure 14: Leonardo Da Vinci's Cam Hammer, image credit: Francis Moon

Experiments in sound, color, light, frequency, motion, speed, duration and direction have proven to be pivotal academic explorations leading to this time machine. The most pinnacle discoveries in my research and trials are mechanisms like this cam hammer found in Leonardo De Vinci's illustrations.<sup>20</sup>

“A *cam* may be defined as a machine element having a curved outline or a curved groove, which, by its oscillation or rotation motion, gives a predetermined specified motion to another element called the *follower*.”<sup>21</sup> The cam has a very important function in the operation of many of my small machines. The possible applications of cams are unlimited, and the variety of their shapes and sizes allows for a wide variety of movement. It sets the perfect stage for visual storytelling.

<sup>20</sup> Moon, 2007.

<sup>21</sup> Zhang, 2017





Multimedia artist Tim Hawkinson's pieces deal with kinetic motion and the way we process time and are aware of it.<sup>22</sup> Hawkinson, who was featured on an episode of PBS's Art21, said that his "mechanical interests and kinetic works" come from a "fascination with moving parts—just the magic of seeing this kind of animation and making it happen."<sup>23</sup> Hawkinson is celebrated for making multifaceted

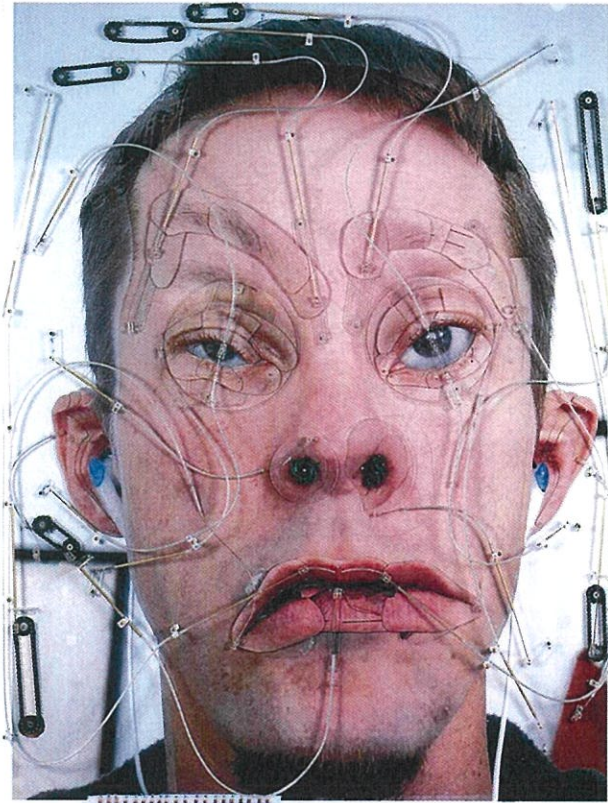


Figure 15: Tim Hawkinson, *Emoter*, image credit: PBS, Art21

sculptural systems with unexpectedly modest resources. "His installation, *Überorgan*—a stadium-size, fully automated bagpipe—was pieced together from bits of electrical hardware and several miles of inflated plastic sheeting."<sup>24</sup>

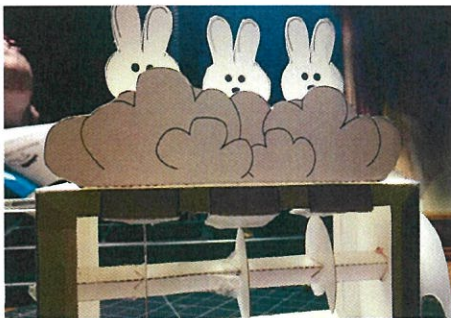


Figure 16: Paper cam process in studio

I began my exploration of cam systems by first making paper models. I spent an entire semester making these mockups. Next, I began installing plastic rods into small medicine

<sup>22</sup> "Tim Hawkinson" 2005

<sup>23</sup> "Drip" and "Emoter", 2011

<sup>24</sup> "Drip" and "Emoter", 2011



cabinets or knick-knack shelves. I used napkin holders and shower rings as cams and rigged them to small circuits driving hacked servomotors. The early models worked well for a little while, but were on the eyesore side of wonky and deteriorated quickly. Follow up prototypes featured laser cut acrylic cams, which can be customized into shapes and sizes, for added motion control and long lasting durability.



Figures17-19: The evolution of cams from found objects to laser cut acrylic

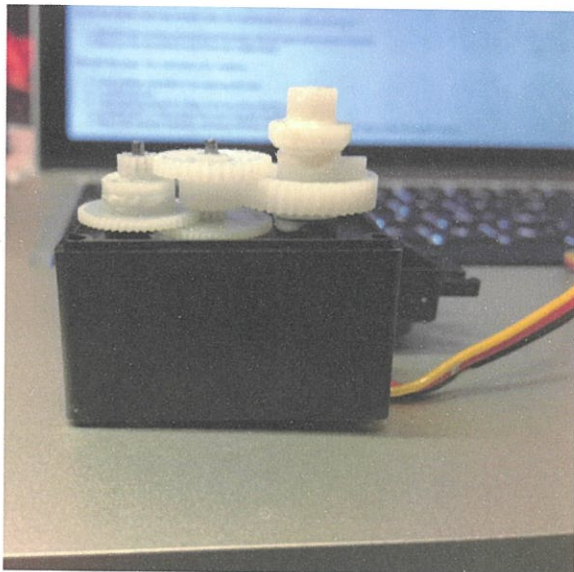


Figure 20: Hacked servomotor

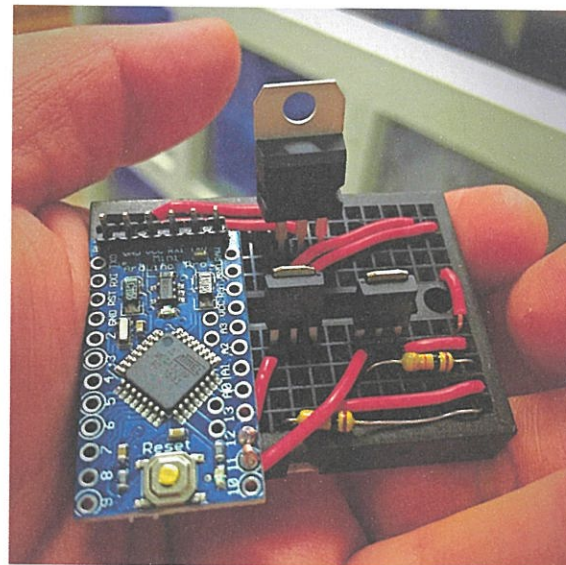
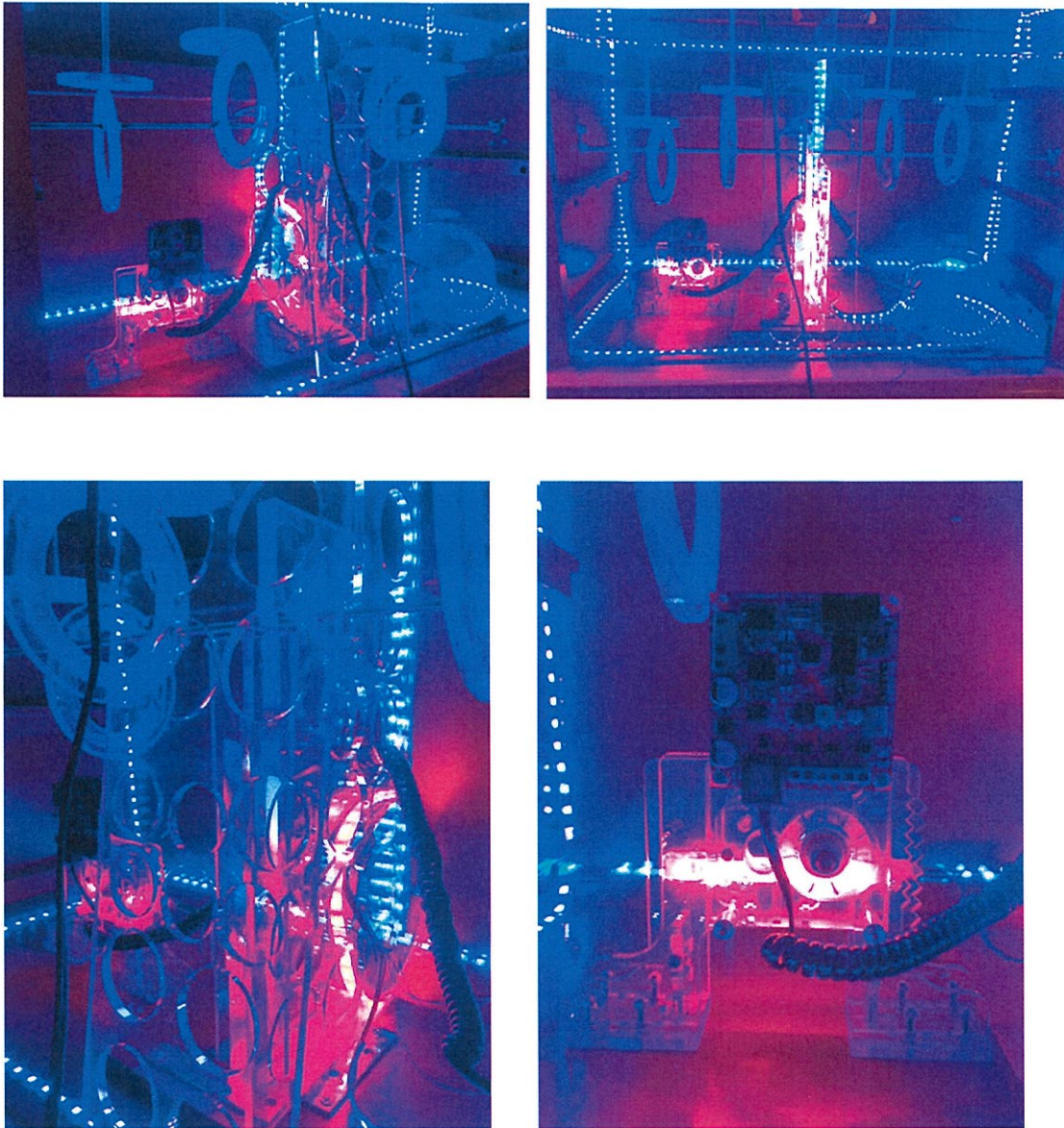


Figure 21: Custom circuit or the brain of the machine





The new systems are also upgraded to geared DC motors, which have more torque and run smoother and quieter. Aluminum rods and side screw couplings help to keep components in place, which increases motion accuracy and overall system stability. The final generation is a cam system that runs like a clock in one of Dali's dreams.



Figures 22-25: Details on the mechanisms of time travel



## VII. Kinetic Collage

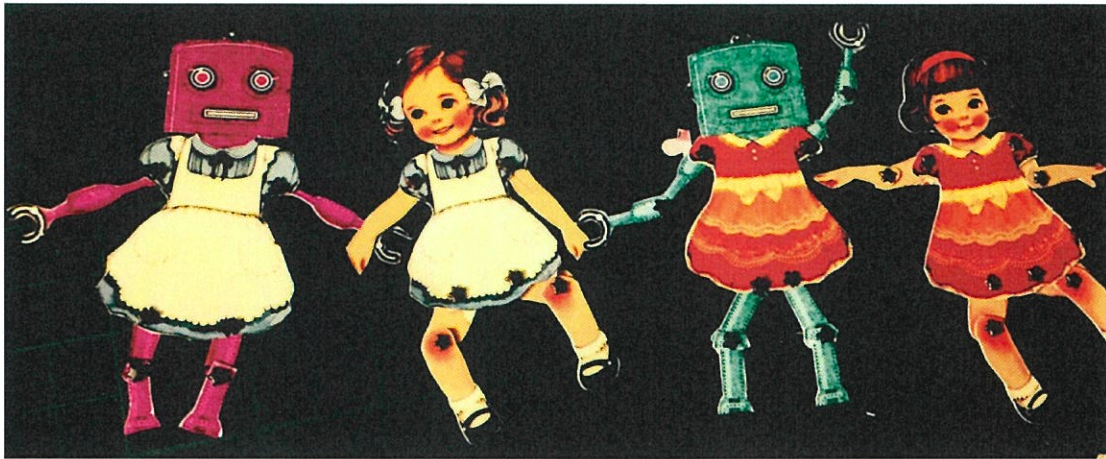


Figure 26: Puppets with movable joints

Once a cam system is working, the story can begin to take form. Digitally altered characters and props are printed to size in pieces, cut out and assembled with tiny brass brads enabling movable joints. The overall results have been kinetic collage compositions, miniature festoons of moving pictures—hinged and motorized paper puppets—set in small cabinets broken into cells, cast in custom, colored LED light, sometimes looping, sometimes interactive, and oftentimes erratic.

One such cabinet features little girls in tiny dresses, paper dolls under the spell of their tiny robot counterparts. The girls have been hypnotized into being ladylike; they take turns with the robot girls doing curtsies in an infinite loop.



Figure 27: *Learning to Curtsey*, 2015





In another cabinet little mutants, freaks and demons dance and thrash in the shelves cells above backlit LED flickering flames printed on translucent photo paper. In one cell a miniature paper Satan jerks a minion demon up by the hair. Across the shelf twin nymphs jump at the green galaxy, their flexed butts sit like muffins over their scrawny chicken legs. In another cell, naked witches dance with a devil, spreading their legs and squatting until their genitals nearly touch the ground. There are conjoined twins and a creature with wings. One freak has a very tiny penis. On the top of the shelf there's a crew of workers pumping rods to initiate a slurry of motion. There is a reptile woman, a few more nymphs and a couple of giant brutes on the crew. The whole cabinet pulses with motion; it is alive with terror and revulsion reminiscent of Dante's *Inferno*.

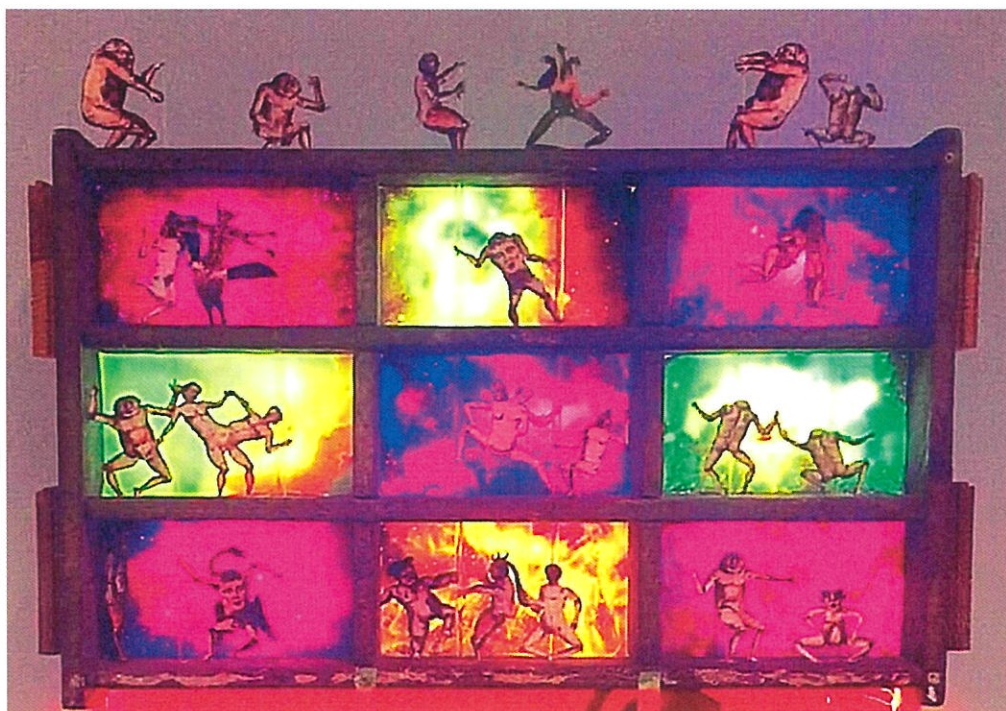


Figure 28: *Ode to Dante's Inferno*, Espinosa, 2016





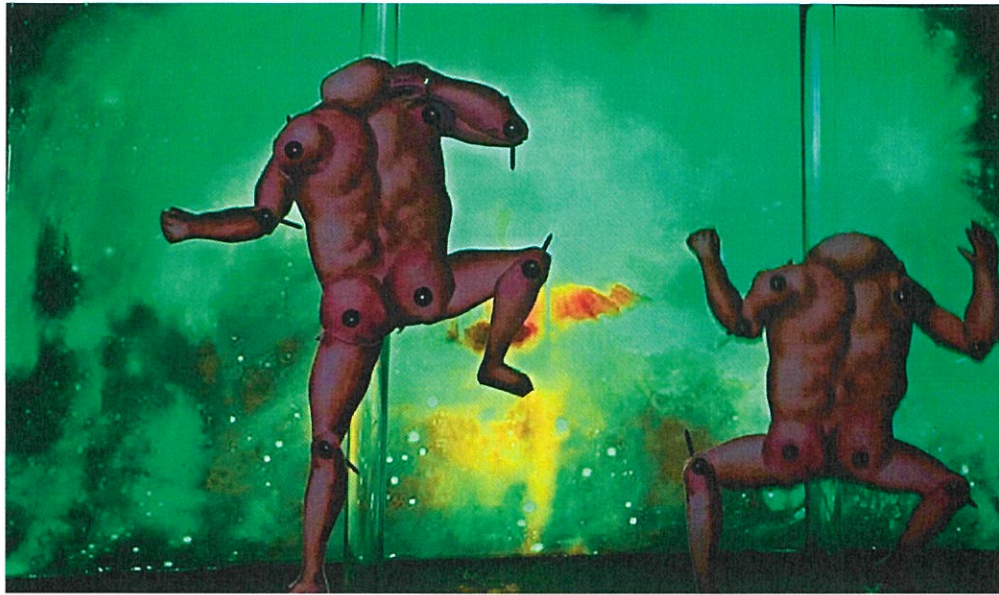


Figure 29: Nymphs jumping at the green galaxy



Figure 30: lady mutant with pal



Figure 31: winged beast with fawn



Figure 32: Satan pulling minion's hair





The latest cupboard to come from my laboratory poses six chomping monster heads wearing wavy blond wigs, long red ties on patriotic suits, adorned by tiny American flags pinned to the lapels. There is a subtle yet clear reference to an abhorrent US president, whose name need not be uttered. Above the nasty brutes on the upper shelves are sickly looking children feet stamping in a fevered tantrum amongst infection and death. An

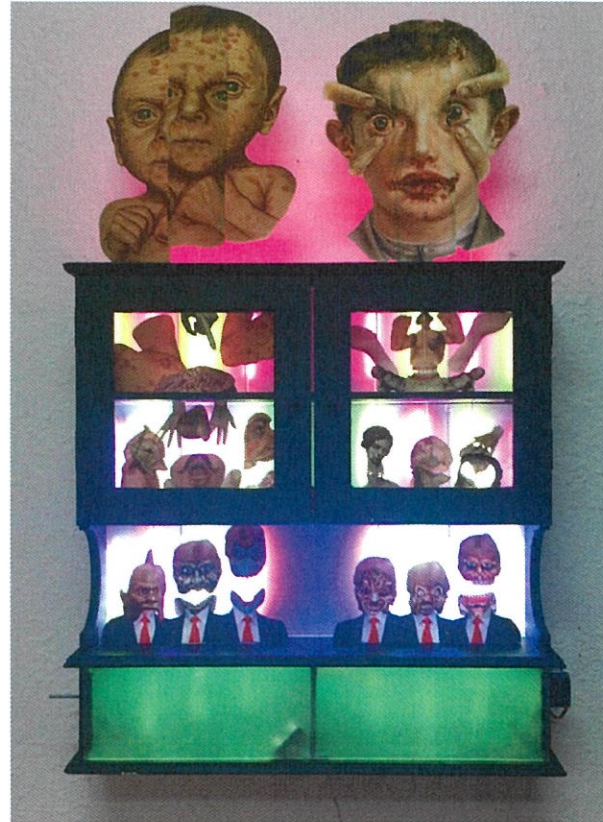


Figure 33: Untitled cabinet was completed just a few days after the 2016 US presidential election.

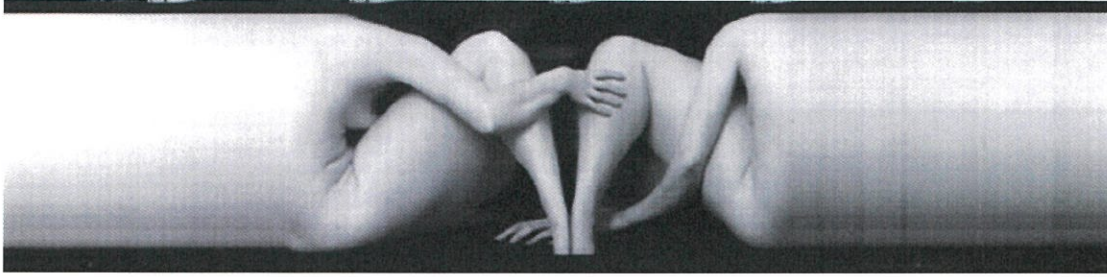
uncircumcised, syphilis infested penis repeatedly teabags a pair of herpes infested lips, which are tucked tightly under a brown curly mustache, no eyes. At the extreme top of the cabinet the youngsters' diseased faces are split into sections moving independently up and down, noticeably failing to ever line up properly. The images



Figure 34: Detail of the sickness and tea bagging

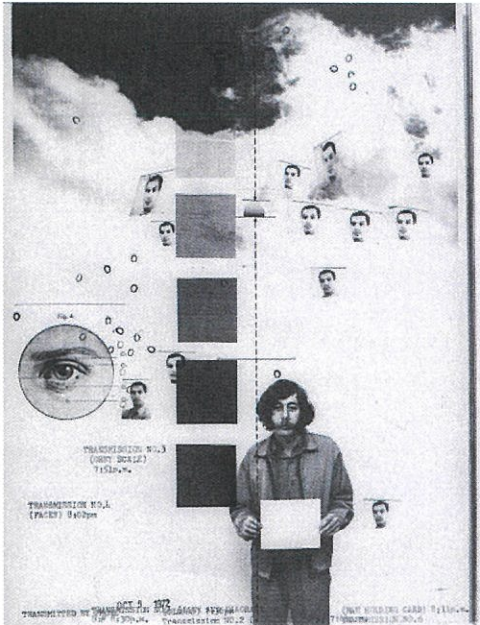
tell of disgust and unease; it reveals the trauma induced by a shifty, disreputable new administration, easily resolved by a time machine.





**Figure 35: A time manipulated photos, William G. Larson**  
**Figure in Motion, gelatin silver prints, 1966-70**

Thirty years before I began putting together my kinetic collages, American Photographer William Larson was already paving the way to syndicate snapshots by



**Figure 36: William Larson Untitled,**  
**Fireflies series 9-Oct-72, Electro-carbon**

hacking fax machines— fresh new technology of the time— using resonance, music, script, and speech to form a type of “electronic collage.” Larson had a unique “filmmaker’s attitude toward depicting time and space” that was as unique and cutting edge as it was ahead of its time.<sup>25</sup> Larson’s artwork established a desire for portraying time in a static space, which he achieved by deliberately manipulating and exploiting various mediums

to make the remark. A fixation on “root technology, cultural framing, and self-reflexive storytelling” is paramount in Larson’s approach to art making.<sup>26</sup> He inspires obsession following in art— a bold yet fruitful investment.

<sup>25</sup> Larson, 2002

<sup>26</sup> International Center of Photography, 2017









Regardless of slight variances, most religions portray an immortal entity with omniscient power that transcends time and space to construct the cosmos, create life, and endow people with intelligence of mind, which they should then cast aside to follow in blind faith their unseen creator. I struggle to find personal value in this, as it does nothing to ease my worry or satisfy my curiosity. Science's proposition is only slightly better. It offers an understanding of life, cosmos and mind that is manifestly limited, and plagued with inexhaustible questions not scientifically answerable now if ever. Despite eluding human comprehension, the origins of all three depend critically on one inescapable and vital phenomenon called *time*.

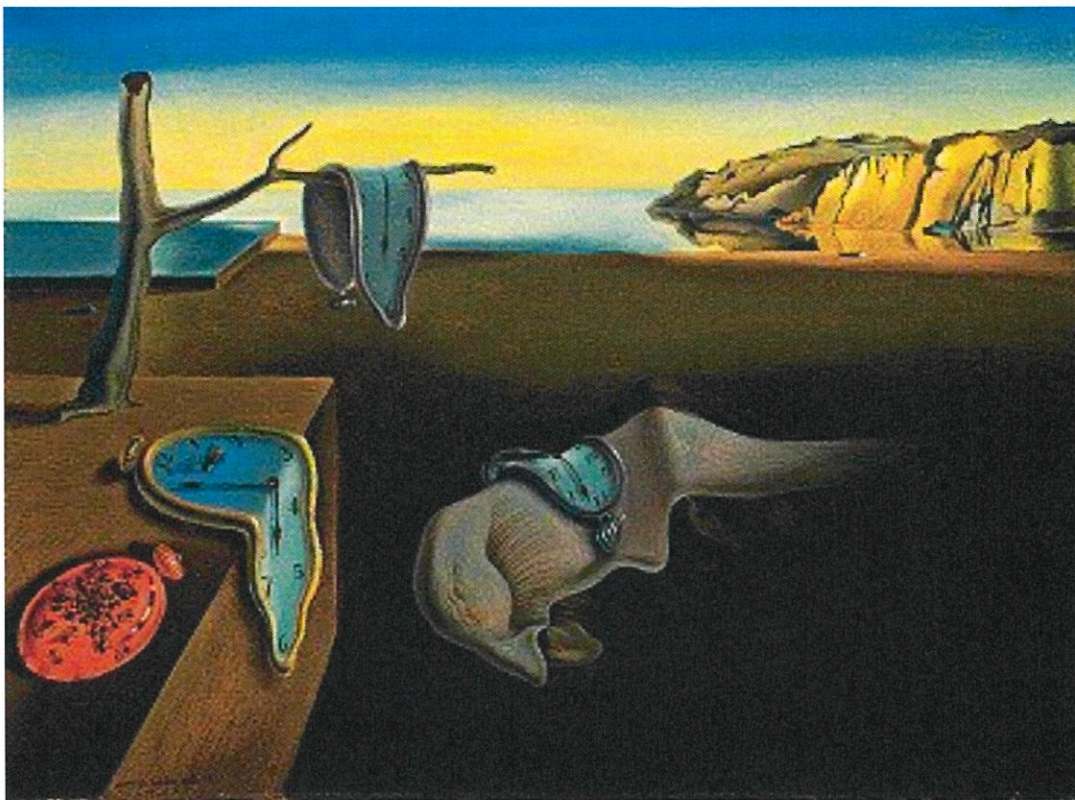


Figure 38: *The Persistence Of Memory*, by Salvador Dali



## IX. Time

“The trouble is you think you have time.” –Buddha

Life in the cosmos is made up of moments. In the saga of the universe time is the measurement in which we differentiate one moment from another. *The arrow of time* depends on our consciousness and our ability to perceive it, it separates the past from the present and gives us direction, a sensation of progress, the perception of moving or flowing through the seconds, minutes, hours, days, weeks, months and years. We literally depend on *the arrow of time* for our very existence. The rising and the setting of the sun takes us moment by moment feeding us, warming us, and dictating all of our bizarre human behavior from the beginning to the end of our fleeting little lives.<sup>28</sup>

There is a sense of order; it is sequential, you are born, you grow up, you grow old and you die.<sup>29</sup> The arrow of time is about direction, but it’s not about set speed. The important thing is that there’s a consistent direction. That everywhere through space and time, there is a past and there is a future and they are separated by *the now*.<sup>30</sup> *The now* is the place we are in time at any given second, it is always changing incomprehensibly fast. One can never leave the now. But then again, what if this wasn’t the case?<sup>31</sup> This brings me to the quintessential topic of this thesis project, which is *the arrow of time*— the lifeblood of the universe, and how it can be broken.<sup>32</sup> A time machine takes us away from now.

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<sup>28</sup> Biba, 2010

<sup>29</sup> Biba, 2010

<sup>30</sup> Biba, 2010

<sup>31</sup> *Meaning Of Time In Science* 1973

<sup>32</sup> Gleiser, 2017





## X. Motion & Change

“There was never a time when there was not motion.”—Aristotle

Aristotle noted that we experience the passage of time by sensing motion and change, which shapes our perception of objective time.<sup>33</sup> Incorporating kinetics into this cabinet’s composition is a priority. Einstein’s theories showed us that time is relative. That means that no one person’s time is better than another’s, time is a unique and personal experience rather than a universal perspective shared indistinguishably by all. We all perceive time at different rates.<sup>34</sup> Motion and change are rooted in the function of kinetic artwork; the gestural movement and repetitive action impacts our awareness of time passing. This is exemplified in Jon Kessler’s chaotic kinetic installation, *Kessler’s Circus* (2009), which was featured in the 2017 Whitney Biennial.<sup>35</sup> Physicists believe that relative speed may effect our perception of time. This concept proves that time travel is fundamentally possible.<sup>36</sup> The time machine’s knobs allow time travelers to set their destination in time, but also controls the speed of the motors. This literally gives viewers the power to impact their own perception of time and the rate it is passing.



Figure 39: Control motion and speed for time travel, time machine detail

<sup>33</sup> *Meaning Of Time In Science* 1973

<sup>34</sup> "Elementary Einstein — Einstein Online" 2017

<sup>35</sup> Artsry.net. "Jon Kessler"

<sup>36</sup> Elementary Einstein — Einstein Online" 2017





## XI. Time Travel

### In The Past...

"It takes light a trillionth of a trillionth of a second to cross the nucleus of a hydrogen atom. That is also the shortest decay time of any atomic particles. Some theoretical physicists have suggested that time passes in discrete units and that each unit is about a trillionth of a trillionth of a second. Extremely brief events are as inconceivable as the eons that pass on stars and planets. The lifetime of man falls about midway between the lifetime of atomic particles and the lifetime of stars."—From an Encyclopedia Educational Film, 1973

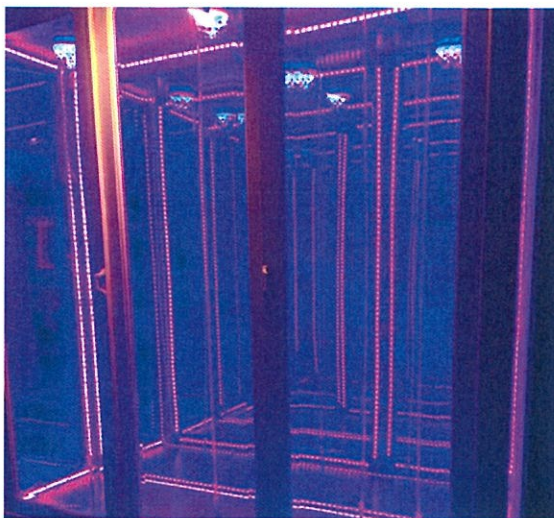
Time travel is accepted as a legitimate discipline in philosophy and in physics, but the idea of casually roaming to some random point in time is not exactly putative and typically only works in concurrence with quantum mechanics. In a constricted connotation, time travel in one direction toward the future through "time dilation," or achieving the speed of light is a well received by the scientific community as a probability that fits nicely within the context of Einstein's theories of special and general relativity. Traveling backwards in time proves to be more difficult and requires a complex system, such as the one built for this thesis project.

Time travel is the hypothesis that the passage by humans between different points in time, equivalent to the passage between different points in space, is possible. Frequently time travelers will exploit a hypothetical apparatus known as a "time machine," or a portal such as a wormhole, also known as Einstein-Rosen bridges, which conjoin distant positions in time.<sup>37</sup> This means there is a navigable bridge that joins two vastly different time. Traveling at the speed of light makes time travel possible. Unfortunately, this has simply not been achievable with existing technology.

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<sup>37</sup> Lindley, David.



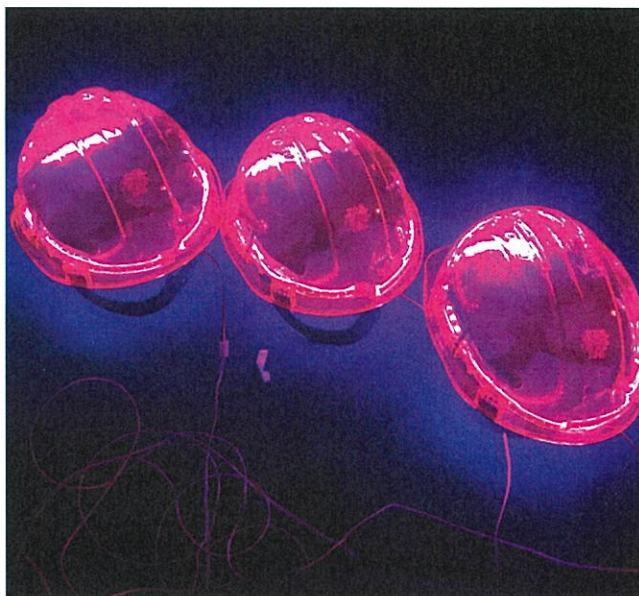


**Figure 40: Viewing chamber of the hyperbolic-time-slot, time machine detail**

But now, by combining high frequency vibrations of pink and violet lights with the precise vibration of plutonium alternative powered motors flashed with a fully automatic and hydrolyzed flux capacitor, we can duplicitously simulate the speed of light.

By taking a shortcut through the second dimension a “hyperbolic-time-slot” is

formed out of “two-dimensional-holograms” depicting a “real time era” inside the time machine’s viewing window. Controlling the rate of the four variable speed motors in a range of combinations allows time travelers to digitally dial into any place in time or space. When the travelers sit in the three postulated chairs in front of the cabinet, put on a telepathic transmitter helmet they will be directly transmitted to the time period occurring in the viewing window. It may seem unbelievable, but I assure you



**Figure 41: Telepathic transmission helmets**

every word is true and backed by the laws and principles of science fiction in conjunction with modern theoretical physics.



## XII. The 2<sup>nd</sup> Dimension

Presented for your scrutiny,  
here is a quick synopsis of the  
colossal and petrifying blueprints  
of space-time:

**two-di-men-sion·al**

/ˌtʊdə'men(t)SH(ə)n(ə)l/

*adjective*

having or appearing to have length and breadth but no depth.

• lacking depth or substance; superficial.

"a nether world of two-dimensional heroes and villains"

Superstring theory indicates there are at minimum 10 distinct dimensions in the universe. The first dimension is length, the second dimension is height, the third is depth, the fourth is time and by the time you get to the tenth you have infinite possibilities.<sup>38</sup> There is another place in the second dimension where two-dimensional people live in a flat world with no depth and no time. I can verify the existence of



Figure 42: Jenny Fine's *Flat Granny*, in costume form

such a place because I have encountered its very real inhabitants, and have seen a glimpse of it with my own eyes, an encounter I will detail in the next section. I am not the only one. Internationally renowned artist Jenny Fine's *Flat Granny* is a two dimensional version of the

<sup>38</sup> Louv, 2015





artist's three-dimensional grandmother, which she as created as a stand-in after her actual grandmother passed away from our dimension.

Fine was very close with her Granny who was not only a frequent subject in Fine's photography, but also a beloved companion and collaborator. After the death, Fine found herself with an overwhelming need to continue creating alongside her grandmother as she had done for so many years. And so she produced *Flat Granny*, a life-sized cardboard cutout made from the photographs she took of her granny while she was still living. Fine was able to extend her relationship with her grandmother

beyond the grave.<sup>39</sup> *Flat*

*Granny* was pulled from the depths of the second dimension to live a new life without the constraints of depth or time. What outlandishness! Though, every word is true. It brings me directly to the topic of the flat time travelers who unwittingly

occupy my completed three passenger time machine.



Figure 43: Flat Granny and Dad, Jenny Fine

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<sup>39</sup> "Flat Granny - Jenny Fine" 2010





### XIII. The Story

"There's no use trying, one can't believe impossible things."

"I daresay you haven't had much practice, when I was younger, I always did it for half an hour a day. Why, sometimes I've believed as many as six impossible things before breakfast."—Alice & The Queen, Alice In Wonderland, Lewis Carroll

This is my personal account of the actual event that occurred in my laboratory on the night of April 1, 2017:

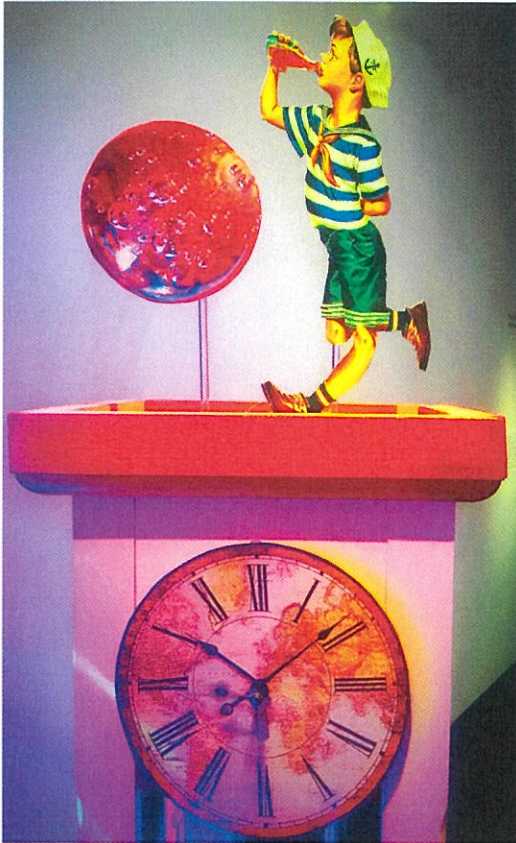


**Figure 44: Liquid Quart, a high power plutonium alternative that makes time travel possible**

When I first fired up the machine, I could tell that my configurations were spot on. I put the telepathic transmitter helmet on my head and an image of father time appeared in the clock tower control unit. He began to pump the cylindrical gears,

which initiated the flocculation between the polarized hands of time. A younger version of himself appeared on the shelf above him, and another even younger boy version appeared on the very top of the clock tower. The boy father of time was sipping a soda and kicking a ball of liquid quartz up and down. It's this playfulness of time's youth that is so fantastic and necessary for time travel simulation. The machine was ready to go.





**Figure 45: The boy version of Father time, allows for backward travel, time machine detail**

flick. She stared out at me with wide eyes that made me quite uncomfortable. Her lips didn't move, but her arms did. She had an iPhone in her hand, a peculiarity of time's broken arrow that I didn't fully grasp at the time. Her gaze made me nervous so I twisted one of the dials far over to the left. An astronaut from the year 3025 appeared. The helmet filled my head with the sounds of his transmissions.

The woman was still there, staring. I was startled and wondered why she had not

I took my seat in front of the machine and pulled the telepathic transmitter helmet onto my head. I gave the first knob a gentle push to the right. I braced myself to move back in time just a bit, perhaps to the 1950's or 60's. A two-dimensional person appeared in the viewing chamber, a young woman accompanied by a feminine voice that rang through the helmet bypassing my ears and seeping directly into my brainstem. She looked like

she just stepped out of a 1950's Disney



**Figure 46: A girl from the second dimension, time machine detail**





remained in her own time. Without completing the thought I spun another dial very hard to the right and to my shock a toothy dinosaur appeared in the center of the



**Figure 47: Dinosaur from the second dimension, Time Machine Detail**

cabinet, thrashing its terrible tail. The woman and the astronaut remained, apparently unfazed by the quick turn of events. It wasn't until then that I realized the three of them were stuck in a short repetitive time loop. Something had gone terribly wrong with the machine.

A few more desperate knob twists pulled more characters out of their own times and into the cabinet. There was a flying craft caught in mid air, a bulging muscle man fighting a portly round robot, and a lady astronaut who seemed to notice the dinosaur because her arm repeatedly reached out to touch its scales. It all happened so fast! Before I knew it, the cabinet was full of looping motion and life. I pulled my hand away from the knobs, threw the helmet off of my head and jumped out of the chair with frustration. It was time to look over the

cabinet, thrashing its terrible tail. The woman and the astronaut remained, apparently unfazed by the quick turn of events. It wasn't until then that I realized the three of them were stuck in a short repetitive time loop. Something had gone terribly wrong with the machine.

A few more desperate knob twists pulled more characters out of their own times and into the cabinet. There was a flying craft



**Figure 48: Man from second dimension fights a portly 2D robot, time machine detail**





machine's complicated mathematical schematics. Upon further examination I realized that there was in face a slight miscalculation that caused the machine to malfunction. Not wanting to deal with the very real, living, two-dimensional beings trapped in a curio cabinet in my laboratory I threw a sheet over it and waited to unveil it at the opening of the 2017 MFA thesis show at the CU Art Museum. This is the absolute truth about what happened, I tell it here as I saw it with my very own eyes. Then again, even if this wasn't the truth... I would never tell you otherwise.

#### XIV. A Temporal Paradox

"How long is forever?"

"Sometimes, just one second."—Alice & The White Rabbit, Alice In Wonderland, Lewis Carroll



**Figure 49: *A Temporal Paradox*, Corrina Espinosa, 2017 MFA Thesis**

A temporal paradox is a contradiction that is associated with the idea of time and time travel. Temporal paradoxes fall into two broad groups: consistency paradoxes, which stem from inconsistencies in time travel and causal loops, which are infinite cause and effect loops set in motion by some action taken by a









Figure 51: *A Temporal Paradox*, Corrina Espinosa, 2017





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