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LAND ACKNOWLEDGMENT

We consciously and intentionally recognize, acknowledge, and honor that we live and work on the traditional and ancestral lands of the Onondowa'ga:' (Great Hill People"). The Seneca Nation of Indians ("Keeper of the Western Door") are the largest of the Six Nations that constitute the Haudenosaunee (Iroquois) Confederacy of Nations.

# RESONATING SPORES

## With Gratitude,

To my committee,  
Andrew Deutsch (Chair)  
Joseph Scheer  
Eric Souther

To my faculty past and present,  
William Contino  
Kathy Vayda  
Xiaowen Chen  
Maria Villanueva  
James Hansen  
Peer Bode  
Danielle Gagne

To the amazing technicians and assistants,  
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Leslie Rollins  
Sara Kramer  
Thomas Logan  
Rebekkah Palov

To my Cohort,  
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Sarah Turner  
Stephen Radley  
Kevin Kripper  
Vivian Wang  
Dave Mosier

To my friends who let me wander their farm in  
search of recordings but also of myself,  
Mark & Kasey Klingensmith

To all of the Sloan's who helped me  
along the way.

To Andrew,  
For everything.

# RESONATING SPORES

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# ARTISTS NOTE

My works strip away the fundamental qualities of time as a medium for exploring the body and how it reacts to fluctuations of space-time. In my work I use a structured indeterminacy to find the meaning within the liminal nature of time.

Through a broad range of research topics, I fabricated a system of connections that weave their way into my practice in unconstrained ways which led the way for rich, multisensorial time-based media investigations. The deep roots of my ancestral family tree sent me transmissions from the past in real time, resembling mycorrhizal networks; unseen but understood to connect plants and fungi to each other as a system for communication. Mycorrhizal networks affect senses other than hearing and visual and oscillate between moments of recognition and ambiguity. But there is a larger synergy at play here.

*It revolves around  
radical  
awareness.*

In the presentation of my work, the viewers' focus and attention are essential to the experience. Duration allows the viewer to settle in with not only the work but with themselves, like a form of biofeedback. One must engage the senses but also reach further into the brain while connecting the work to their own bodies.

My work is about seeing and listening and about bearing witness. Slight, almost imperceptible changes may not be observed until one has engaged with a piece in its entirety. Time is not only a form

that is used to bring about contemplation and/or introspection, but also as an opening for nonlinear transformations. Editing works in such a way as to create the freedom to actively move around the material in a sensual way. Allowing my work to exist in liminal states allows the moment of transition to hold great significance and possibilities. Transitional states are where the most exciting moments happen and where I desire to remain when making. The length of the work is usually extended because I believe duration creates connections if one chooses to remain in one space long enough.

My work addresses listening, which is multisensory. You hear with your ears, but you also feel the changes in air pressure, or might even see sound if you close your eyes. Sound is a physical representation of time. It takes time for a sonic work to fully reveal itself and cannot be understood all at once. Sound is multidimensional yet fleeting.

*"Resonance: as instances in which something is affected by the vibrations, intensities, motions, or emotions of something else, as events in whose context one object causes another object to take on its own trembling."*

-Lutz Koepnick

Lutz Koepnick's ideas of resonance as metaphor for trembling inform my practice in ways of emotion encouraging understanding. He states further that resonance and trembling both share common ground because "both designate vibrant structures of attachment and entanglement while either of the two concepts draws our attention to the curious



relationship of affect and effect, of emotional intensity and physical determination, of which is us and what isn't." How do these qualities alter one's perception? When we break down these mediums to their fundamental forms, are we not working with theoretical elements? Some of the biggest questions pondered within my works are how does one sculpt air pressure or shape light in such a way that keeps the senses engaged but not overstimulated? How long can focal attention naturally last and do I have any agency over it? If resonance is to be affected by vibration, intensities, emotions, or something else, is there room within affect to let something in, to make one's own attachments?

Much of my research draws from the pressing question of how sound, a fleeting medium, can seduce the viewer but also motivate deep reflection, especially now, a time of extreme uncertainty. Intangible as in not able to be touched by the hand but felt as pressure in the ear. My research goes further into exploring the brain and its processing and what systems are in place for correct signal flow. Much like the systems that keep our body alert and alive, the earth has systems in place for this too. My research on runaway climate change and extinction makes me hyper aware of the feedback loops in the systems that are more increasingly causing manic fluctuations in overarching patterns of weather, of sickness, of greed, of wealth, of famine, of life and death. I generate these works in attempts stimulate something internal to create a continuing conversation about radical changes necessary for survival.

*I conclude that if slight changes begin internally, they will resonate outward in time.*

Researching sensation and perception clarified my understanding of thought patterns and what constitutes being alive. This correlates with my study of Thanatology, or the psychology of death and dying. Life cycles are certainly not a new idea, but over time, have become a completely modulated system and still one too taboo to speak of in normal interactions. Death is a perceptual barrier where value lies in finding the balance in life, the awareness of now.

Within a year before beginning my graduate studies I was jolted by the sudden death of my paternal grandmother, the matriarch of the family, the oldest living relative, the one who I had the strongest connection with. About a month later I visited Israel (in retrospect, a trip I applied to for her). That trip was monumental to my world view, and both events so close together gave me a lot to process. Within a few months the world shut down amid a pandemic, and every person was forced to be alone with their thoughts. All these events were meaningful in the trajectory of my studies and informed my practice as I thrived within all the time I had to think. The craving for connections and the understanding of loss became a leaping off point to discover my family heritage.



Upon reaching understanding, and of the realization of how much gets lost to time, my thoughts moved to time on larger scales of evolution and extinction. Patterns of growth and disappearance weave their way into my practice in the repetition of space, in the deep layers of image, in the expanding of a tone to its rawest state. To push my compositions to the threshold of understanding for my viewer is to tickle the senses and to cause intrigue and a curiosity for more.

My study of fungi is an expansion on life cycles, of signal receivers and senders, of things in between, of connectors. They produce imaginative ideas of systems, both real and speculative. Meditations on these processes and the curious understanding of deep time transforms my way of looking and recording. My process always begins outdoors with a camera and/or sound recorder in hand. Working outdoors with nature is where I feel most grounded. Very much inspired by the movements of Stan Brakhage or Pipilotti Rist, the camera/recorder is an extension of my body. In this unrestricted state I am curious, exploring fluidity and sensation, taking in everything around me and transferring formats from conscious to digital. The way the camera ingests visual information begins with a quasi 'documentarian' like nature mirroring my own investigative looking at the world.

Once I feel enough information has been collected, it then is then reconsidered when analyzed through various synthesizing effects. This processing allows me the freedom to reconstruct meaning, thought, and feeling by using very specific systems that represent what I am trying to say best for that moment within a piece. These moments (image or sound) are then pruned or grafted together to generate a new form with complex but controlled linear editing.

# PROCESSING OBSCURITY

*Hello My Darling*

*Unorthodox*

Growing the Tree

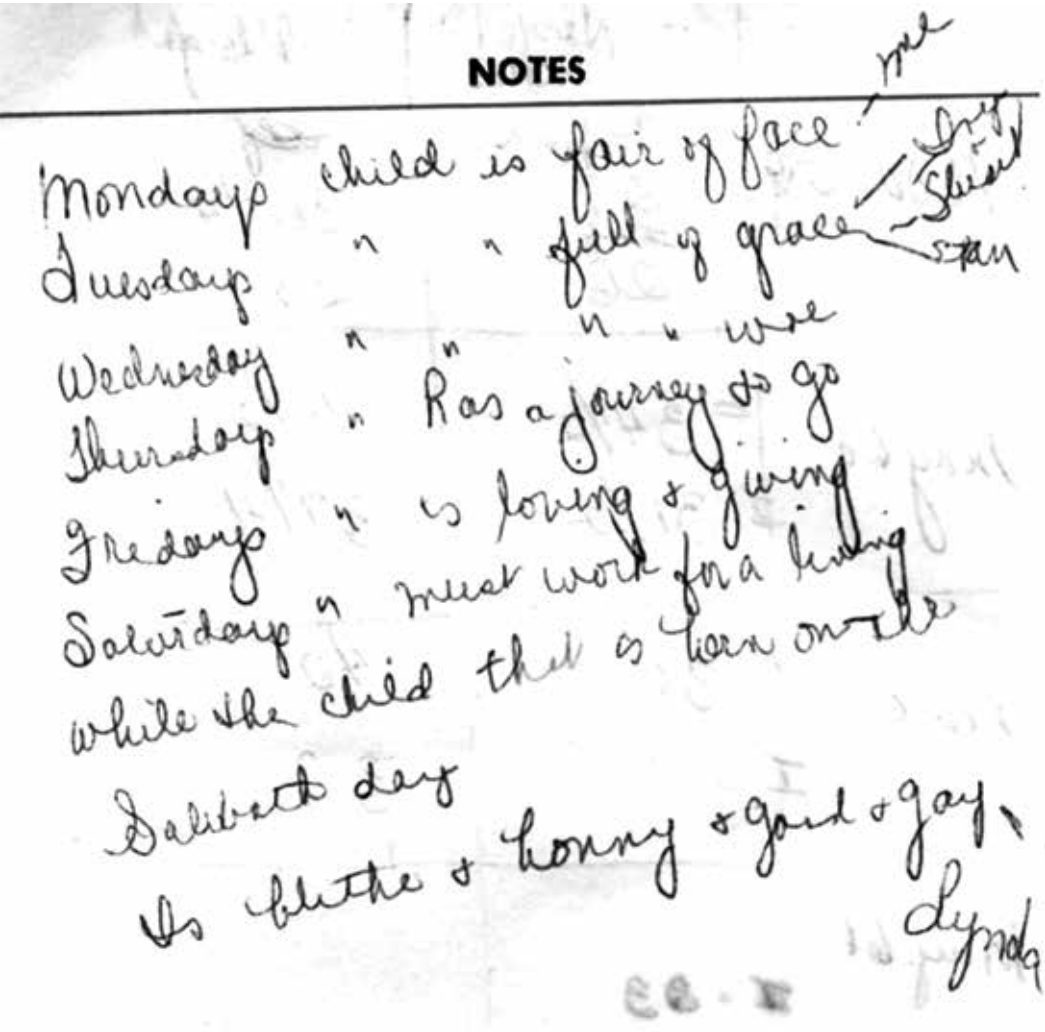
*Retrospection*

*Glitch/Glitchn*

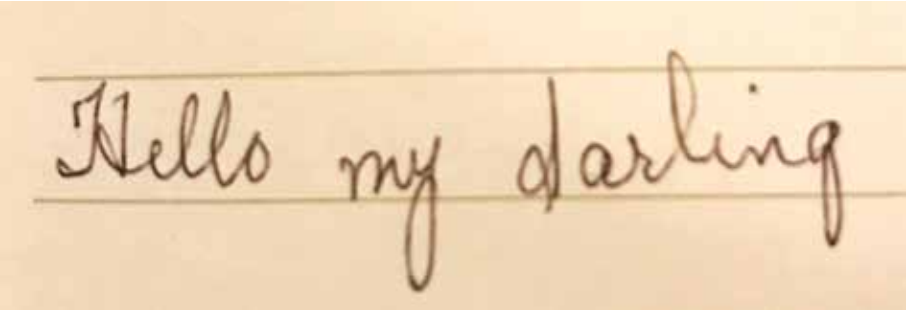




# HELLO MY DARLING



My grandmother was dying.  
She fell.  
DNR at her request.  
She had her reasons.  
She was in a coma for 14 days.  
I slept at her side.  
Held her hand for a week.  
Watched her breath fade.  
This cannot be right.  
She is the matriarch of this family.  
I promised her I would take care of our tribe.  
I said goodbye.



The sound piece “Hello my Darling” comes directly from synthesis components of my grandmothers last voicemail to me before she died. “Hello my darling” is a statement I can hear only in her singsong voice. When visiting her it was the first sound I would hear echo through the halls of my grandparents’ house.

The piece itself was synthesized using the GRM tools (Group of Research of Music, INA). Exploring the sound of her voice, I used repetition techniques with slight modulations to cradle that sound I would never hear live again. Clear speech that descends into disarray by ways of slight shifts serve to embody the never-ending connection we have may have changed shape but still transcends time and space.

This piece personifies my grief and exists as a new type of swan song for the loss of someone incredibly important to me.





# UNORTHODOX

*I am in Israel.  
I am conflicted.  
I am Jewish.  
But what does that mean?*

"Unorthodox" was created in a wave of emotion that followed a visit to Israel. After the death of my grandmother it became important for me to reclaim a connection to her and to the heritage we share. The trip brought up a lot of raw feelings and new ways of looking and being. It stirred up so many questions about human time and presence and separations.

Unorthodox was finalized as a piece to be presented in an immersive space. It was important to try and replicate the overwhelming feeling of being in a place that is over two thousand years old. The Western Wall (*ha-kotel ha-ma'aravi*) in the old city of Jerusalem is a space of wonder. Being in this divine space at sunrise during prayer, whether you are religious or not, is something to behold. Sound has a magnificent way of traveling through the space, the wails of the men vibrating off the ancient stones, the woman bobbing silently created an eerie counterbalance. Existing in this space, one cannot help but think about this spot without contemplating ideas of deep time and permanence. Being in a contested area will inevitably bring one to thoughts of power, control, and boundaries. This is a space where three Abrahamic religions exist. Even with all its muddled history, the strong spiritual energy of this space endures.

This piece was created by running an edit of footage shot at the wall through the Signal Culture App Slit Scan and Frame Buffer. Using MIDI controls, I performed this piece and recorded the changes in real time. The image manipulations create the idea of extended time. Bright colors become consumed in the darkness created by the buildup of bodies in space. The wall itself wavers, but never falls, sharing more of the sky as it lowers. Resident birds twirl above to the sounds of the earliest prayers.

Compositionally, this piece began as a single-channel work, which expanded to three channels to fit the Immersive Gallery. This fixed media composition strategically belongs in a space where the viewer can become surrounded by the wall, engulfed by the sound, and towered over by timeless dark shadowy figures that move across the space.







# GROWING THE TREE

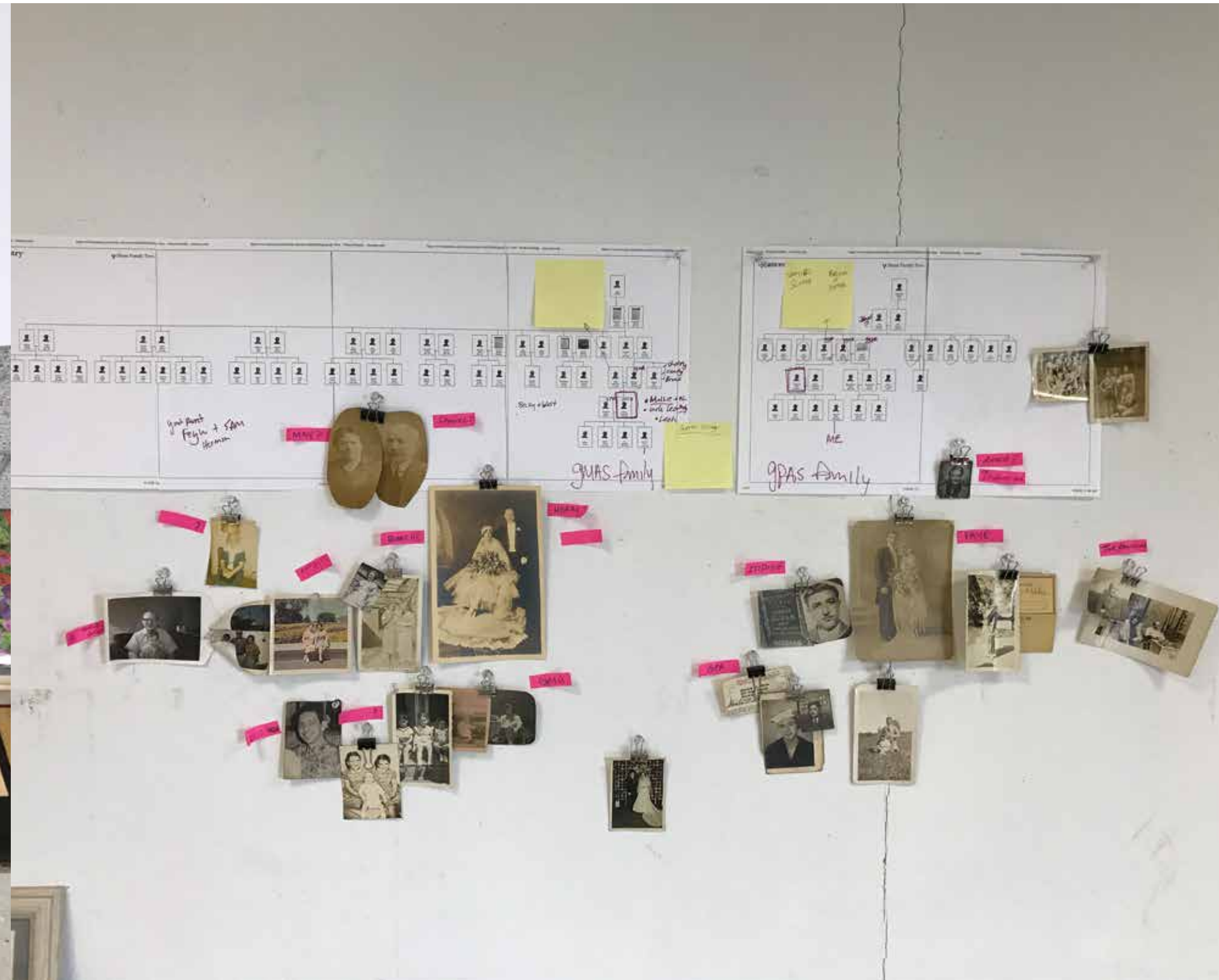
*Started with 13 members,  
I included.  
Months of research.  
Memories remembered.  
6 boxes of unlabeled images.  
40 rolls of film.  
Grew to over 400 people.  
What a beautiful tree.*

The learning of the word Glitch's Yiddish etymology has created for me dual representations, both physical and intangible. I feel closer to the use of glitch as we both come from the same language, and its use specifically to represent what cannot be found and is lost in time. Being the last Sloan before the name dies out looms like a literal 'glitsh'; the information is lost with me.

With the death of my grandmother this started to make me believe that an intimate rich history was dissolving before my eyes, as time goes on the details of lives lived slips out of view and one is left with only unanswered questions. I used Ancestry's immigration document databank to match scribbles on the back of pictures to government records to learn who these people were. Months later, and thousands of birth, death, census, marriage, and travel records reviewed, I was finally beginning to piece my family together. For the first time, I began to feel as though I belonged somewhere. This was my tribe splayed along my studio wall looking back at me.

These are the echoes of those before me. I see bits of myself in all these people from the shape of the eye to the wrinkle in a smile. These ghosts of the past went from strangers to humans I hold a strong connection to.

Two works grew organically out of the visual traces left behind by my family. Both pieces visually and sonically investigate the passing of time, and ideas of deep time and its impacts on memory and cognition.



# RETROSPECTION

*Glimpses of life.  
Over and over.  
Repeated in frame.  
Smile and wave at the camera!  
Over and over.  
Are you waving at me?  
Over and over.  
Forever.*

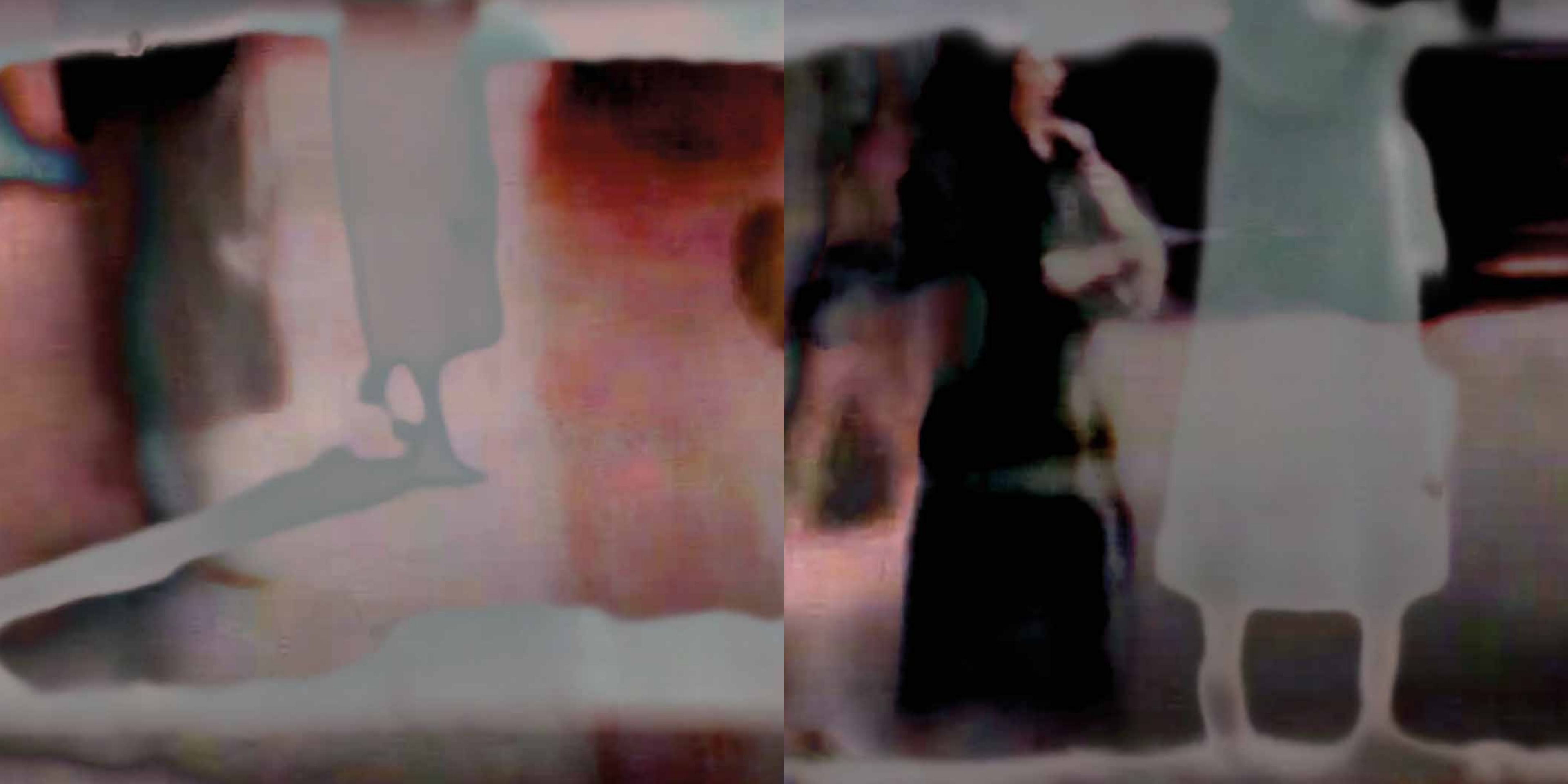
"Retrospection" began as an experiment. It began with material investigations. What is on these 8mm and 16mm films left to me? The dates and sometimes the locations of these films were recorded on the boxes, but who are the people weaving in and out of the frames? How are they related to me? Familiar faces began to appear as I watched these recordings over and over, matching faces in these films to faces in the albums. This piece certainly plays with repetition and movement. The clouded figures are stuck in infinite loops that cut from scene to scene and the raw sound of the malfunctioning film projector creates a punchy score for the figures to move within. This repeated combination of image and sound seeks to cause ease in a complicated space. It creates a slowness to the overall feel of the work, a kind of slowness used as a mode of experiencing extended time. The imagery in the work is at least sixty years old but has a familiarity that once can get close to.

Concurrently, I was rescanning this film to a digital format. I would shoot the film onto my studio wall, and record that with a 4K camera. What information gets lost and what remains with this practice? I was using the projector that came with the film which is almost a hundred years old. It was slightly broken and created wonderful visual effects exclusive to this medium, so I recorded those also. Much of this slippage acts as a physical representation of my lack of knowing.

This work changed forms for its viewing in the gallery. The single channel piece was multiplied twenty times to highlight the repetition of movement and altered the time of each video to exaggerate slippage in the imagery.







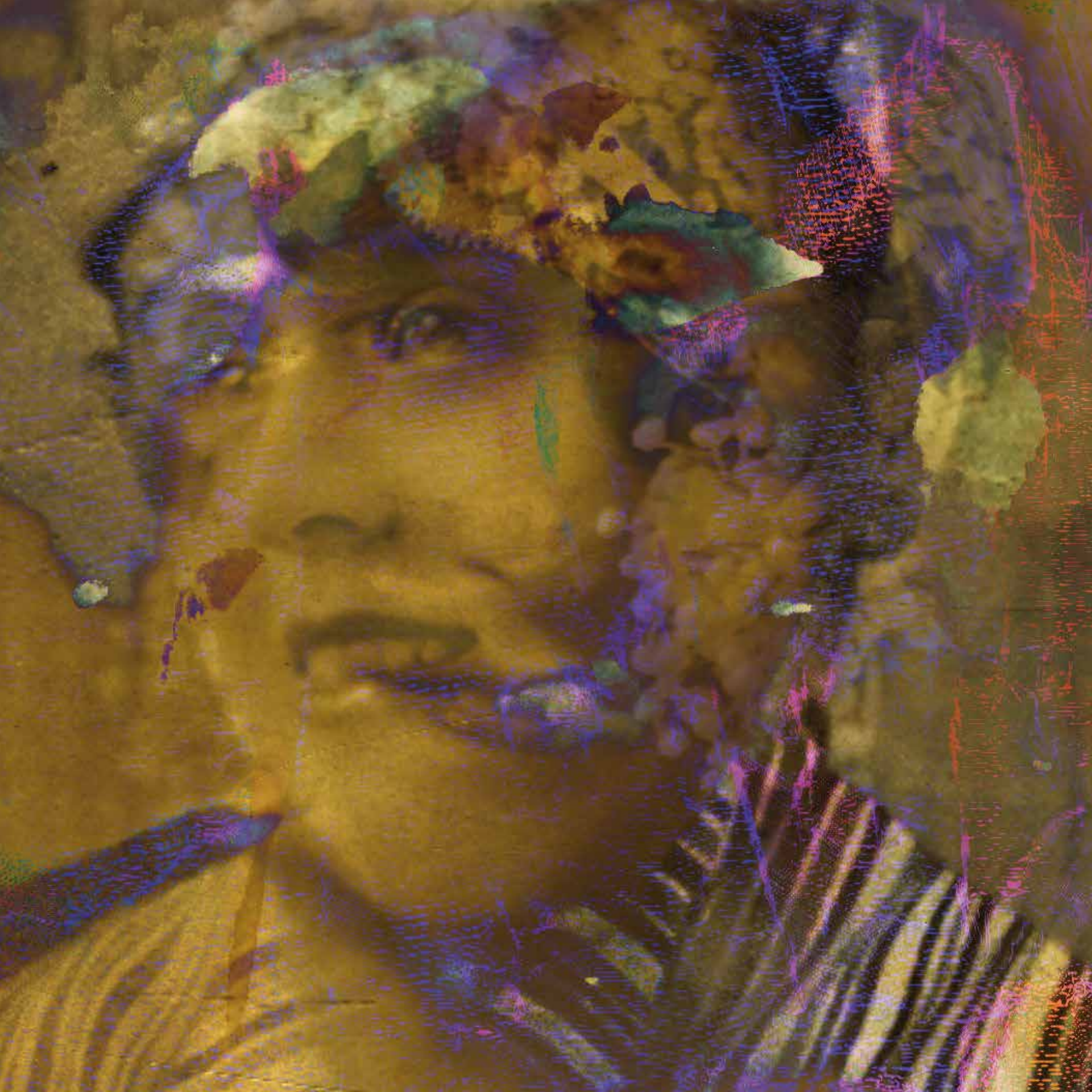












# Glitch

(n) Minor malfunction.

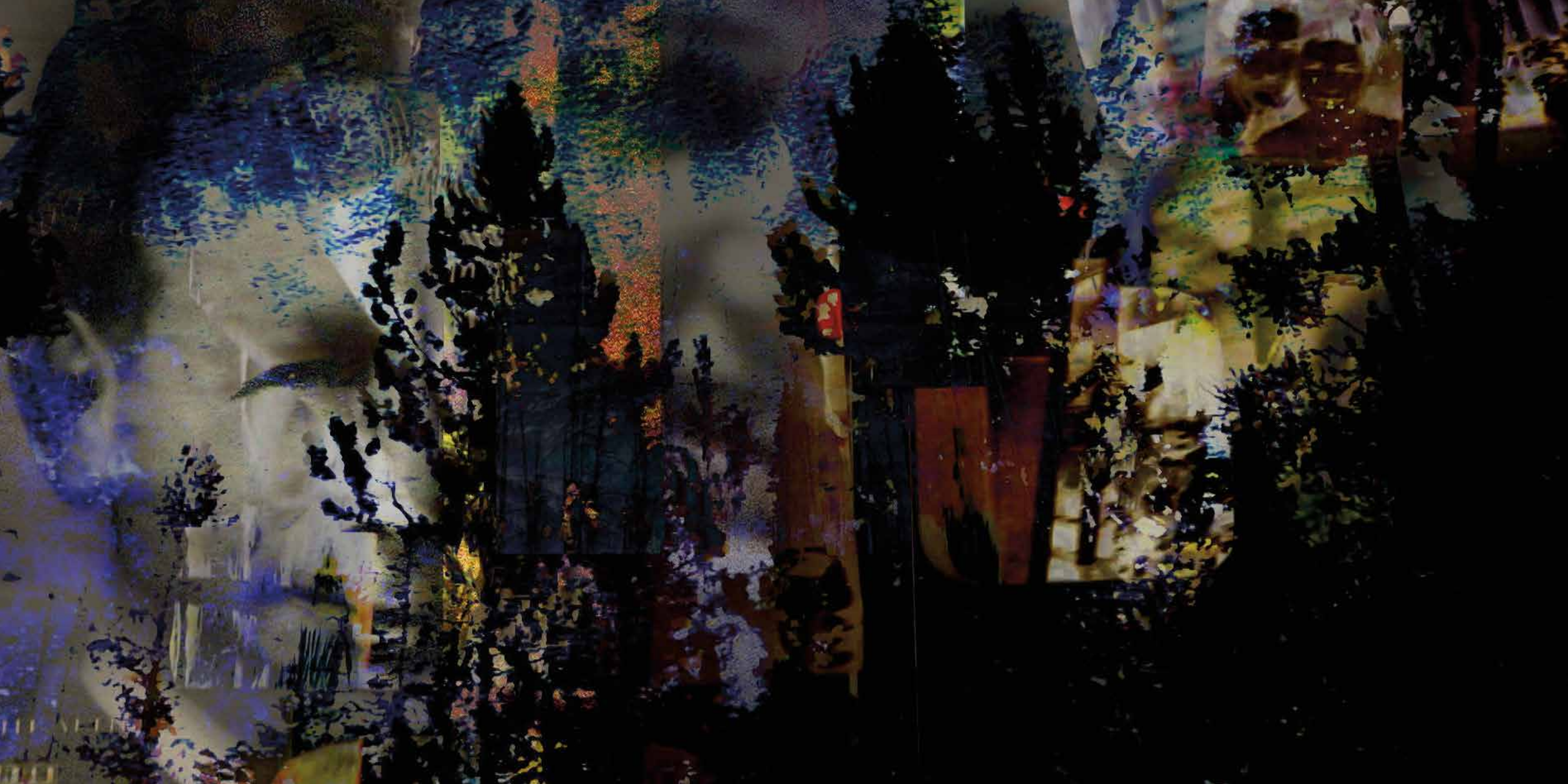
Though not itself a Yiddish word, the origin of “glitch” can be traced back to the Yiddish noun “glitsh” meaning “slip” or “lapse,” and the Yiddish verb “glitshn” (from the German “glitschen”) meaning “slip.”

# GLITSH/GLITSHN

The Sloan family predominantly spoke Yiddish until the generation before me, but I was never taught. Translations made finding family documents difficult. As a media maker I am aware of the glitch. Computer glitches can create havoc or beauty, and I have always been interested in the unique flaws generated by pushing technology beyond its capabilities, each glitch as unique as a fingerprint or snowflake. As an admirer of language and its origins, learning that the term stems from my family's native tongue made me feel closer to this idea, and it became the basis for this next work.

"Glitsh/Glitshn" is about the slippage of memory through time. It is a lapse in knowing, a portrayal of my fragmented understanding of my heritage due to expanded time. The displacement of information calls for one to wade through the imagery as it is presented to you and slowly engulfs the screen during the length of the piece. One must wander through the forest of ancestral trees to reveal clear faces smiling at you or bodies waving in recognition of you, the viewer. One must bear witness as this material being examined and picked apart goes from clear loops of a Jewish ceremony to shadows of figures with their details lost, the glitch material remains.







SPINNER

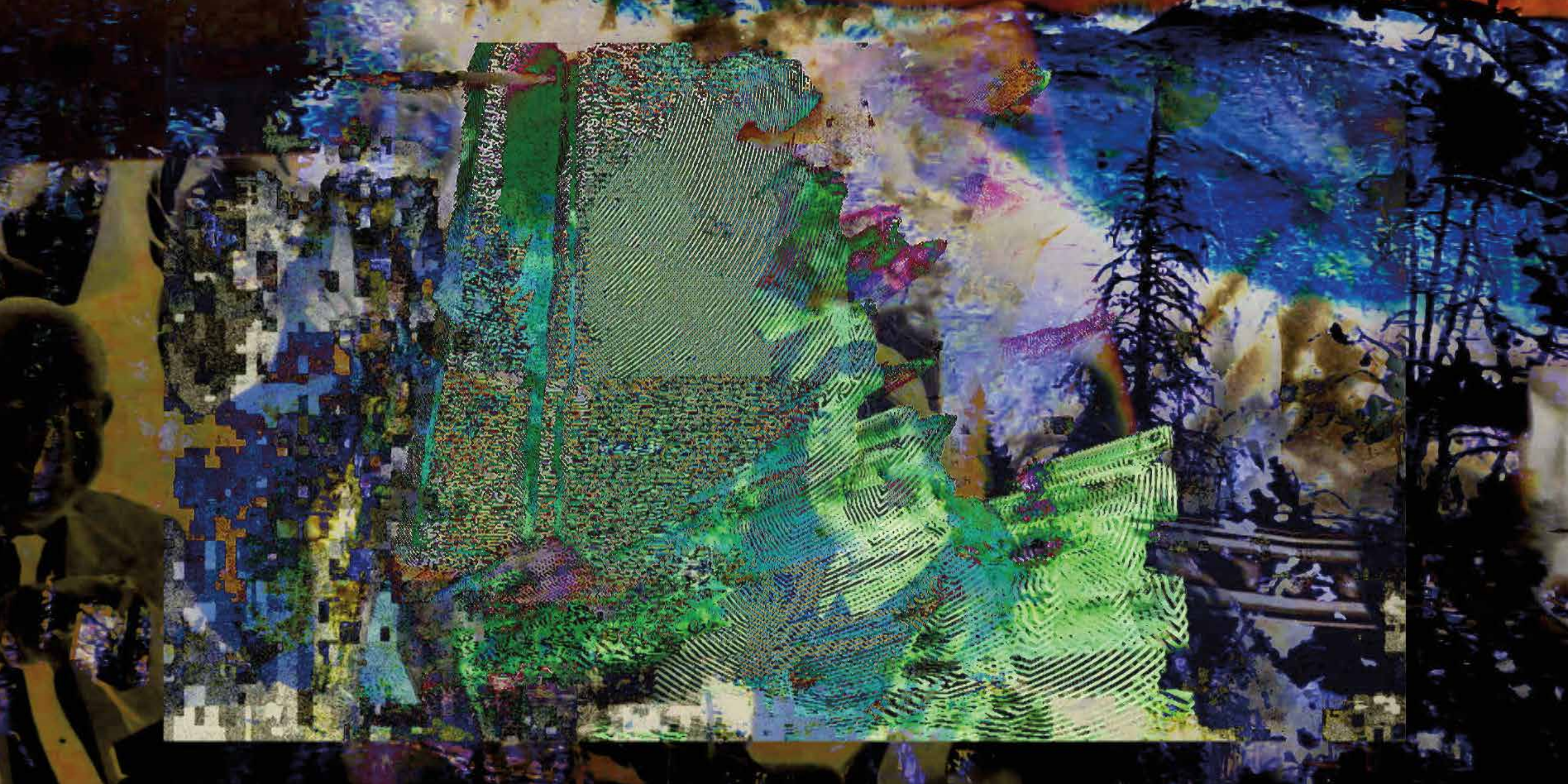
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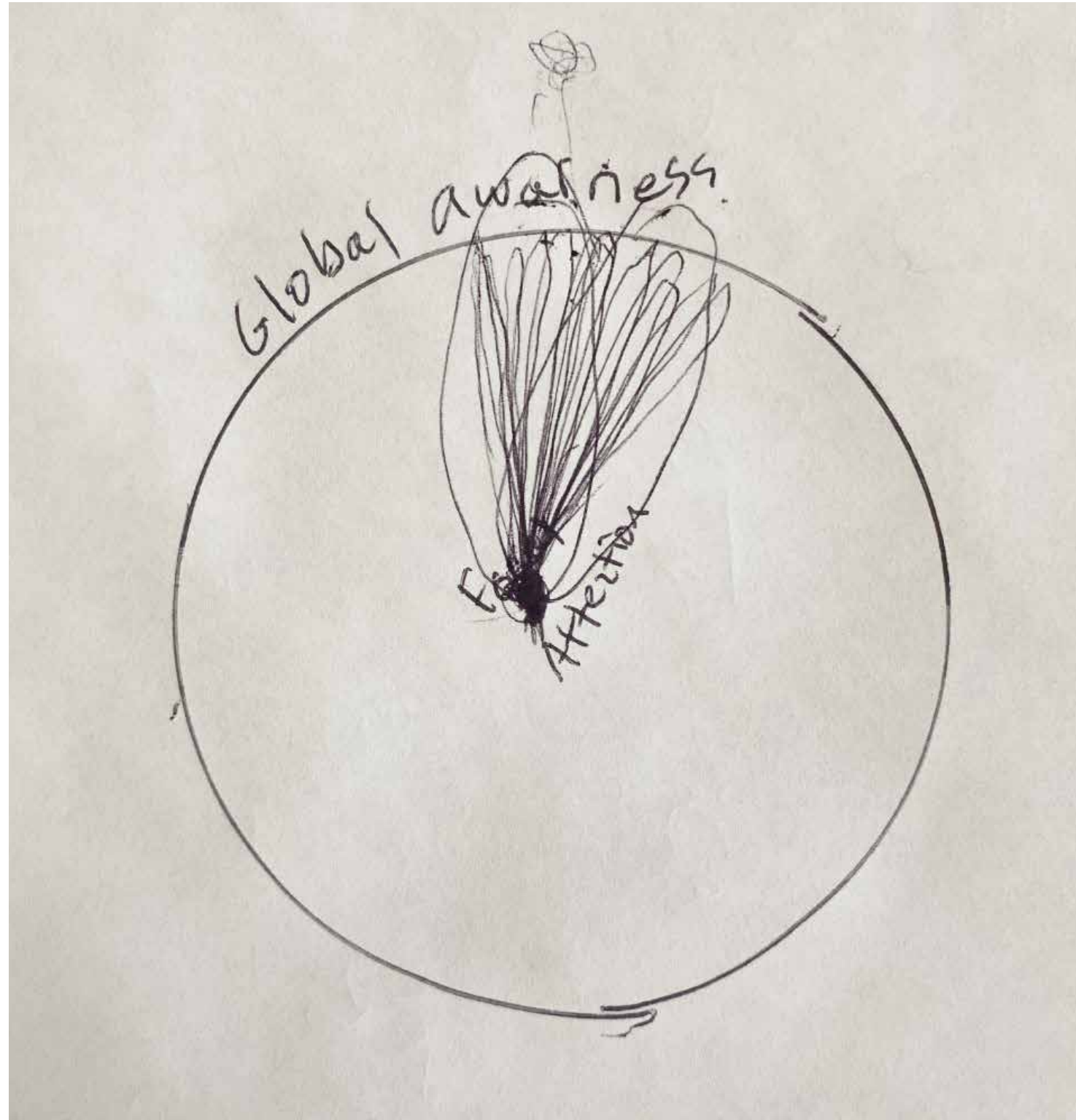












# RADICAL AWARENESS

RADICAL AWARENESS

*PARASYMPATHETIC*

*1000 YEAR MEMORY*

*ORANGE DATA*

*CURIOUS CYCLES OF  
EXTINCTION  
(Ruminations)*

# RADICAL AWARENESS

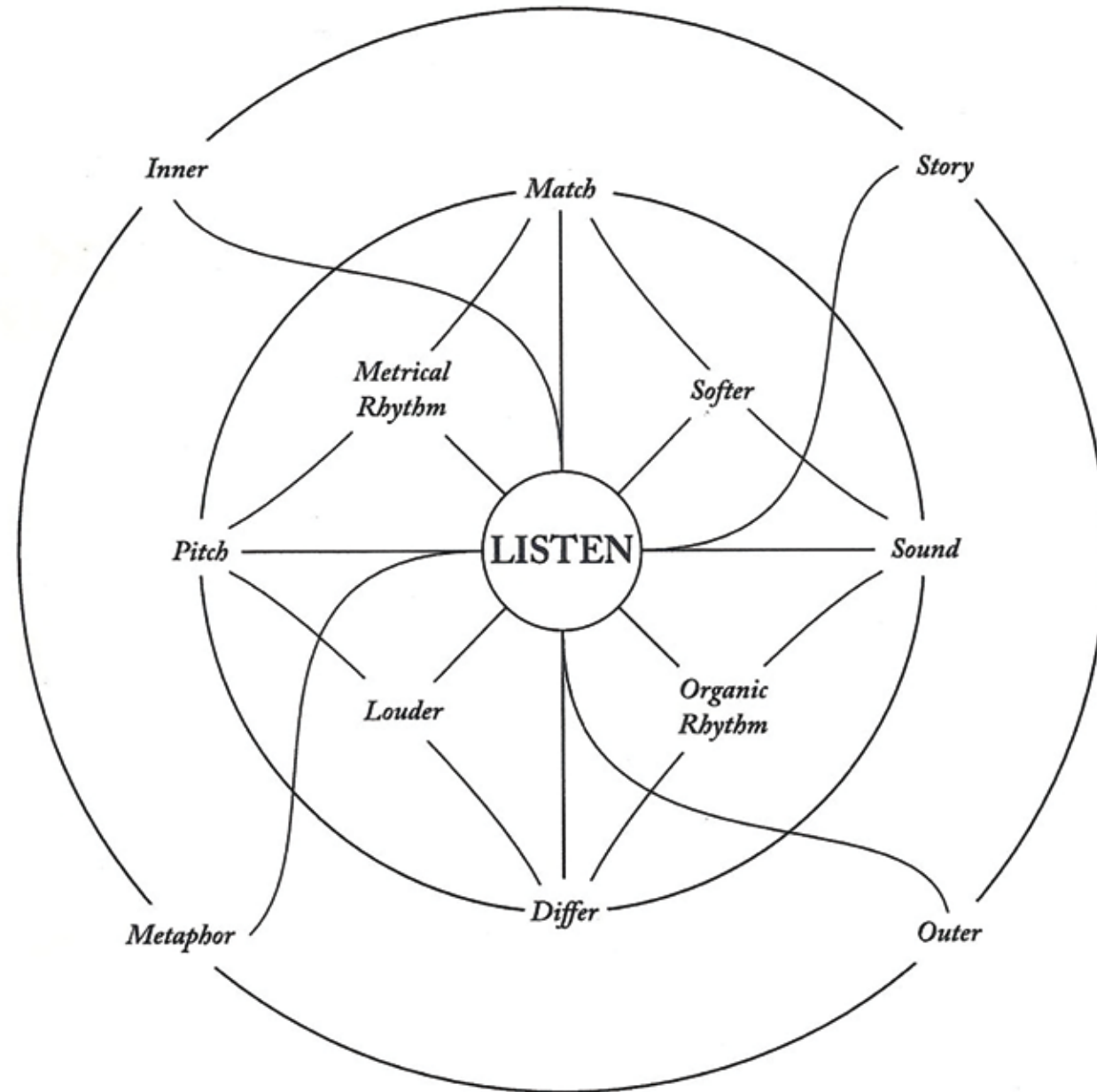


It was only natural that after the death of my grandmother that I drifted into the study of Thanatology, or the study of death and dying. Death is a system where its language has a delicate specificity, and many structures have built up around it; not in a way of understanding but to keep it hidden. Normalization is not evident here yet. What I did learn during my research was the value of death education for preparedness, but more importantly to find a balance in life; to pay close attention to what gives me the most happiness and pursue it passionately. Awareness of death brings about the opening of new and challenging connections that are truthful and deeply profound, but the awareness needs to take place.

Awareness comes to me in the form of studying the brain and questioning perception. Studying cognition as well as sensation and perception often reminds me of how similar the computer is to our own brains and how the systems of communication within the body mimic ones in nature. All these systems are complicated but work beautifully together with wondrous outcomes and most take advantage of them until they become faulty. In my research I find myself fantasizing about the journey of light through the forest of ganglion's inside our eyes, how the continual activation of the visual system quickly leaves an impression of an image - a physical memory.

In my work I enjoy playing with the viewers' perceptual threshold. We as humans are engineered to perceive change but there is a certain intensity needed to do so. How long of a drift is needed between images or sounds before the viewer can no longer recognize the change? Awareness of these delicate human limitations encourages my editing choices, recognizing that not all that watch or listen will even get to that point of deep understanding without completely settling into the piece.

My interest is in those who engage with the work with time as an element, to be understood as a container to cradle one's thoughts while traveling through the piece. Images are intentional but live in a constant state of liminality to gently sway thought when one gets lost in the process. Like humans of today, lost in their quick moving technology, swiping their days away glued to falsities of the media, these works grow in the weeds and encourage slowness and awareness as a practice to be taken on every day.



*"Deep Listening is listening to everything all the time, and reminding yourself when you're not. But going below the surface too, it's an active process. It's not passive. I mean hearing is passive in that sound waves hinge upon the eardrum. You can do both. You can focus and be receptive to your surroundings. If you're tuned out, then you're not in contact with your surroundings. You have to process what you hear. Hearing and listening are not the same thing."*

-Pauline Oliveros

Though not entirely the same idea as I write about above, Pauline Oliveros' concept of "deep listening" has clearly reverberated back into my own philosophy and practice. With the way the media forces its way into our faces nowadays it is easy to hear so many things at once. It has become easy not to listen. A major focus in the execution of my works is to provide the viewer with a moment of rest; to create space for them to engage with their own bodies in the active process of viewing.

*A moment to hear.*

*A moment to then listen.*

*A moment to process.*

## Audition - the Hearing Sense

- Sound stimulus

- 1 cycles + Sines
- 2 pitch + frequency
- 3 Amplitude + Loudness

Sound = physical definition

- movement or vibrations of object causes pressure changes in Air (or other medium)

Sound = perceptual Definition

- experience we have when we hear

## Sound Waves

patterns of Alternating Air pressure

## Frequency + Pitch

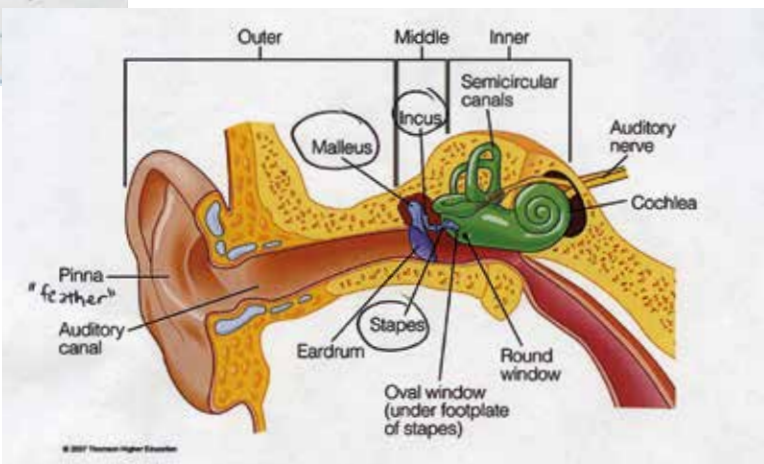
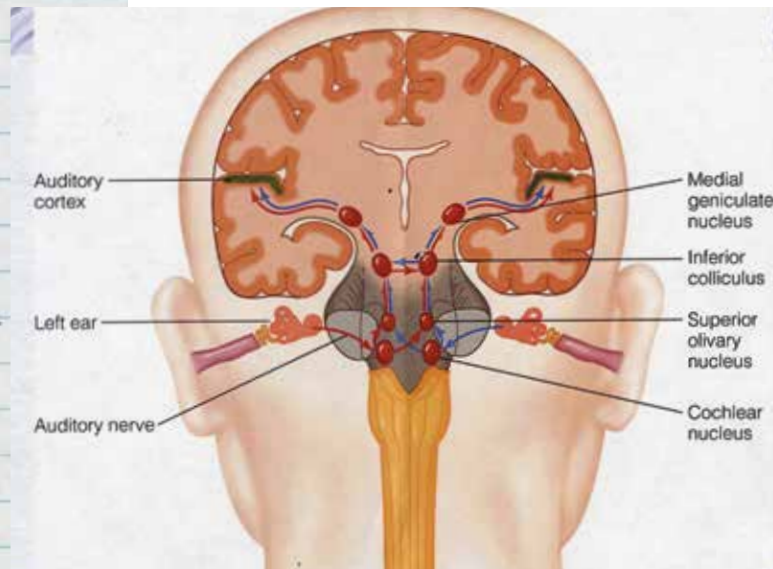
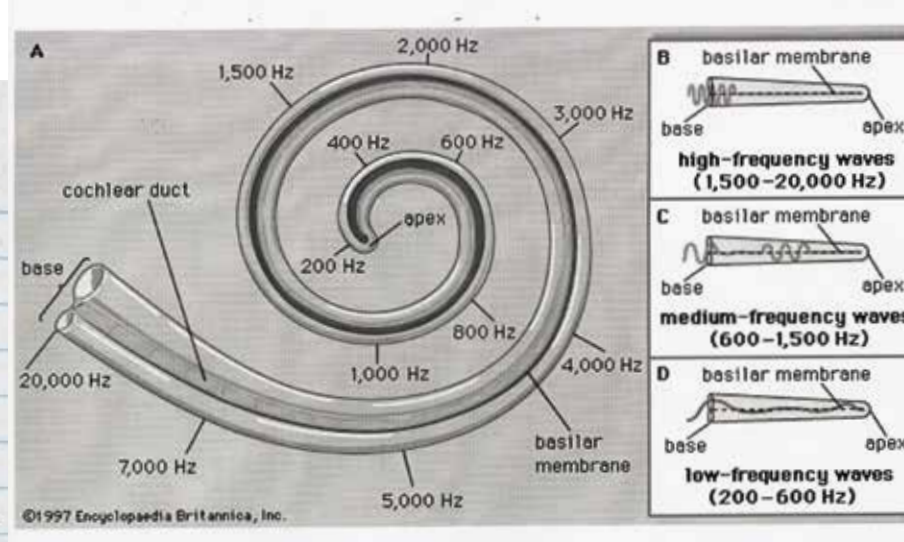
physical property: frequency

- Rate of vibration (# cycle/s)
- 1 cycle = 1 Hertz (Hz)

perceptual property: pitch

psychological experience of 'high' vs 'low' of pure tone

increasing frequency = increase in pitch



## Amplitude + Loudness

physical stimulus: Amplitude

- height of wave
- pressure difference btwn high + low peaks
- Decibel (dB)

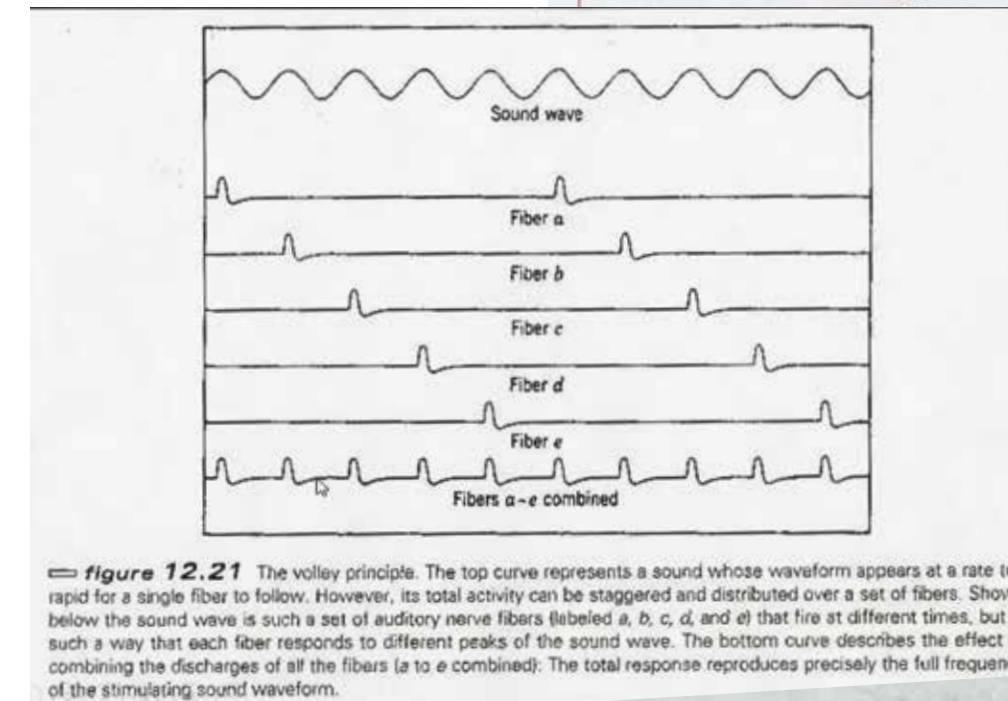
Note: our lower threshold is 16 ~ 20 Hz  
Sounds can be subliminal

perceptual stimulus: Loudness  
psychological experience "loud" vs "soft"

Hearing depends on  
Amplitude AND frequency

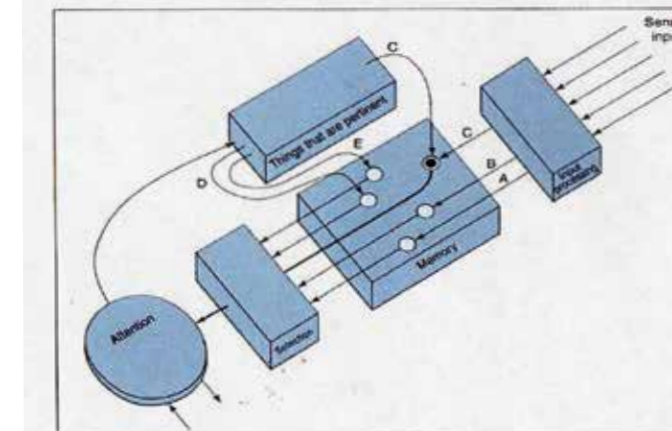
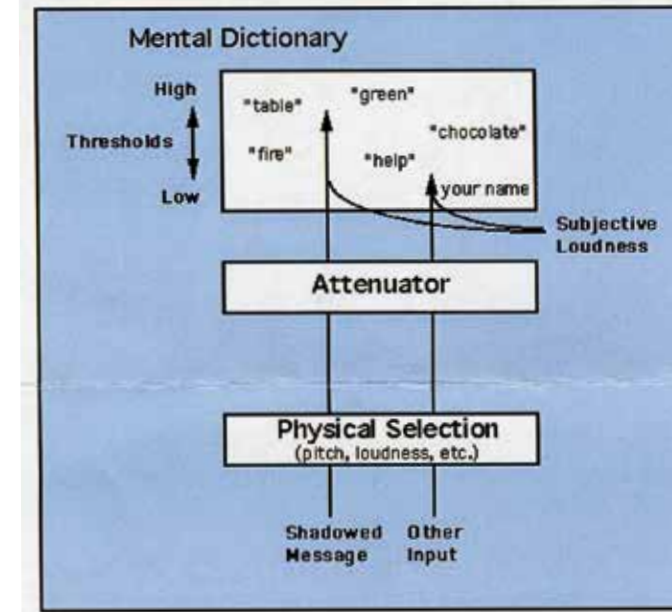
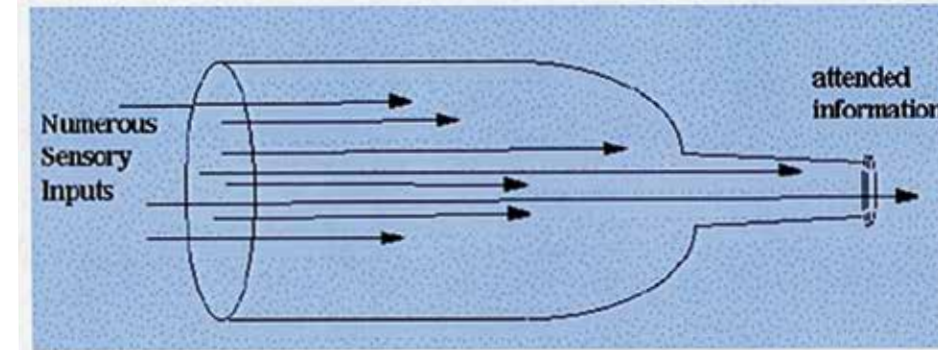
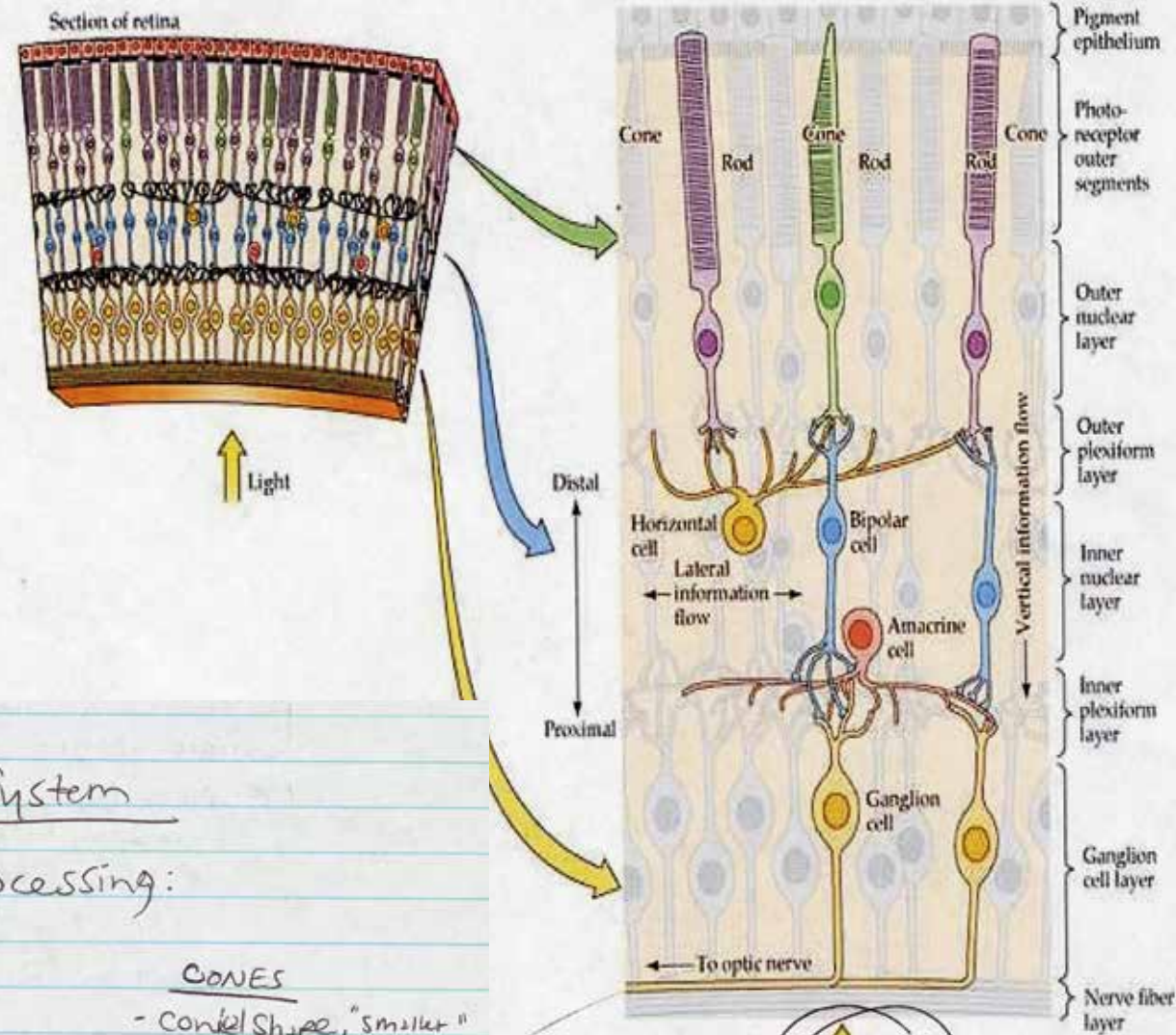
Auditory Transduction

Sound waves → electrical impulses



How is this info coded?  
How is the external world represented internally?

Retina - LATIN FOR NET



How does the Brain understand the passage of time?

"Invisible Beginnings"

- evolving perception

Time Measured by Space

Representing space + time  
Scientific + Philosophical impulses John McPhee 1981  
no beginning or end - existential horrors  
when comprehension ends, they summon imagination

Quest for Understanding

Open imagination to possibilities of deep time /  
new life Again + Again

The Long Drive

evolutionist - Herbert Spencer  
evolution as progress

## The Visual System

### Retinal Processing:

#### RODS

- cylindrical, large
- 100-120 million rods
- Low Light conditions
- See Motion
- B+W
- Poor Acuity

#### CONES

- Conical shape, "smaller"
- 5-8 million cones
- High Light conditions
- cannot see motion
- Color
- Good Acuity

Arranged Linear  
to let light pass thru  
to BACK (Rods + cones)

We code visually  
"mind's eye"

## Theory of working memory

domain specific systems  
inner eye - visuo spatial sketchpad  
(SHEPARD) inner voice - phonological loop - rehearsal  
(CONRAD)

- Limited Resources to work with
- Domain Specific

episodic Buffer - multisensory temporary storage

- language
- images

## ENCODING getting info in

### encoding specificity

Tulving + Thompson (1970) -

- What other info gets encoded during learning experience?
- Subjects study 24 words
  - Alone (eg. BLACK)
  - Strong Associates (eg white - BLACK)
  - Weak Associates (eg train - BLACK)
- Subjects Recall words
  - non-cued
  - Strong Associate cues (eg white)
  - Weak Associate cue (eg train)
  - free Recall of words (cues + targets)

If cues @ encoding = cues @ retrieval  
Then better memory



# ORANGE DATA

*What does sour sound like?*

*Input-  
your orange tree,  
So stubborn and sour,  
Output-  
memories felt again through sense.*

While deep in the family albums I stumbled upon a photo of my grandfather's orange tree. Their house in Florida had one very small orange tree that, by the time I was old enough to recall, only produced fruit sparingly. But he was so proud of that tree. Looking at that photo brought back the familiar sour memory of his homemade orange juice. I wondered if I could generate sound that could tweak the back of your jaw like an orange. I took a spectral analysis of the photo as a basis for what this memory may taste like. Generating sound from image can sometimes lead to unpleasant sounds, so the raw synthesized sounds were then edited to a reasonable range. I pulled the sounds apart and constructed them into new forms using GRM tools and time effects in Audition, allowing the listener to really hear every sound exaggerated to hold time. I edited until certain tones nestled into my ears in ways that felt as though they were reaching out and playing with my other senses.

My interest in creating sound compositions may have begun with hearing Stockhausen for the first time, upheld and inspired by artists such as Cage, Oliveros, Henry, Schaeffer, and countless others,

but in recent years I have become enthralled by the works and writings of two sound artists: Maryanne Amacher and Elaine Radigue.

Amacher's exploration of space and structure borne sound pushed my sonic explorations to new ways of existing and sharing with the viewer. Amacher worked with a set of psychoacoustic phenomena known as auditory distortion products, or sounds generated inside the ear that are clearly audible to the hearer. We collide in our interests of generating tonal dimension that cause our ears to act as neurophonic instruments. Radigue's interest in duration and exploring the "unfolding" of sound leads my way of listening and generating new tones.





# PARASYMPATHETIC

*Breathe in.  
Rest.  
Breathe out.  
Repeat.  
Follow the movements of the network.  
Remain.  
Listen to the sounds of the rain.  
Restore.*

This piece began with growth. It stemmed from a curiosity in fungi, and the gift of three mushroom spore growth bags. The better part of the fall semester was spent growing and recording time lapse videos of these beautiful fruiting bodies as they grew in my studio window. Upon documenting these mushrooms (pink, yellow, and blue oyster mushrooms) I established a close connection with them. I nourished them, watched them grow and dance, recorded their life, thanked them, then consumed their bodies for sustenance. This kind of feedback system inspired the rhythm of this piece, circling both inward and outwards, reshaping familiar and performed sounds into exaggerated hypnotic forms.

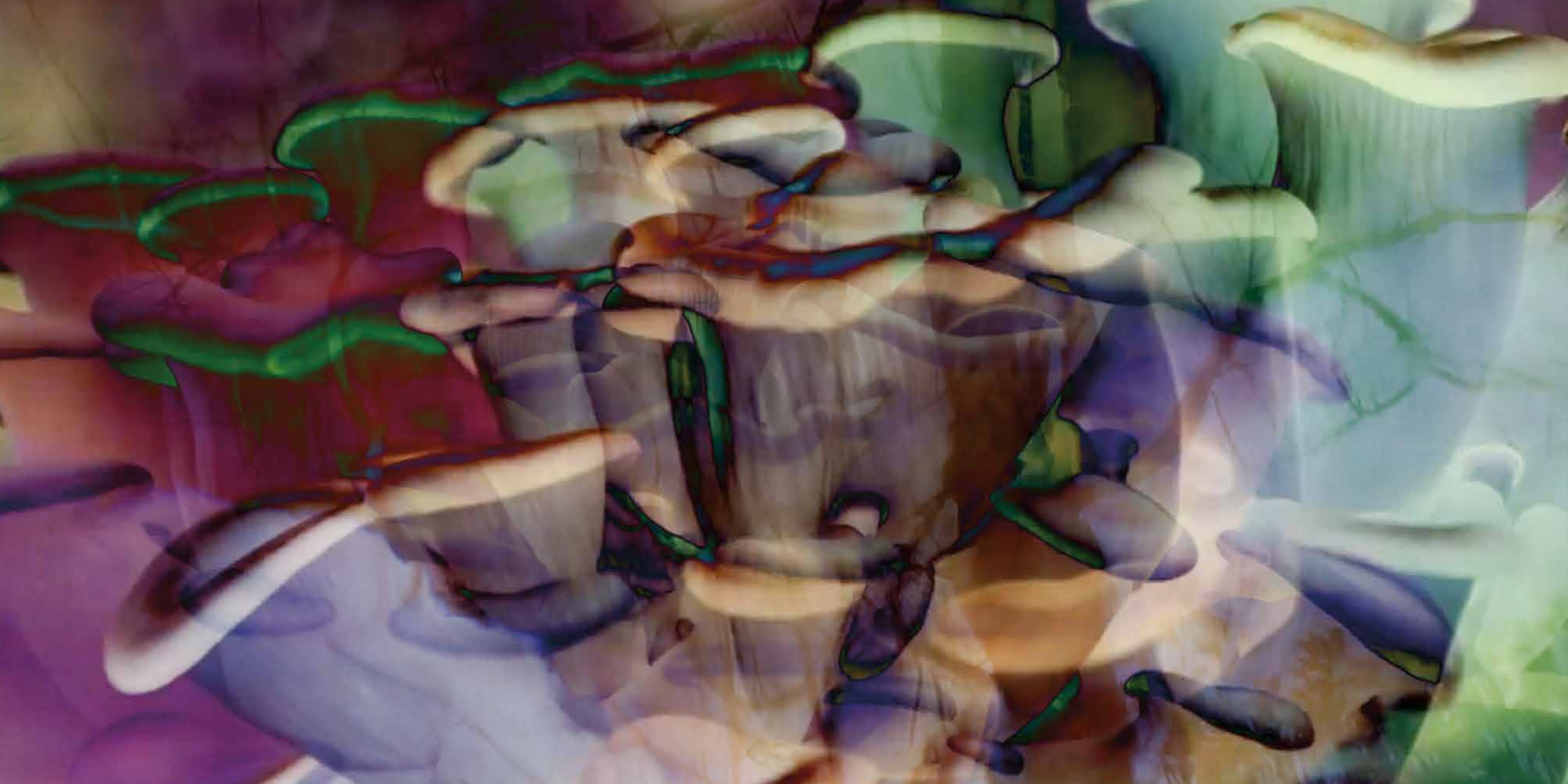
The parasympathetic nervous system is responsible for rest conditions, in contrast to the sympathetic nervous system that drives the fight or flight response. It helps conserve energy and decreases heart rate. This piece works as an artificial PNS and acts as an encourager of rest and regeneration in a brief, ten-minute time frame.

Studying fungi and using their fruiting bodies in my work represents cyclical time, in their growth cycles, and in mine. Fungus exists as its own system, somewhere between plants and animals. Today, more than ninety percent of plants depend on mycorrhizal fungi to function as a component of a more complete biosphere, creating additional stability in moments of natural instability.

In my rhythmic, systematic way of editing, growth expands and retracts, representing possibilities for the future open to the viewer to think about as they sit with the work.





















# 1000 YEAR MEMORY

*Yucca Brevifolia*  
*The desert dagger*  
*Overcoming the harsh climate*  
*You expand*  
*Elude time*  
*So precious*  
*Now*  
*Dense forests scatter*  
*Human touch unbearable*  
*Persevere*

Some of the most difficult moments of my life played out in the stark, vast high desert of Southern California's Mojave Desert. In critical moments of tension, fear, or sadness, this quirky place full of intense energy molded me into who I am today. So much of my time was spent outside in the intense heat and among the Joshua Trees. I found comfort in these alien forms. I am fascinated by their rhythmic life cycles, timed so precisely and so dependent on water; having always been a commodity in a place that averages eight inches of rainfall a year.

From the National Parks Service on Joshua Trees:

*"Today we enjoy this yucca for its grotesque appearance, a surprising sight in the landscape of biological interest. The Joshua tree's life cycle begins with the rare germination of a seed, its survival dependent upon well-timed rains. Look for sprouts growing up from within the protective branches of a shrub. Young sprouts may grow*

*quickly in the first five years, then slow down considerably thereafter. The tallest Joshua trees in the park loom a whopping forty-plus feet high, a grand presence in the desert. Judging the age of a Joshua tree is challenging: these "trees" do not have growth rings like you would find in an oak or pine. You can make a rough estimate based on height, as Joshua trees grow at rates of one-half inch to three inches per year. Some researchers think an average lifespan for a Joshua tree is about 150 years, but some of our largest trees may be much older than that."*

I have been away from this landscape for seven years and dream about it often. I miss the radiant heat under my feet when bundled up in my Alfred studio. During winter break I stumbled upon the opportunity to spend forty-eight hours in the desert so of course my first intention was to record my alien friends I have missed so much. Upon entering the south side of the national park my heart dropped almost immediately. The park felt emptier. Eventually they began to appear, but it took longer than normal for me to find the sprawling forest of desert trees. So many died during the winter snow that now falls on the desert in the winter. In only seven years I saw the effects of global warming lying dead at my feet. These wonderful plants that have the potential of multiple human lifespans may no longer watch over us, like so many others, if we allow this chain of events to continue.



Beginning with shot footage of my desert trip and findings, I began layering recorded moments of life and death among the Joshua Trees and Mojave Yuccas. In my editing I began clustering layers mimicking the clustering of life I was recording. Opportune findings weave their way through this almost ten-minute video and sound work, whether from finding fungi hiding from the desert sun on the rocks or a layering of two moments to create an exciting liminal space that even more accurately describes the energy of this place. In the end, there are about twenty layers of video in this work. They represent the extended lifespan of this desert, and the variance of ages between the Joshua trees.

The video was regenerated through a patch in Touchdesigner to break up the image like a slit scanner. I then wove this new footage with the original as a poetic reminder of the generation of energies- natural and synthetic. This footage was also run through the Sandin to generate new textures in the layers. Their appearance in the finished work is as random as the finding of spores and the appearance and disappearance of other visuals throughout the work. Mountains grow and digital streams of air or information wisp through space. Water wavers through the work first as itself and later as a textural reminder of a delicate ecosystem formed by and existent upon water. Windmills rise and fall as a nagging reminder of humans' hands in nature.

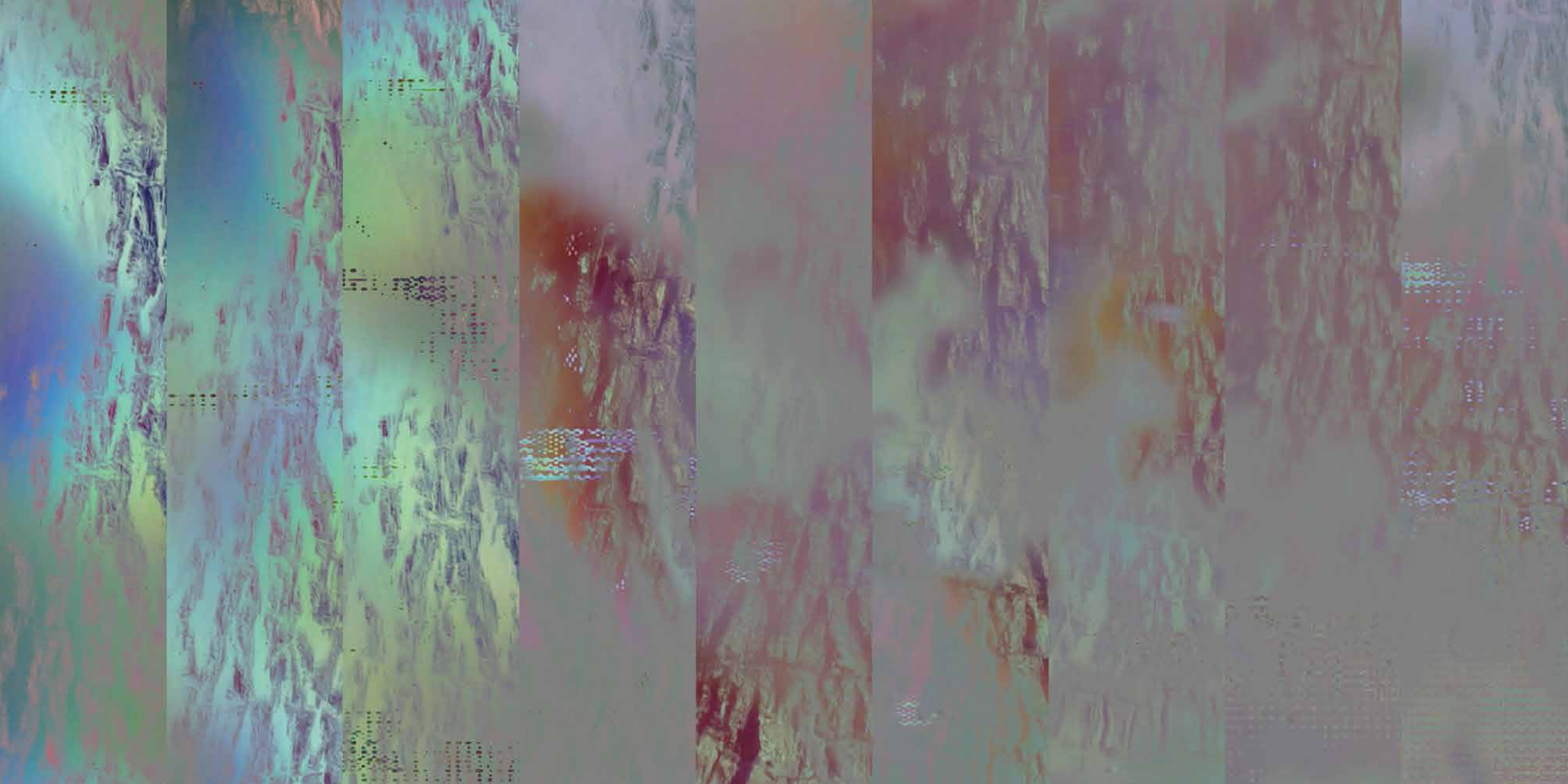
As you travel through the time of this work, you end up lost deep in the root systems below, the expanded communication methods of the ever-growing Joshua tree talking to its nearby family.

*What does it say?*

*What information is lost?*

*What remains?*



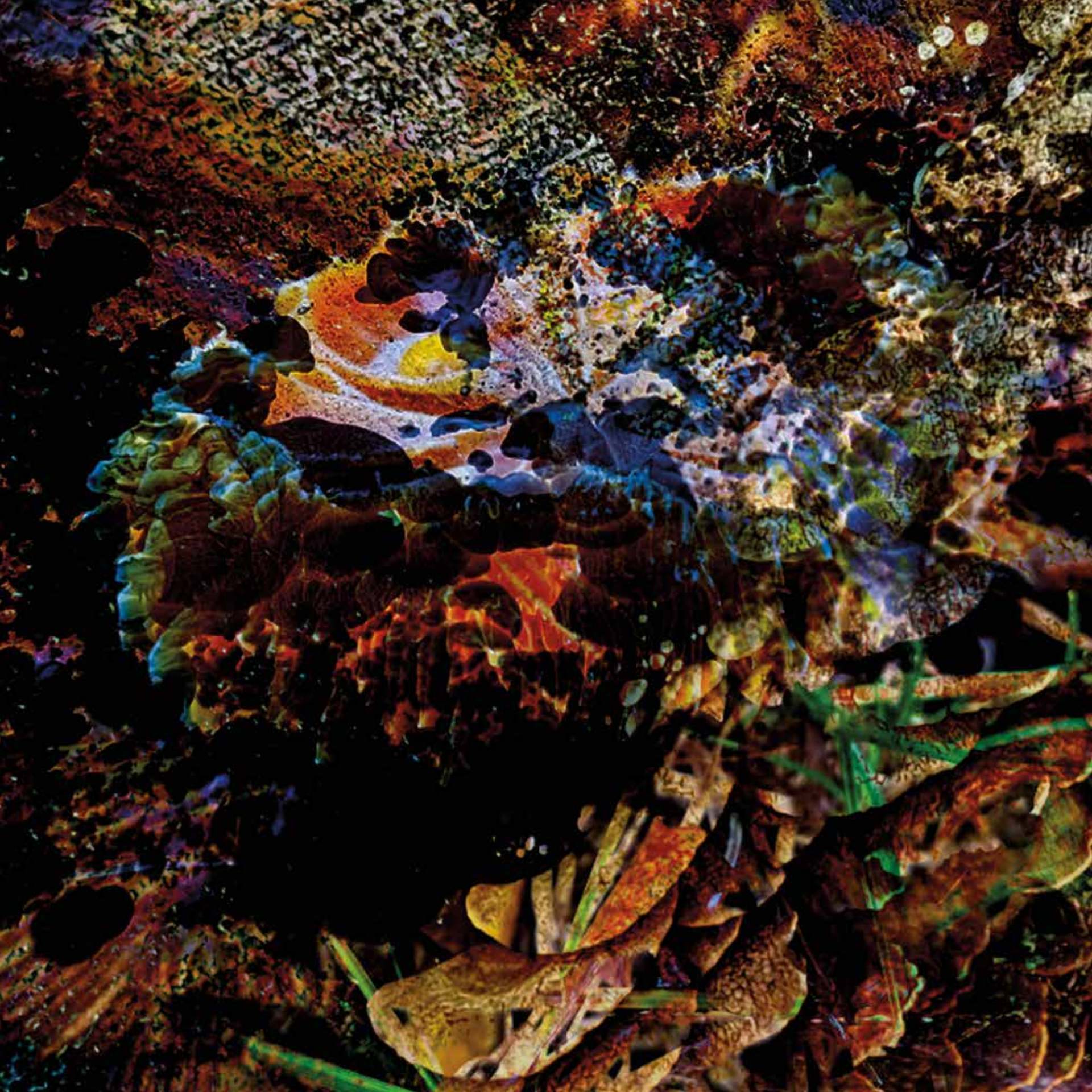












# CURIOUS CYCLES OF EXTINCTION

## (Ruminations)

*Resilience is not infinite.  
Loss of species like background noise.  
Background extinction becomes mass extinction.  
Long walks in quiet places,  
make me realize  
the loss.*

In early fall when the quiet begins to settle over Alfred's little valley, I began visiting my friends, the Klingensmith's, farm to record the sounds of nature on their immense private property. I would go in the early morning to record the conversations of the birds, or bubbling creek after a good rain. I searched for silence, the one that pushes back on your ears, the one that jolts you back to reality when you hear your heartbeat. I would find a spot far away from anything, sit and record, and really listen in those moments. Each human disruption generated awareness of humans' impact on this resilient nature. I spoke with Kasey about extinction both in this area specifically and on a grander scale. I see positive and negative feedback loops forming in our conversations and begin to use them as a basis for the building of this sound composition.

In the understanding that air has a resolution, the sounds in this piece layer onto each other to build up to a point of over stimulation, like the moment in which we exist now. The sounds then decay one by one, mimicking extinction in the long expanse of time. A very precisely organized score creates a romanticized sound space to exist to display patterns over extended time in which the listener may begin to speculate on time, the patterns of

life, and the uncertain possible futures we are barreling towards. I think about how catastrophic events on earth happen at an alarming rate and am disgusted by how it has become so normalized. It should not be normal to know someone who has lost their house in a forest fire. When it comes to the consumption of food, it should not be normal that farming is considered a factory and that the production of said food is (not so) slowly making this planet inhospitable.

This piece began as a rumination on the ecosystem in the small town I live in but expanded to include ideas of time dulling the focus by taking the familiar recorded sounds and slowing them down considerably, some beyond recognition. Sounds are strategically repeated or removed to hint at humans' hand in the planet's changing composition but also of nature's resiliency.



# ENTANGLEMENTS

POSITIVE FEEDBACK LOOPS

RESONATING SPORES  
MFA THESIS SHOW





# POSITIVE FEEDBACK LOOPS

Though the research may at first appear scattered, in time it has become clear that all the topics resonate with each other in surprisingly harmonious ways. I spent two years discovering the connections in the systems around me, whether natural or digital. I have explored and exposed slippages in all systems, finding loss of information and changes to voltage control to create ways to entwine these ideas visually. I've slowly discovered a documentarian-like approach to recording information around me and found dynamic ways to generate new imagery from those recordings. Manifesting concepts of repeating, extended time, and being entirely aware of them as I go through life allowed me to find a radical awareness in myself through my art making, by taking the time to listen, to record, to ponder and to create.

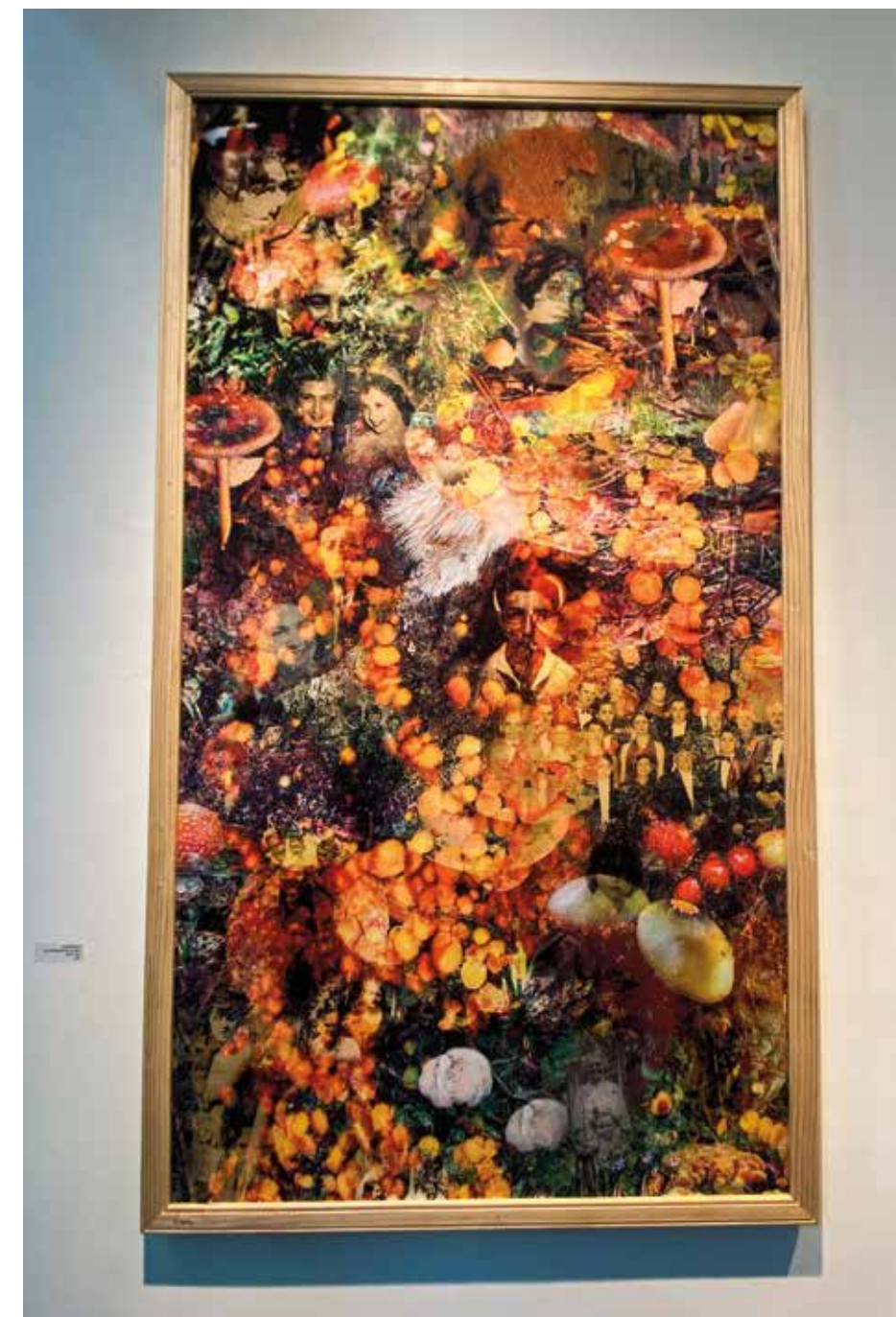
My MFA Thesis Exhibition is an extension of these values. My interest in this particular curation of works is to encourage the viewer to engage with their own bodies and minds in the active process of viewing and to find awareness in listening. Resonating Spores is a moment for me to allow the connections of time that weave themselves into the works in the show in ways that resonate through the gallery. It encourages viewers to look for connections in nature and in themselves, and to encourage an awareness of time as a construct, a medium, a creator of slippage, but also for potential.

The works in the show have morphed in physical form and many originally sprouted from single channel stereo works, like "Parasympathetic" and "1000 Year Memory." While both works remain single channel in image, the sounds from both works play with space by expanding out to surround sound experiences both large-scale (Parasympathetic) and small-scale (1000 Year Memory). "Orange Data," after being played in surround in an open room now exists as a personal listening experience for a single person, with the faint essence of orange to tickle the senses further. "Glitch/Glitchn" returned to the TSI Harland Snodgrass Gallery after having experienced it in various forms and concluding that it thrives in that space. This iteration of the work plays heavily with the glass reflections of the space. Three-across monitors behind the viewer provides a backdrop and forces the viewer into the forest of faces and trees flickering behind with the continual disjointed scenes of previous life appear before you. The pacing and movement of monitors is methodical and varying in speed solidifying intention of information slippage as the main theme of this work.



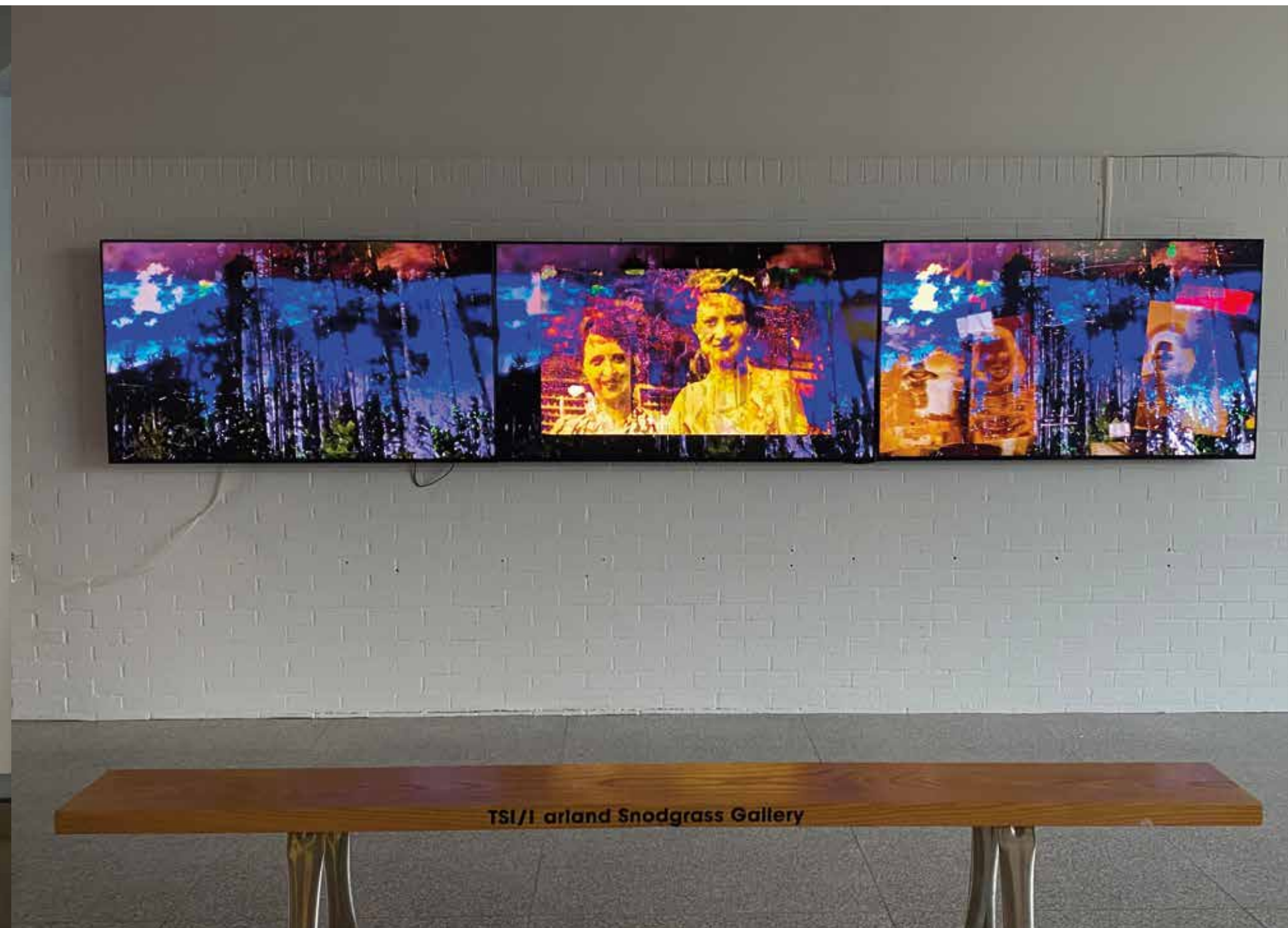
Printmaking becomes a part of my practice when I deem it pertinent to hold a special moment in time. The digital stills and polymer plate prints displayed in the show hold moments of the videos they extend from. They are the fruiting bodies of my video works. The digital stills are from "Parasympathetic" and "1000 Year Memory," pieces in which movements form beautiful still moments. The polymer plate prints derived from "Glitch/Glitchn" and its delicate process resonates with the fragile materiality of film. The print "Foraged// Found" germinated from a folio of a dozen prints created with the same name earlier this year. I wanted to combine all these separate images into one large piece, an anchoring presence along the catwalk. This work embraces the feeling of finding new hints to my heritage and the foraging of mushrooms on a long, rainy walk. It conveys feelings of exaggerated unhappiness and the frustrations of not finding anything. However, in contrast, it produces an acute, sometimes overwhelming joy in finding something or someone new.

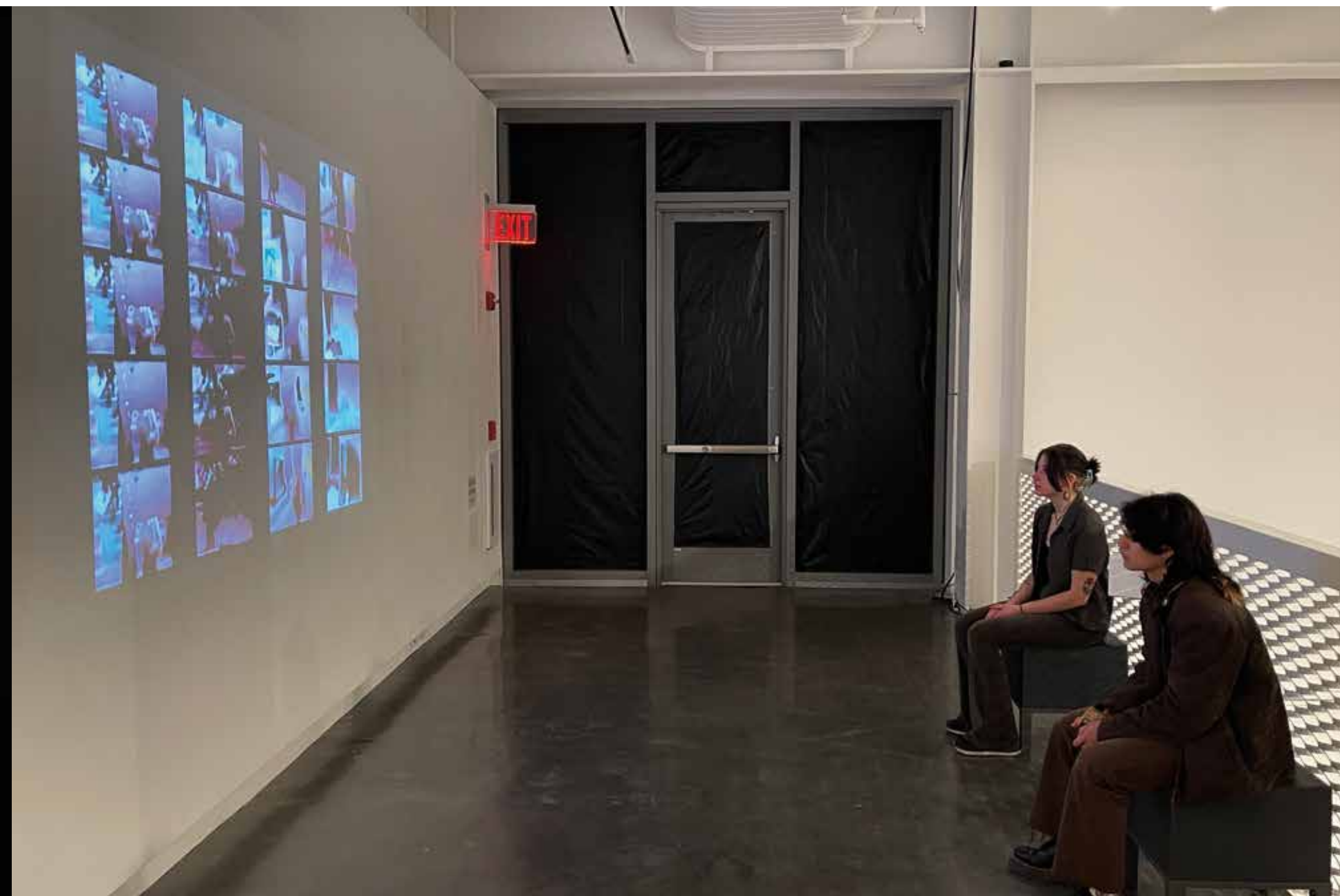
*I realize now, after looking back on all the work generated and research done, how beautifully entangled all these ideas are, how they resonate together, and how they, like spores, exist as a seed capable of generating new thought and new awareness.*





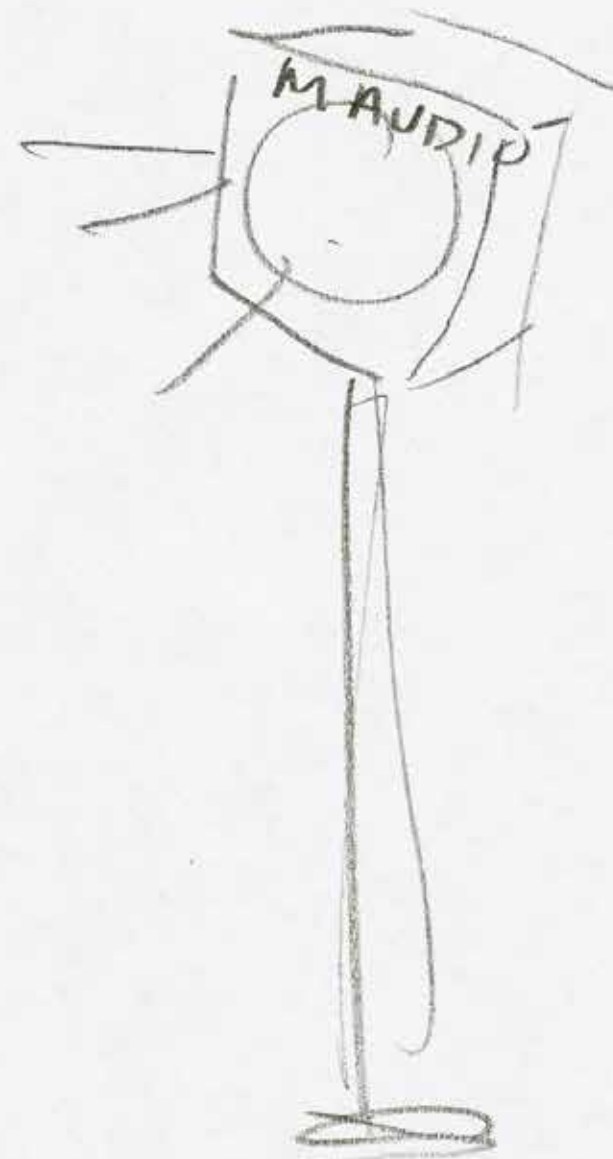
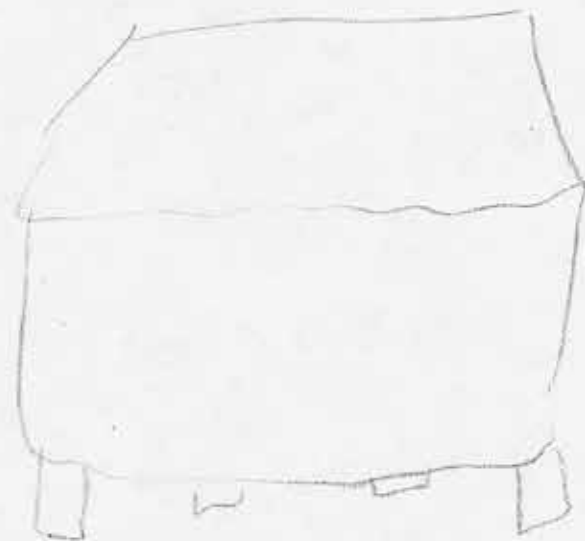
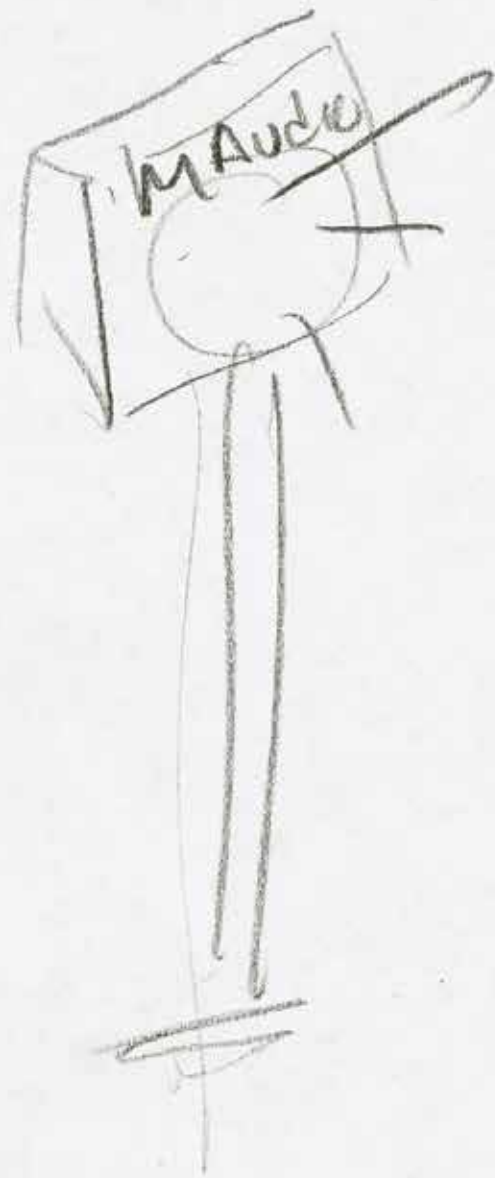








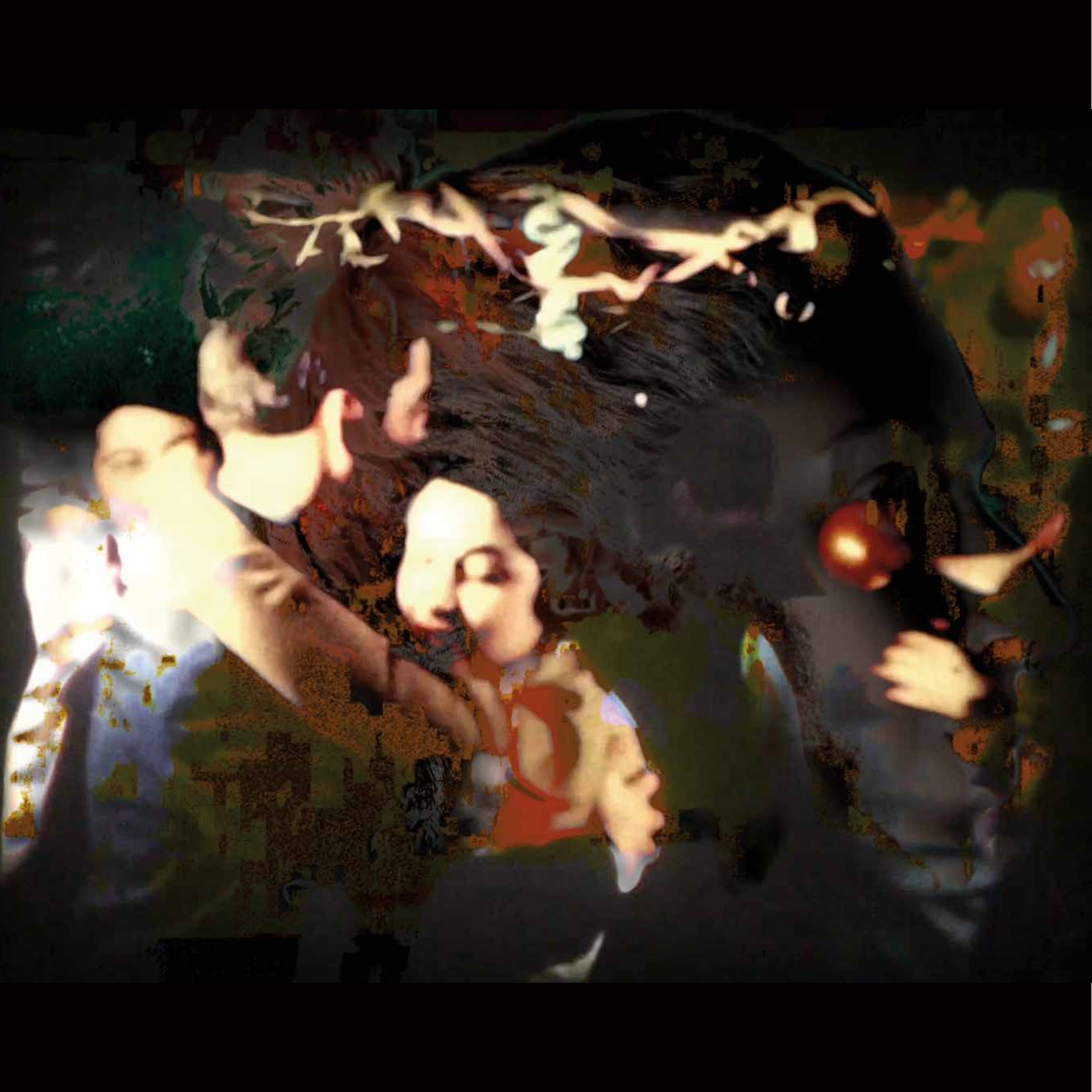
ORANGE  
DATA



## TECH NOTES/BIBLIOGRAPHY

TECHNICAL LISTS

BIBLIOGRAPHY



# TECHNICAL LISTS

**SOFTWARE:**  
Adobe Premiere (v15.0)  
Adobe Audition (build 14.4.0.38)  
Adobe After Effects (v18.4)  
Adobe Photoshop (22.5.0 release)  
Adobe InDesign (v16.3.2)  
Adobe Lightroom Classic (10.4 release)  
Adobe Media Encoder (v15.4.1)  
GRM Tools  
TouchDesigner 2021.14360  
Abelton Live Version 10

**EQUIPMENT:**  
Panasonic HC-VX891 Camera  
Tascam Sound Recorder  
Canon EOS 5Ds DSLR  
Ikegami B&W Digital Video Camera  
Mac Pro (v11.5.2)  
Dell Precision 5820 PC  
Mac Mini  
Sprite Media Player  
LG BU50NST 4K Projector  
Doepfer Eurorack Audio Modular Synth  
Sandin Image Processor  
Korg Vocoder  
Moog Mother 32  
Marantz AV Surround Reciever SR5006  
AudioEngine 2 Stereo Speakers  
Tannoy Speakers  
M Audio Speakers  
Monitor Audio Speakers  
Hisense H9G 65in. 4K TV  
Sony XBR 75X950G  
Sony XBR 65X850C  
Samsung HPR 5052X/XAA  
BrightSign 4k1042-WW  
Gigabit Ethernet Switch TP-Link  
BenQ TK800  
Gallo Acoustics A'Diva SE  
Mackie Onyx 1620 Premium Analog Mixer  
Soundcraft GB4 Mixer  
Novation Launch Control XL  
Blackmagic ATEM 1 ME/E Production Studio 4K

**PRINT:**  
Watercolor Paper  
Xuan Chinese Paper  
Hannameule Paper  
Dell Inspiron  
Mimaki Ts30-130  
Dye Sublimation PolyNatural  
Canon Image Pro 9400  
Cannon Image Pro 8400  
Cannon Pro-4100  
Sterling Digibinder Plus  
Graphtec Cutting Plotter CE6000-60  
Epilog Legend 36EXT Laser Cutter  
GeoKnight & Co. Heatpress:  
-K25S 20X25 Digital Swinger  
-MaxiPress 44x64  
Toshiba E-Studio 651AC  
AGFA SelectSet Avantra 25 S  
WSL Platemaker



# BIBLIOGRAPHY

Barad, Karen. Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning. Durham: Duke University Press, 2007.

Bennett, Jane. Vibrant Matter: A Political Ecology of Things. Durham: Duke University, 2010.

Cage, John, Lois Long, and Alexander Hanchett Smith. John Cage - a Mycological Foray. Los Angeles, CA: Atelier Éditions, 2020.

Cox, Christoph. Sonic Flux: Sound, Art, and Metaphysics. Chicago: The University of Chicago Press, 2018.

Cytowic, Richard E. Synesthesia. Cambridge, MA: The MIT Press, 2018.

Foer, Jonathan Safran. Eating Animals. London: Penguin Books, 2018.

Foer, Jonathan Safran. We Are the Weather: Saving the Planet Begins at Breakfast. London: Penguin Books, 2020.

Fuller, Matthew. Media Ecologies: Materialist Energies in Art and Technoculture (Leonardo). Cambridge, MA: MIT Press, 2005.

Haraway, Donna Jeanne. Staying with the Trouble: Making Kin in the Chthulucene. Durham: Duke University Press, 2016.

Kanof, Abram. Jewish Ceremonial Art and Religious Observance. New York, NY: Abrams, 1982.

Kimmerer, Robin Wall. Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants. Minneapolis, MN: Milkweed Editions, 2020.

Kimmerer, Robin Wall. Gathering Moss: A Natural and Cultural History of Mosses. London: Penguin Books, 2021.

Lupton, Ellen, and Andrea Lipps. The Senses: Design beyond Vision. New York, NY: Copper Hewitt, Smithsonian Design Museum, 2018.

Koepnick, Lutz. Resonant Matter: Sound Art and the Aesthetics of Vibration. S.I.: Bloomsbury Academic USA, 2021.

Kolbert, Elizabeth. The Sixth Extinction: An Unnatural History. New York, NY: Henry Holt, 2015.

Kolatch, Alfred J. The Jewish Book of Why. Philadelphia, PA: Running Press, 2011.

Tsing, Anna Lowenhaupt. The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins. Princeton, NJ: Princeton University Press, 2015.

Marks, Laura U. Touch: Sensuous Theory and Multisensory Media. Minneapolis, MN: University of Minnesota, 2002.

Oliveros, Pauline. Deep Listening: A Composer’s Sound Practice. New York, NY: Universe, 2005.

Oliveros, Pauline. Software for People: Collected Writings 1963-1980. Kingston, NY: Pauline Oliveros Publications, 2015.

Sheldrake, Merlin. Entangled Life - How Fungi Make Our Worlds, Change Our Minds, & Shape Our Futures. New York, NY: Random House , 2020.

Steiner, Rudolf. The Inner Nature of Music and the Experience of Tone Selected Lectures from the Work. Spring Valley, NY: The Anthroposophic Press, 1983.

Stockhausen, Karlheinz, and Robin Maconie. Stockhausen on Music: Lectures and Interviews. London: Marion Boyars, 1989.

Welsh, Fred. Welsh’s Synthesizer Cookbook. United States: Fred Welsh, 2006.

