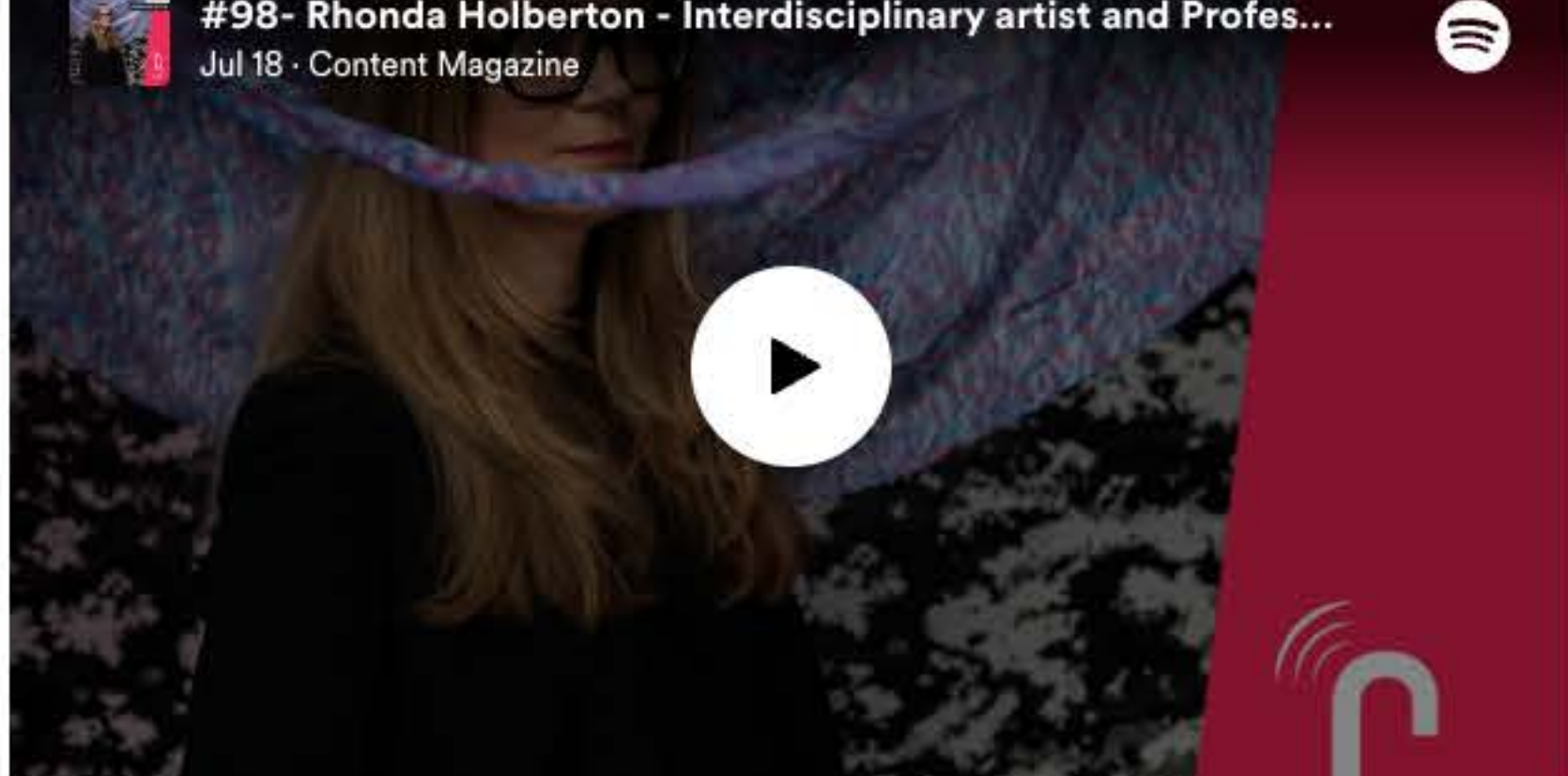


# Episode #98 - Rhonda Holberton - Interdisciplinary artist and Professor of Digital Media



Episode #98

Rhonda Holberton [@rhondaholberton](#) - Interdisciplinary artist and Professor of Digital Media [@cadre\\_sjsu](#) | [@SJSU](#)

Oakland-based artist and SJSU digital media professor Rhonda Holberton grew up in the Dulles Corridor, referred to as “The Silicon Valley of The East.” Holberton saw technology’s impact on society at an early age. She recalls, “I watched farmlands get steamrolled over, and subdivisions pop up.” Holberton’s work investigates technology, history, and modernity through research-based digital media and interdisciplinary art.

In a piece entitled ‘The Best of Both Worlds’ currently on display at The San Jose Institute of Contemporary Art, Rhonda created 3D scans of her body practicing yoga framed by a digitized desert. The piece contrasts peaceful yoga practice with 3D technology developed by the military while presenting the human form in a cyborgian context to expose a world where humans and technology are fundamentally intertwined.

In our conversation, Holberton talks about her interest in engineering and its influence on her work, what it means to be a steward of creation and the digital world, and her moral obligation to ‘leave this place better than it was when she arrived.

Catch Holberton’s show at ICA San Jose until August 13th, and prepare to ponder the modern world and your role in it. [@icasanjosé](#)

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# Rhonda Holberton Creates "The Best of Both Worlds"

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Bay Area-based artist Rhonda Holberton considers the body as it relates to technology and traditional art practices. Listen as the artist provides insight into how yoga, 3-D technology, and self-care inspired her work *Best of Both Worlds*, a recent addition to SFMOMA's collection. In this interview filmed at Holberton's studio, the artist contemplates the COVID-19 pandemic and what happens when the body is pushed and pulled by digital technology, and speculates on a future where corporations prioritize care.

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# Rhonda Holberton

"My interdisciplinary art practice illuminates the politics of the corporeal body navigating through virtual space. Recent projects utilize networked VR designed to trigger subtle interactions of electrons between biological and digital systems through reiki, a speculative cosmetic company whose mission is focused on the potential of products to create distributed performative action ritualizing the Anthropocene, and collaborative image making with Neural Networks.

My work hijacks existing technologies to reveal invisible histories and make space in the ordinary for the creation of alternative narratives. The installations, videos, and sculpture I create are often results of experiments using scientific methodologies that return metaphysical hypotheses rather than empirical data. These methods have included everything from stardust harvesting to digging holes on the remediated landscapes of decommissioned military bases.

We are living through a crisis of reality. The collective reality-making produced by digital platforms support parallel but rarely overlapping realities. At the same time, the material environment and physical bodies living within it are approaching a critical moment of climate-induced destabilization that can only be mitigated by collective action. The solutions to existential problems like these must come from existential analytical frameworks.

I use materials and platforms that physically connect human bodies through technology, highlighting they ways signals of digitally engineered worlds have physical ramifications; how the extraction of materials from the environment that support technology are destabilizing the plant; and how we might write better rules for digital platforms that consider the external effects on all bodies and respect the most vulnerable ones."

-Rhonda Holberton

## NEBULA SERIES

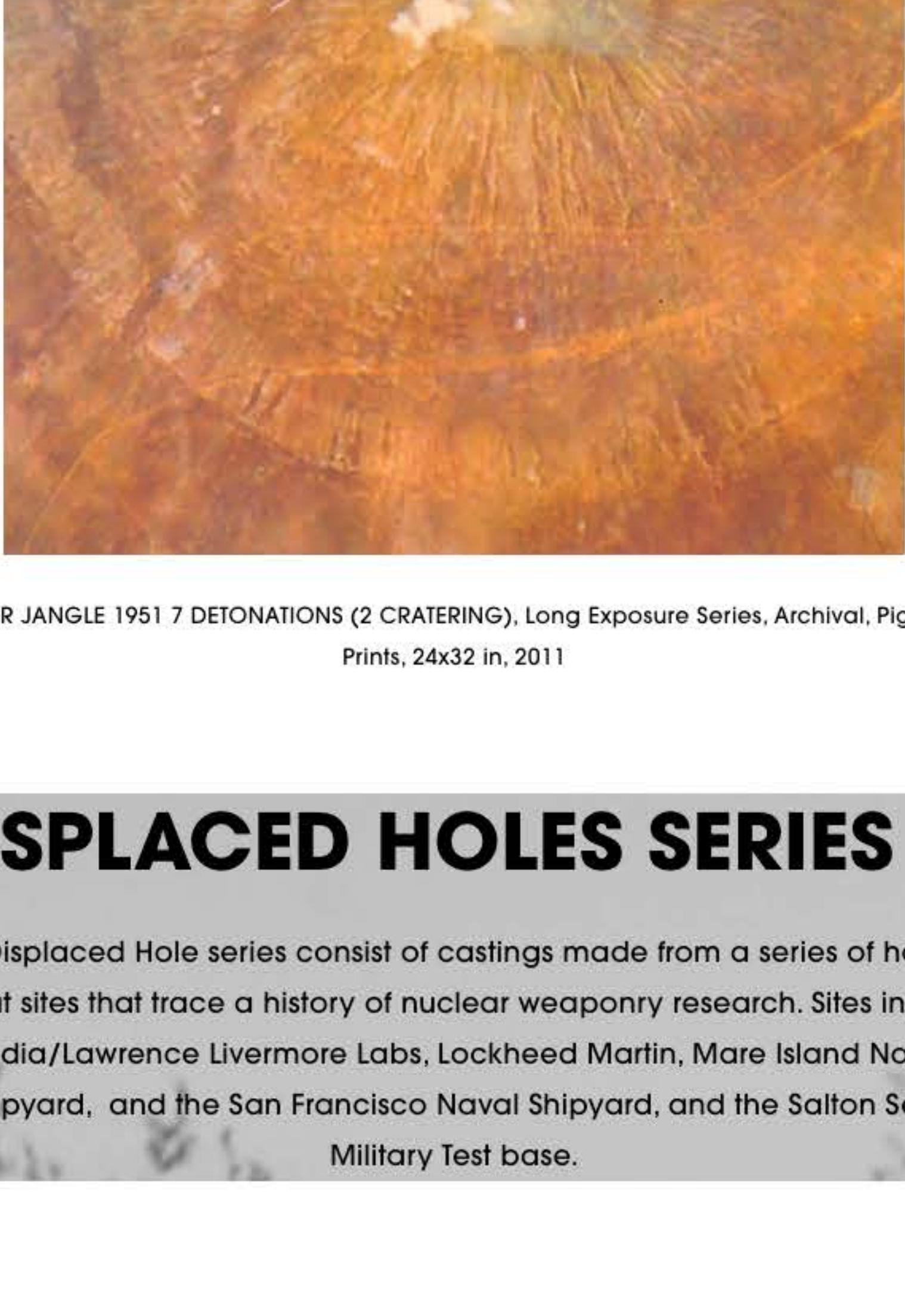
Using techniques developed by NASA I collected the 'stardust' from material that fell to earth from the comet Swift-Tuttle. Every orbit brings the comet closer to the Earth. Swift Tuttle has been described as 'the single most dangerous object known to humanity.' I made paintings made from material I collected on microscope slides. Each painting contains cosmic & terrestrial material and is constantly evolving while in contact with Earth's air in a process of oxidization; giving the work both a life and a kind of eventual death.



NEBULA XXIII, Stardust suspended in Acrylic Medium on Glass, 1x3 in, 2011

## LONG EXPOSURE SERIES

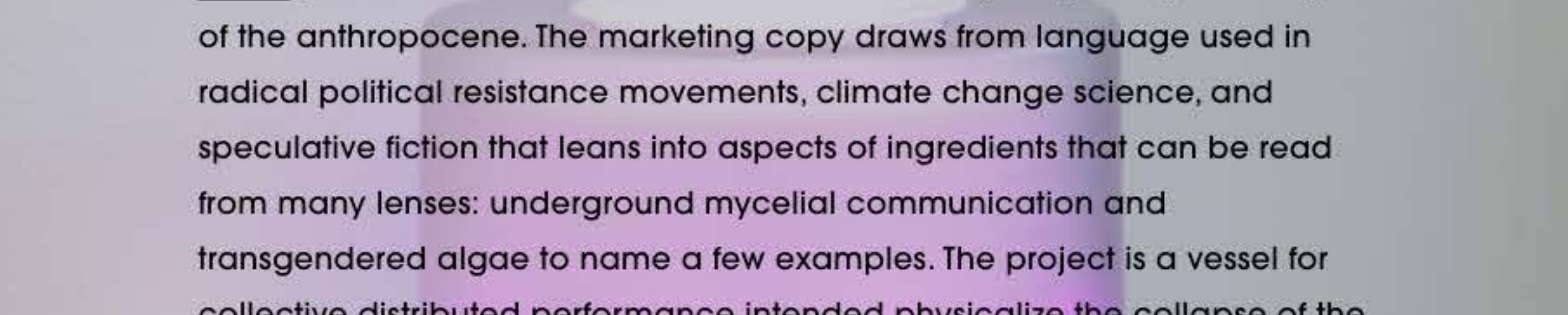
The long exposure photographs were taken from a live animation using Google Earth. The choreography documents the series of scars in the earth left by nuclear detonations within The Nevada Test Site. The camera zooms and pans, tracing the temporo-geographic record beginning with 'Abel' in 1951 and ending with the last US nuclear test, Divider in 1992. The camera faces the computer screen while I navigate through each series of the nuclear weapons test. The number of detonations in each Series determines the length of exposure, approaching total whiteout at two minutes. The length of exposure ranges from under thirty seconds for the Ranger Series 1951 that saw five detonations to four minutes for the Storax Series 1962-1966.



BUSTER JANGLE 1951 7 DETONATIONS (2 CRATERING), Long Exposure Series, Archival, Pigment Prints, 24x32 in, 2011

## DISPLACED HOLES SERIES

The Displaced Hole series consist of castings made from a series of holes I dug at sites that trace a history of nuclear weaponry research. Sites include Sandia/Lawrence Livermore Labs, Lockheed Martin, Mare Island Naval Shipyard, and the San Francisco Naval Shipyard, and the Salton Sea Military Test base.



DISPLACED HOLES, Polyurethane Foam, Plaster, Graphite, 39 x 39 x 11 in, 2012

## INDEX FORMULATIONS

INDEX produces cosmetic formulations made for cyborgs living in the age of the anthropocene. The marketing copy draws from language used in radical political resistance movements, climate change science, and speculative fiction that leans into aspects of ingredients that can be read from many lenses: underground mycelial communication and transgendered algae to name a few examples. The project is a vessel for collective distributed performance intended physicalize the collapse of the biological human body into geologic time scales.



## Q & A with Joshua Moreno & Rhonda Holberton

**JM:** Rhonda, where are you from originally, and can any connections be made to your place of origin and the ideas your exploring in your practice?

**RH:** I grew up in a suburb of DC. At the time, the area of Northern Virginia called the Dulles Corridor was rapidly developing; something like the Silicon Valley of the east coast. When I left in 2000, tech companies were populating newly built corporate campuses along the freeway between DC and the US Intelligence Agency offices near Dulles Airport. These offices were filled with government contractors working for tech companies building military defence systems and providing massive data analytics for government intelligence. My dad worked as a computer programmer for one of these companies after working for the Pentagon. While he couldn't tell the family what he did, we had satellite images in our house and he once told me in the early 90s that there were cameras on satellites in space that could read license plates. A fact that now seems pedestrian, but at the time it made a radical impression on me. Today, massive rectangular buildings stretch for miles along what I remember as farmlands. These windowless buildings make up the largest data center market in the United States. I originally moved to San Francisco for the counterculture and the easy access to diverse wilderness. As my practice has developed it's focused on the way technology shapes the material world & the intersection of capital interests & computation. Many of my projects utilize technology as medium to reconcile the individual biological body with geologic time; something I attribute to my early exposure to computation and witnessing a radically changing landscape from an early age

**JM:** When looking at earlier examples of your work, there seems to be a fascination with relationships between microcosms and macrocosms that exists within our universe. What interests you about these relationships to scale?

**RH:** I've always been fascinated by changes in scale and the way it impacts observable phenomena. At the root of our knowledge systems is the biological body; it determines how far we can see and how small we can see. This human scaled sensory system coupled with a drive to make sense of the world resulted in beautiful creativity across cultures; thousands of cosmologies trying to make sense of what we could perceive. Advancements in data storage (paper records) and optics expanded the perimeter of the single biological body; paper increased recorded observations across time and lens technologies reached out across the visible universe of the heavens and down into cellular phenomena inside our bodies. As I'm writing this I can't help but think of the Eames Powers of 10 film:

Powers of Ten takes us on an adventure in magnitudes. Starting at a picnic by the lakeside in Chicago, this famous film transports us to the outer edges of the universe. Every ten seconds we view the starting point from ten times farther out until our own galaxy is visible only as a speck of light among many others. Returning to Earth with breathtaking speed, we move inward- into the hand of the sleeping picnicker- with ten times more magnification every ten seconds. Our journey ends inside a proton of a carbon atom within a DNA molecule in a white blood cell (<https://www.youtube.com/watch?v=0fK8hvDJuy0>)

This cinematic exercise mirrors a trajectory outlined by media theorist, Paul Virilio, in the book War and Cinema: The Logistics of Perception. In it,

Virilio traces a co-production of military and cinematic techniques and technologies, from the mass production of aerial photography and cinematic propaganda to modern flight simulators and weapons that "open their eyes" (e.g. laser guided missiles). All of this falls under the logistics of perception - more than just prosthetic or removed from the body, vision is the result of a detailed coordination of complex operations, a technological exercise that requires planning, material support, engineering, and so on.

(<http://mastersofmedia.hum.uva.nl/blog/2008/03/10/note-on-paul-virlios-war-and-cinema/>)

These two perspectives cut across my research interests in scale, power, technology, material transformation and the body. In a recent performance, Dust to Dust, I pan for gold in the California landscape and raise a generation of mosquitos in my studio. Both exercises are an attempt to physically insert myself into what eco-philosopher Timothy Morton would call hyperobjects (objects too large or distributed in time to be fully perceived by a single human). In the extraction of gold I engage the capitalocene by way of California's history with ruses and bubbles. In raising mosquitos I'm engaging an index of the anthropocene in a performance with the mosquito; a species that becomes a new threat with expanded territory due to climate change. Both performances engaged in extraction at a very small scale as a way to engage a much larger system.

**JM:** How, if at all, has your approach to artmaking shifted during COVID? Can any of the things we are facing as a society in result of COVID be connected to ideas you're pursuing in your practice?

**RH:** It has, very much so. Since the viral outbreak, I've been thinking deeply about the kind of practice I want. One of the ways I've thought through this is through a new graduate course I'm developing/teaching focused on alternative exhibitions. We've looked at everything from the artist run spaces in 70s SOHO, to online/virtual platforms. to contemporary collectives like San Francisco based Heavy Breathing who utilize the body as a site for speculative curation. The conversations I've have with curators of alternative exhibitions and with my students about the relationship between arts intuitions and extractive/hyper accumulated capital have been extraordinarily grounding.

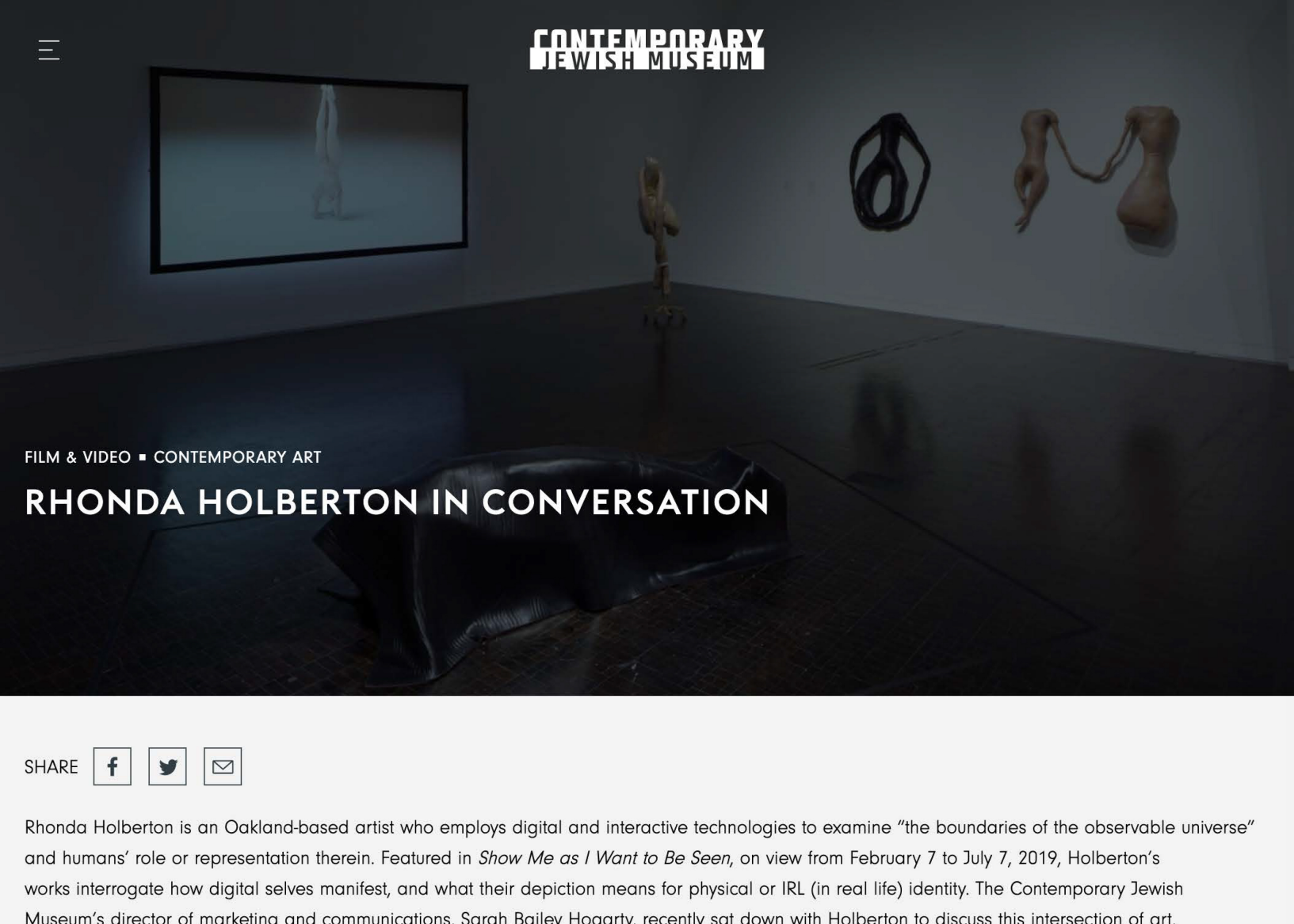
Before the shutdown I started engaging in larger interdisciplinary collaborative works. I wanted to pursue collaborative public-engagement projects that use my skills to amplify other voices: (1) a critical mapping project illuminating stories from San Jose's underrepresented residents, (2) a project that reimagines congress replaced by AI and extends voting rights to non-human entities (plants, air, etc), and (3) a project with the Japanese American Museum using Augmented Reality to highlight hidden histories.

My personal practice is quite speculative, making it hard to find direct institutional support (university grant committees understandably don't know what to do with my proposals for things like VR Reiki). My public-facing collaborative proposals have been easier to fund and allow me to translate the abstract concepts from my studio into language that engages broader publics in the critical discourses and actions that I see as necessary for a habitable future on earth.

[www.rhondaholberton.com](http://www.rhondaholberton.com)

[Rhonda's Instagram](#)





FILM & VIDEO ■ CONTEMPORARY ART

# RHONDA HOLBERTON IN CONVERSATION

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Rhonda Holberton is an Oakland-based artist who employs digital and interactive technologies to examine “the boundaries of the observable universe” and humans’ role or representation therein. Featured in *Show Me as I Want to Be Seen*, on view from February 7 to July 7, 2019, Holberton’s works interrogate how digital selves manifest, and what their depiction means for physical or IRL (in real life) identity. The Contemporary Jewish Museum’s director of marketing and communications, Sarah Bailey Hogarty, recently sat down with Holberton to discuss this intersection of art, technology, and identity.

## ON THE BOUNDARIES OF TECHNOLOGY

**Sarah Bailey Hogarty:** Let’s start with how you use technology as a medium. In your work, it seems like you’re trying to push the boundaries and the limits of the software that you use. Are you trying to break it, to find the twenty-first century Bob Rossian happy accident?

**Rhonda Holberton:** Yeah, totally. I definitely push into the technological capabilities of the tools I use, but I’m also frequently pressing into my own capabilities. There’s this kind of slippage or gap that emerges between the two that is unpredictable. A lot gets exposed when there’s a glitch, when you peek behind the curtain and get to see the operational mechanisms behind it. That’s when the technology becomes more of an agent in the production rather than just simply a tool. There’s this collaboration, or back and forth, when the technology and myself are both pressed to our limits. That’s especially true for *The Italian Navigator Has Landed in the New World* [on view in *Show Me as I Want to Be Seen*], which was the first animation I tackled.

I’d been working with the 3D scans for a while and was just creating static broken bodies. Then I had a flash of one of these bodies trying to repair itself by going through this maintenance of yoga. That was the kernel of inspiration.

Now, I had no idea how to actually animate the scans that I’d been making. I was working as an engineer and was comfortable with static 3D models, but not animated. I was teaching myself how to use this broken scan. There are places where the technology is clearly breaking in the scan, but there’s also places where as an animator I’m also doing it wrong, and so it kind of slips in between these places. Then a hand dips through the floor or this impossible kind of pose emerges, and then it really starts exposing parts of itself but in layers. It’s not immediately evident what’s going on.



Rhonda Holberton, *The Italian Navigator Has Landed in the New World*, 2014 (excerpt). Single-channel HD color digital animation. Courtesy of the artist.

**SBH:** There seems to be a parallel between pushing the medium and pushing your own skills as a way to lay something bare, or open something up—to really get at something about who you are as an artist, or what your process is—that feels related to this search for or understanding of self.

**RH:** It’s interesting that you say that. I’ve worked as a mechanical engineer, so I like to take things apart to see how they work—like breaking something or pushing into those boundaries to reveal operational mechanisms.

On the other hand, that space of understanding of self, or understanding of how something works operationally, functions in parallel. I think part of what I’m trying to define for myself when I do that is a boundary, like a limit.

## ON SELF IN THE AGE OF SURVEILLANCE

**SBH:** We live in the surveillance age where we are constantly either self-monitored on social media or being watched on closed-circuit television or surveillance cameras. How do you think the context of constantly being seen impacts the way we think about self?

**RH:** I think that performance of identity has been with us for a while, maybe always. Once you know you’re being seen, you’re kind of necessarily splitting yourself. In this conversation, for example, there’s feedback back and forth between two humans. I’m listening, I’m trying to understand what you are saying to me, and trying to relate and perform a certain amount of conceptual or linguistic framework so that we meet in the middle.

When there’s a camera looking at me, I don’t have the feedback from the other side, so I project psychically to who might be on the other side. Because we do that, I think what ends up happening is that we perform lots of different types of identities very quickly. I think that frequency of transition is relatively new, and has led to psychic stress on lots of people. But it’s also opened up conversations about fluid identity as we understand more about the mechanism of splitting the self, and how that self is received on the other side of the screen or on the other side of the surveillance camera.

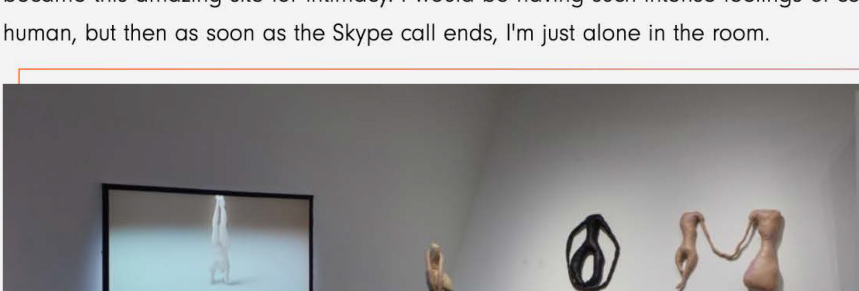
**SBH:** Do you think that the splitting of self via technology or that breaking up of self to perform in various formats has informed the evolution in gender fluidity or LGBTQIA+ categorization (or lack thereof)? Or do you think they are informing each other at the same time?

**RH:** We feel it more through the performative action of digitally switching between selves: I am now writing an email for work; and now there is this layer of Facebook behind that; and then there’s Instagram behind that; and Twitter behind that. All of these identities get performed simultaneously, with more frequency.

Another thing that’s happening is we get to see others perform identity. As a viewer, we receive that consciousness of gender fluidity, that consciousness of cultural identity—even if we have a narrower scope, we still understand what it means to perform in that way. We both see it being performed while we are we’re doing it ourselves. I think that the understanding through *seeing*, through bearing witness (and eventual generosity that might emerge), actually co-evolves with the performance.

**SBH:** Something weird happens during this mediation of self through the screen when the screen becomes anthropomorphized—and then what happens to the actual human self as a byproduct of that interaction?

**RH:** Actually, that’s exactly what I was thinking about when I was making *Water Striders*. The water strider is a creature that lives both on top of the surface as well as under the water. That image of someone that lives on the surface of, as well as under, a permeable boundary became a metaphor for the digital screen for me. I was thinking about the silicone blanket that covers the human form underneath very much as a physicalized screen that becomes skin. I was coming out of a long distance relationship, and the screen became this amazing site for intimacy. I would be having such intense feelings of connection with this other human, but then as soon as the Skype call ends, I’m just alone in the room.



Rhonda Holberton, *Water Striders*, 2015 (installation view). Platinum cure silicone, nylon power mesh, and polyurethane foam. Courtesy of the artist. Photo by Johnna Arnold.

**SBH:** It’s super abrupt.

**RH:** Exactly. So much of that time was me feeling like I was psychically going through the tunnel, going through the screen—but that only made sense with this kind of perceived audience. But when I turn the screen off, I’m just alone in the room and everything else is the same but I feel completely different. I was really interested in teasing that out.

**SBH:** This gets back to the question of splitting the self between the physical and digital worlds. We talked about the positive ramifications of that in the context of self-determination and gender fluidity, but there’s also some danger there. Your work in many ways really oscillates between optimism and pessimism—how do you feel about the potential for danger in the digital schism of the self?

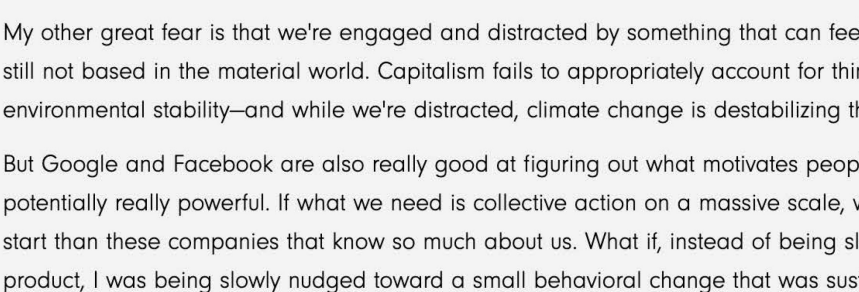
**RH:** There are lots of different dangers. I’ll address maybe two: one is kind of an internal psychological danger and then one is kind of an external, economic or political danger.

We’ll start with the internal danger. I think a lot of that has to do with the feedback mechanism. We’re social creatures; we have to be. Digital technology promises to provide more of that interaction. But what type of interaction is it? Has it actually helped human interaction? When we become addicted, when we pull back from the physical world and push further into the digital social sphere, we don’t have the natural feedback. It’s easier to just throw things on the wall and see what sticks, which allows for behaviors like trolling. We see the extremes, rather than the bell curve distribution of healthy interaction.

The second danger is about the incredible value of our digital data. We’re starting to see massive wealth accumulation around storing and analyzing that data—and although we’re the ones producing the data, we don’t own it and we can’t sell it. Somebody else is making money from it. I think we could write better code to trigger algorithmic micro payments between interactions to profit the real, human owners of the data.

My other great fear is that we’re engaged and distracted by something that can feel very positive, but it’s still not based in the material world. Capitalism fails to appropriately account for things like water, air, environmental stability—and while we’re distracted, climate change is destabilizing the material world.

But Google and Facebook are also really good at figuring out what motivates people and that could be potentially really powerful. If what we need is collective action on a massive scale, what better places to start than these companies that know so much about us. What if, instead of being slowly nudged toward a product, I was being slowly nudged toward a small behavioral change that was sustainable? Not just a massive revolutionary action, but rather a kind of daily practice that encourages me to turn the lights off. These small actions applied over a massive population could actually start shifting scales of energy.



Rhonda Holberton, *no states the same*, 2017 (installation view, far left). Single-channel HD color digital animation, sound, frosted acrylic, drywall, and wood. Courtesy of the artist and CULT | Aimee Friberg Exhibitions, San Francisco. Photo by Johnna Arnold.

## ON INVISIBLE MAGIC

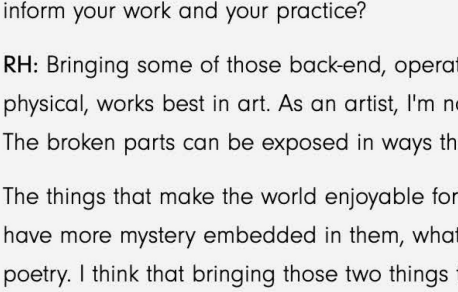
**SBH:** A lot of your work involves making the invisible visible, or engaging with the invisible. How do unseen forces inform your work and your practice?

**RH:** Bringing some of those back-end, operational mechanisms to the fore, making them visible and physical, works best in art. As an artist, I’m not expected to build a functional product. I can have the glitch. The broken parts can be exposed in ways that can centralize that conversation, or expose those things.

The things that make the world enjoyable for humans are frequently more speculative, more emotional, or have more mystery embedded in them, what I call magic, or something. Beautiful, inexplicable moments of poetry. I think that bringing those two things together, making something that is invisible visible has a little bit of magic in it.

**SBH:** Right. I mean, so much of technology is magical.

**RH:** We live in a crazy time. If we can sustain this human project, we’re so close to so many weird, wild, wonderful technological events. I want that to happen, but I think if we’re not careful about taking care of some of the other foundational aspects that supports that system, like agriculture and distribution of labor and all of these other things, we won’t get there.



Rhonda Holberton, *A/fisherman/hunts/a/shark/with/a/gun*, 2017. Archival pigment print. Courtesy of the artist and CULT | Aimee Friberg Exhibitions, San Francisco.

## ON SOCIAL MEDIA AND DESIRE

**SBH:** Can you share a little bit about your Instagram account—your process and your thinking behind it?

**RH:** It’s been kind of an art project. Before I opened an Instagram account, I was just using it to watch and to see how this whole thing worked. I found myself drawn to certain types of images, or following brands rather than people—and wondering what does it mean for a brand to have an Instagram account?

Anyway, I was having anxiety about the future, so I went to go see a psychic, as you do when you’re having anxiety about the future. She gave me an assignment to imagine a happy and healthy home, and I couldn’t do it. But I could imagine this little tabletop, or lifestyle images, and I’m like, “Where are these coming from?” Then I realized they were coming from my Instagram feed. Even in my most meditative state, that’s what was coming to the fore, which I think is revealing of a really powerful thing. We think that we’re just kind of scrolling and scrolling and not paying attention, but it’s in there.

**SBH:** Like a Dopamine imprint.

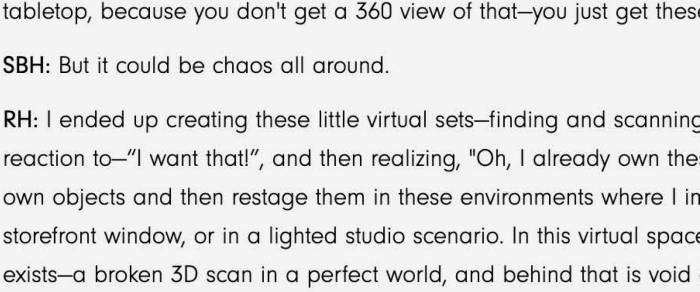
**RH:** Exactly, or prescribed rules about what a lifestyle should look like. Of course, I can only see this little tabletop, because you don’t get a 360 view of that—you just get these little moments.

**SBH:** But it could be chaos all around.

**RH:** I ended up creating these little virtual sets—finding and scanning images that I have that dopamine reaction to—“I want that!”, and then realizing, “Oh, I already own these objects.” So I make 3D scans of my own objects and then restage them in these environments where I imagined they came from—like the storefront window, or in a lighted studio scenario. In this virtual space, there’s this little tiny moment that exists—a broken 3D scan in a perfect world, and behind that is void or chaos.

**SBH:** It goes back to making the unseen seen.

**RH:** Exactly. I point the virtual camera away from the void; the chaos of lights and filters, toward the 3D scans of the physical objects in my life to create images that I make visible when I repost them to Instagram.



Rhonda Holberton, *Still Life*, 2017. Archival pigment print. Courtesy of the artist and CULT | Aimee Friberg Exhibitions, San Francisco.

**SBH:** You talk about how these desires are fed to us through social media, which is increasingly about commerce rather than human connection. How do you see capitalism informing concepts of self?

**RH:** Right. The desire to sell a product in and of itself isn’t necessarily a bad thing. But where it ends up breaking down is when we spend so much time in constructed visual environments vis-a-vis the screen, we stop taking in as much information from the real world.

My image of what people are doing is very imagination about what people are doing, how they’re spending their time, and what they look like is very different than my experience out in the real world. These worlds don’t align, but I am constantly overlaying a mental projection of the world—much of which is informed by human interactions on social media—on top of my IRL experience.

When we talk about brands as individuals, what does that mean? That becomes a little bit slippery and I don’t think we’ve really reconciled how to address that. Advertising uses fear of inadequacy to sell product to us. If we’re performing in the same way, then our identity stems from fear of anxiety, or as a product for other people.

See Rhonda Holberton’s work on view in *Show Me as I Want to Be Seen* through July 7, 2019.






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## Artist Profile–Rhonda Holberton

Oakland-based artist Rhonda Holberton shares her thoughts on her artistic practice at a recent studio visit.

### BIO




(B. 1981, Falls Church, VA)

Rhonda Holberton’s multimedia installations make use of digital and interactive technologies integrated into traditional methods of art production. Working in sculpture, installation and photography, Rhonda Holberton employs a hybrid of scientific and metaphysical practices to reveal a symbolic reading of empirical canons of belief. Holberton received her MFA from Stanford University and her BFA from the California College of the Arts. She was a distinguished lecturer at Stanford University and is currently a professor of Digital Media Art at San Jose State University. Holberton was a CAMAC Artist in Residence at Marnay-sur-Seine, France, and was awarded a Foundation Tenot Fellowship in Paris. Holberton has recently exhibited at San Jose Institute of Contemporary Art, FIFI Projects Mexico City, the San Francisco Arts Commission, and The Berkeley Art Center. She is represented by CULT | Aimee Friberg Exhibitions.

Holberton lives and works in Oakland

### RELATED EXHIBITION

*Show Me as I Want to Be Seen* presents the work of groundbreaking French, Jewish artist Claude Cahun and her lifelong lover and collaborator Marcel Moore in dialogue with ten contemporary artists—Nicole Eisenman, Rhonda Holberton, Hiwa K, Young Joon Kwak, Zanele Muholi, Toyin Ojih Odutola, Gabby Rosenberg, Tschabalala Self, Davina Semo, and Isabel Yellin—to examine the complex and empowered representation of fluid identity.



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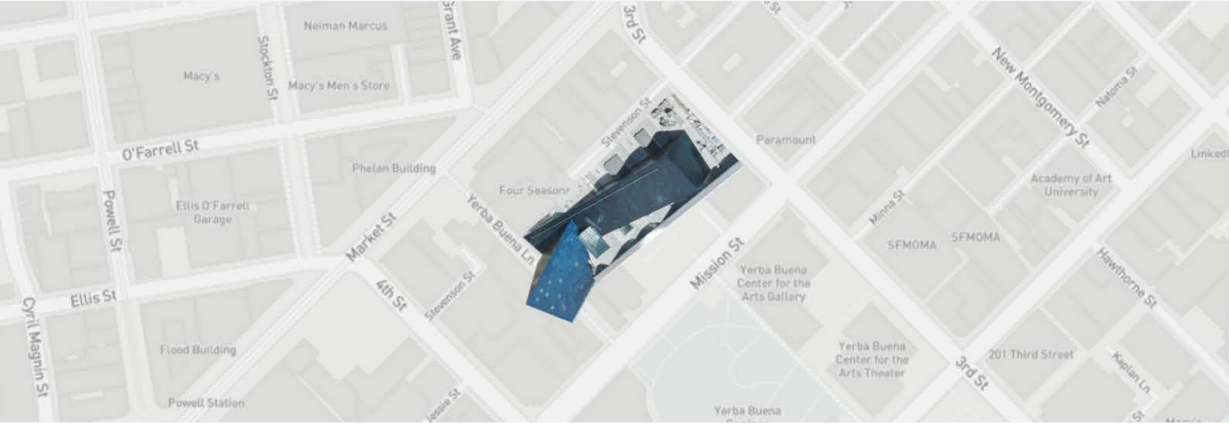
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Leadership Support for digital media at The Contemporary Jewish Museum is generously provided by the Jim Joseph Foundation.



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DIRECTIONS





RHONDA HOLBERTON, "#stilllife #handmadeceramics #rainydays," 30 Oct 2016, Instagram. Detail. [bit.ly/2hz6t3P](https://bit.ly/2hz6t3P)

September 27th, 2017

## The Algorithmic Self: Rhonda Holberton

### Rhonda Holberton speaks with writer Monica Westin

*Rhonda Holberton's practice spans sculpture, photography, animated video, and performance, with new work that stages virtual performances of bodies in gallery settings based on motion capture data from the artist's own body. Her spring 2017 solo exhibition "Still Life" at CULT | Aimee Friberg Exhibitions in San Francisco focused on the translation of real bodies and objects into digital spaces. The entire "Still Life" show will have a new iteration at Transfer Gallery in New York in April 2018. Meanwhile, Holberton has three pieces in the ecologically-focused group show "Coming of Age" at Sector 2337 in Chicago. I spoke with the artist twice, once just after "Still Life" closed last spring and once just after "Coming of Age" opened earlier this month. -MW*

**Monica Westin:** I'd like to start by asking about the video installation */no stats on the same* in the "Still Life" show. Is this the first time that you've used motion capture data from your own body in your work? What got you interested in using this technology? And what was the impetus not just to map your movements onto an avatar but onto a different person's avatar—and a professional model's at that?



Rhonda Holberton: The video installation, */no stats on the same*, utilizes motion capture data recorded from my body transplanted onto a scan of a male model. I rendered the animation through a virtual pane of frosted glass placed in front of the camera in the rendering program. In the physical gallery space, the video is rear-projected onto a frosted acrylic sheet covering the entrance to a small room. I taped out the dimensions of this room in the gallery in my studio, and then performed within the perimeter I mapped out. Also, the room was recreated to scale in the 3D modeling program. So, the physics, movement, and models are all sampled from elements of the real world, but interpreted algorithmically within the render.

You are correct, */no stats on the same* was the first time I introduced sampled motion into my animations. The first animation I made was applied to a 3D scan of my own body. I hand animated the mesh through a Vinyasa yoga sequence. I didn't really know what I was doing and the movement was really complicated—I ended up more or less keying every frame. I used my own body as a model because it was available and didn't want to make choices about the figure's identity. After several projects that made use of sampling my body, I was starting to realize that "my body" as a kind of default was in and of itself a choice—an expression of an algorithmic self, a self defined by digital choices and lines of code. Using another body was a way for me to foreground a kind of hybrid or fantasy identity that I think we all perform to a certain extent, especially in digital space where identity is separated from the body. Because the body I scanned was that of a professional model and because I was paying him for the scans, the performance fit into a logic of capital exchange in ways that highlight questions of value of labor, identity, and expressions of control.

Much of my recent body of work was inspired by the vignette in Deleuze and Guattari's *Thousand Plateaus* where they use the relationship between the wasp and the orchid to illustrate the kind of rhizomatic hybrid relationship I was interested in; "not imitation at all but a capture of code, surplus value of code, an increase in valence, a veritable becoming, a becoming-wasp of the orchid and a becoming-orchid of the wasp." The model's body is data represented as form; my body is data representation as motion. I was thinking about this piece as the performance of a hybrid body presented in a way that uses technology and is located in a third space (the site of installation and more importantly the space that the viewer occupies), to unite the two bodies and the two spatial or temporal locations.

I got into 3D modeling as a medium for my studio practice while working as a mechanical engineer. When you are immersed in the virtual space for hours at a time, you end up feeling



connected to the space of the screen in a very physical way. At the same time I was in a long-distance relationship where the screen mediated the majority of my intimate experiences of the person. I was feeling this intense expression of virtuality as both a space of frictionless, empirical geometry, but also as a place for messy projection of complicated emotional entanglements.

**In *Dust to Dust*, you created a seemingly closed ecosystem in the gallery with mosquitos, mesh, and sugar water. You also fed the mosquitoes with your own blood by putting your arm inside the net. How do you conceive of your body in relationship to this system? Did you consider this process a performance? How did it differ from the process and labor that went into your project, also titled *Dust to Dust*, in which you were literally panning for gold?**

Both the labor of goldpanning and the labor of caring for mosquitos is challenging and requires discipline. I titled both works *Dust to Dust* and I'm not sure if they are one or two pieces. I collected larvae and raised the mosquitoes in my studio. I wanted to insert my body into a local system that indexes a much larger system—what Timothy Morton would call a hyperobject—something too large and complicated to be understood by a single human processor. The works represent my attempts to engage corporeally with a global metabolism represented in concept of the Anthropocene/Capitalocene—to pull value out of the system through direct physical labor. I definitely think about the works as performances; both in terms of my actions that produce them and as a kind of material performance after production. Unlike the grueling physical labor associated with hand panning for gold, the labor of raising and feeding the mosquitos felt very domestic. The feeding process was psychologically challenging at first, but the actual performance felt more like a durational exercise. It became something like an active meditation, an hour of boredom punctuated by real and imagined feedings.

Both the gold and mosquitos connect back to corporeality, to the body. The metaphors and histories of these very material things can't be divorced from globalized networks of digital technologies, climate change, religion, and politics. Today, the technologists in Silicon Valley are frequently compared to the pioneers of last century's gold rush; both activities belong to a similar narrative of positivist masculine entrepreneurial ideology. Alternatively, it's hard not to think about the mosquito without thinking of the virus, currently circumscribed by femininity and fertility, or of the mosquitos migration to new territories as an index of Climate Change—something that's shifting the narrative of a benevolent “mother earth.”



**Many works in “Still Life” take up the translation between real and digital objects. I'm struck again by the way that the form of the tapestry functions in your practice as an act of translation between one type of image and another, and one that seems to be analogous to the other digitization and rendering processes you work with. What happens when an image, for example a sneaker, is translated from a digital advertisement into a tapestry?**

I think that's a really good question, but I'm not sure I have the answer for it. I was thinking about the currency of digital aesthetics; how platforms that circulate images of images seems to be accumulating wealth at massive rates. Where is the value in these “free” models of aesthetic exchange and who is producing it? I wanted to tease out some of these questions by recreating images I found on these platforms using 3D scans of my own objects placed in virtual environments. The images tend to reduce or neutralize the object they represent. The question was then, how do the recreations circulate? I have a hunch that there is something in the triangulation of post-capital abundance of stuff (cheap labor/production, abundant digital storage), the new materialism (object-oriented philosophy, reconciling of environmental limits), and a new brand of posthumanism that rejects abject corporeality. The tapestries were ways to remove the images from the context of their original circulation by making them physical. The tapestries are strange objects, both image and material in a way that printed photographs are not.

Of course the material history of the Jacquard loom was another locus. The punch cards used to store the earliest computer programs (conceived by Ada Lovelace and Charles Babbage in 1837) were inspired by the wooden card used to make woven patterns with looms as early as 1725. There's a connection between textile and certain assumptions of gender roles in the West that I wanted to connect to the history of writing code. In the early days of computing, programming was thought of as “women's work.” Women would translate programs onto the punch cards and the men who operated the machines would run the cards through the machines. I think there's a throughline we can trace between the way repetitive labor is viewed as expendable in capitalist cultures. So where does the value go in the exchange of images when an algorithm can identify, produce, and distribute valuable images?

**One of the most unsettling aspects of the exhibition is the way that it translates objects from the realm of the analog/handmade to the digital via modeling software and back again into some new quivery, neither-here-nor-there hybrid form. I'm still thinking about those**



**truly uncanny mugs that are both literally molded and stunted by material and technological (and, maybe, ideological) apparatuses. Can you talk about the process by which you take a single object across these kinds of mediums/boundaries and back again, and especially when such media become "social," as in your Instagrammed pieces? And what do you make of how popular these images are on Instagram?**

The mug was one of the first objects to become virtualized in the series but the last in the show to take form. In some ways the porcelain mugs are the least resolved for me, or at least the work that is still asking me questions (which I take as a good sign and will probably be the thread I follow for the next body of work). I like the word you use here, “quivery;” it does a good job of describing the oscillation of these objects. I made a 3D scan of a beautiful hand-thrown ceramic mug by artisan Eric Bonnan. The mug was the survivor of a set I bought for my partner and not something I would normally allow myself to purchase. It became a talisman of sorts and makes an appearance in a few of the images in the exhibition. I 3D printed the model and used it to make a mold that was then slip cast in porcelain, returning it, as it were, to the original material. Unlike the original mug that Eric made, the 3D scan is heavy, burdened by the inaccuracy of the scan. The awkward forms of the casts I made are familiar; they look like something a child would make. I think what makes it so uncanny is that they all look very handmade, irregular, and lumpy, but slowly you realize they are the *same* kind of lumpy. The work starts to reveal itself as a product of a process of creative digital computation still in it’s infancy.

I used the Kinect Sensor to scan objects from my domestic space and then use a 3D modeling program to recreate images from Instagram feeds of lifestyle magazines that popularized a contemporary branding aesthetics, what I call Instagram aesthetics. The renders of the 3D scans recreate the kind of non-specific placelessness that is what I think is so appealing about these types of images. The images tend to reduce/neutralize the object (object out of contextual reference, only one shoe is shown on an all-white background—it’s facing away from the viewer and cropped).

I then repost the recreations to Instagram and use handles that are common to the types of source images I use like #handmadeceramics and #sundaybrunch. Since most of these images circulate on the small screens of mobile devices, the imperfections of the scans that are obvious at desktop size aren’t legible on the platform. Most of the renders “pass” as real and I developed a following from the bespoke craft movement that I hadn’t anticipated.



**I'd like to hear more about the impetus for the "Still Life" exhibition's title. It's not obvious that this show would consider its immediate reference to be art historical still life paintings, and I'm really curious about where you see your work, especially the work that explicitly references classical forms, in relationship to art history.**

A good place to begin might be with the namesake of the exhibition title, a still life I create from a collection of the objects from the Instagram piece and a 3D scan I made of myself wearing a mask taken from a 3D model of a Greek sculpture. I started calling the 3D renders I was making "vanitas" out of some vague recollection of the Dutch Vanitas paintings of the 17th century that depicted beautifully rendered flowers, fruits, and silks on tabletops.

After doing a bit more research, the similarities between the vanitas paintings and the source images I was recreating became really obvious to me. The vanitas painting style coincided with the height of Dutch Colonial Empire a period of accumulated capital largely based on slave labor. The paintings were popular with the mercantile class and are some of the first examples of images circulating outside of the church and noble classes, so in many ways they were examples of the first "social images."

This piece most overtly engages this classical art history, but most of the work I make is very aware of the system of capital and cultural exchange it operates within. This self-conscious engagement is obvious in the gold and the Instagram works where the works' value can be compared to empirical measurement (the spot price of gold or the number of likes/shares) but is also true of works that use mannequins I acquired from the American Apparel bankruptcy liquidation.

**I'm curious about the Fallen Pixels series in the current Sector 2337 exhibition. What was the original context for these pieces?**

The rock forms of the sculpture, *A FALLEN PIXEL*, manifest a complete cycle of anonymous and physically distributed production. The rocks are made from a single model downloaded from a 3D library used primarily by game designers. The file was then carved by a computer-controlled router in foam in three different sizes and hard-coated. Because the model was free, the rock was a popular download; it's populated countless virtual landscapes.

I was interested in the ways current technologies aid in the production of purely imagined things and wanted to circumscribe the physical realization of these digital apparitions. I like thinking



that someone I will never know sat in front of a screen and used a mouse and keyboard to manage electronic impulses within the machine that then ultimately manifest what, in many ways, could be considered a hallucination. Networks of metal culled up from the earth connect me to the labor of that anonymous person and allow me to download the virtual product of their labor for free. I sent that product over the same network to a CNC machine that translated the virtual into physical reality. The marks of the hand left in the plaster covering reflect a human interface layer that is becoming increasingly obsolete. The paint “re-skins” the physical object in the way the screen “skins” bio-digital translation.

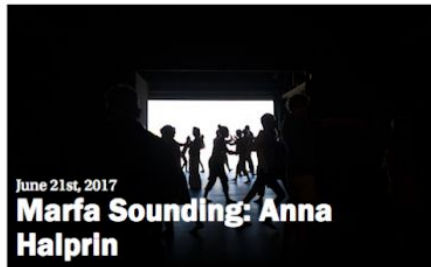
*Rhonda Holberton is an Oakland-based artist. Her multimedia installations make use of digital and interactive technologies integrated into traditional methods of art production. Holberton received her MFA from Stanford University and her BFA from the California College of the Arts. She is currently a lecturer in experimental media at Stanford University. Holberton was a CAMAC Artist in Residence at Marnay-sur-Seine, France and awarded a Fondation Ténor Fellowship, Paris, France.*

*Monica Westin is a writer and critic based in San Francisco. Her writing on art and aesthetics has appeared in Frieze, Artforum, BOMB, The Believer, Art & Education, The Brooklyn Rail, Art21, Raw Vision, Art Papers, SFAQ, and SFMOMA's Open Space, among other places. She teaches in the Graduate Program in Fine Arts at California College of the Arts, where she leads the MFA written thesis seminar.*



Performa Magazine is a unique online magazine dedicated to contemporary performance across disciplines. A lively source for both historical and contemporary material, it features documentation, short essays, interviews, video, and audio exploring the Performa biennial and beyond.

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William Kentridge, *I Not Me, the Horse is Not Mine*, 2009. Photo Paula Court.

## MISSION AND HISTORY

Performa is a multidisciplinary non-profit arts organization dedicated to exploring the critical role of live performance in the history of twentieth century art and to encouraging new directions in performance for the twenty-first century. Part of Performa's mission is to present a biennial of visual art performance in New York City that illuminates the critical role of performance in the history of art as well as its enormous significance in the international world of contemporary art.

Performa is the brainchild of art historian and curator RoseLee Goldberg, whose definitive book, *Performance Art: From Futurism to the Present* (1979 & 2000), pioneered the study of performance art and has been translated into eleven languages. Ms. Goldberg's writing, as well as her activities as curator at The Kitchen in the late 1970s, has shaped the public's view of live performance as a visual art form for almost thirty years. In 2001, Ms. Goldberg originated and produced visual artist Shirin Neshat's first live performance, *Logic of the Birds*, with critical and popular success in both New York and London. The idea to create the Performa biennial, with a specially commissioned new performance at its core, evolved from this highly successful production. Ms Goldberg is Founding Director and Curator of Performa, which was founded in 2004.

Performa's Objectives are:

- Commission new performance projects in visual arts
- Present a dedicated performance biennial
- Consult and collaborate with art institutions and performing art presenters around the world to create dynamic and historically significant performance programs
- Through the Performa Institute, offer an ongoing educational platform for expanding the knowledge and understanding of this critical area of visual art and cultural history.

### Performa Biennial

Performa 05 The first of its kind, the 05 Biennial offered an exciting program of performances, exhibitions, symposia, and film screenings organized in collaboration with a consortium of leading museums, galleries, alternative spaces, and independent curators in New York. The first Performa Biennial was an enormous critical and popular success and set a new standard for the positioning of live performance in the international contemporary art world. Over 25,000 people attended sold-out and filled-to-capacity events at more than 20 venues across the city, truly activating all of New York, from Harlem down to Wall Street, during Performa 05's entire three-week run.

Performa 07, the biennial's second edition, was greeted with as much enthusiasm and acclaim as the first. Performa 07 featured 10 Performa Commissions and an extraordinary array of over 100 performances by artists from around the world, with events taking place at a consortium of more than 60 venues across the city. More than 25,000 visitors from around the world attended over 95 different events, most of which were free. Reviewing Performa 07 in *Domus* magazine, critic and curator Francesco Bonami announced, "[Performa is now] high up in the sky as one of the major contemporary art events to look forward to."

Performa 09, the third biennial of new visual art performance, was held in New York City from November 1-22, 2009. The three-week festival featured new Performa Commissions and an exciting program of performances, exhibitions, educational forums, public art projects, publications, film screenings, and radio, Internet, and television broadcasts. Presented with a consortium of more than 60 arts institutions and a network of public and private venues across the city, Performa 09 showcased the work of more than 100 international artists, as seen from many different curatorial viewpoints, in a lively, performance-driven "festival as think tank."

Performa 11, the fourth edition of the internationally acclaimed biennial of new visual art performance, was held in New York City (NYC) from November 1st-21st, 2011. The three-week biennial showcased new work by more than 140 of the most exciting artists working today, in an innovative program that continues to break down the boundaries between visual art, music, dance, poetry, fashion, architecture, graphic design, and the culinary arts. The 14 Performa Commissions included new work by ten individual artists and three multi-artist projects: Tarek Atoui, Iona Rozeal Brown, Gerard Byrne, Elmgreen & Dragset, Simon Fujiwara, Ragnar Kjartansson, Liz Magic Laser, Guy Maddin, Laurel Nakadate and James Franco, Shirin Neshat, Mika Rottenberg and Jon Kessler, Frances Stark, and Ming Wong. The Performa Premieres program included Robert Ashley, Boris Charmatz, Ben, Kinmont, and Mai Thu Perret.



# PLASMA

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& SCIENCE MAGAZINE—ISSUE №3  
US \$14/EUR 14€/UK 12£  
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# RHONDA HOLBERTON: THE RENDERED LIFE



1



Image 1: Still Life (bed), 2017, archival pigment print

Image 2: Dust to Dust, 2017 Variable Dimension, Gold dust, mosquitoes, sugar water, acrylic, nylon, aluminum and LED lighting

Image 3: STILL LIFE installation view at CULT gallery, San Francisco.

Image 4: Still Life (vanitas), 2017, 19 x 23 inches (framed)

Interview: Heather Sparks  
Pictures: Rhonda Holberton



2

Artist Rhonda Holberton blends technology, intuition, and social critique. Her latest show, STILL LIFE at Almee Friberg's CULT gallery in San Francisco's Mission District features Instagrammable 3D renderings, a mosquito colony, California gold and more. Here, she discusses the works with science and art writer, Heather Sparks.

## How did the work with STILL LIFE develop?

What I was starting with, was a conversation with a psychic. I was coming out of a very intense breakup and was meditating on the anxiety that I felt about the future and thought I would go see the psychic to allay some of those fears.

She gave me this assignment to imagine a "healthy body, healthy home," and what that might look like. And the best that I could do was make these little tabletop vignettes. But I was curious, "Where were these images coming from?" They looked a lot like Instagram.

Once I identified the source, then I scoured these Kinfolk and Cereal magazine Instagram feeds. I would just use my own objects and make 3D scans of them and place them in these really paired down, virtual, stripped environments.

## How do you get these 3D scans of your personal objects?

I was using the Kinect Sensor. It sends out an infrared spray and then records the distance from each point, to the sensor. It's exactly the same technology that they're using with the Xbox 360. It wasn't a terrible success but it is a great resource for hackers, artists, and people who are interested in that type of data.

## Why not use a camera?

I like that it's a messy, ham-fisted, re-imagining of what the technology is capable of. Because it's pressing into the limits of what it can do, those pixelated and broken scans feel more lifelike. They're not the perfect 3D models we're used to seeing.

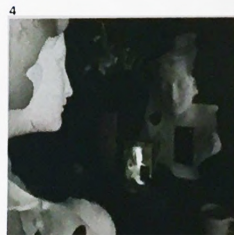
## Some of the works are entirely physical, breeding mosquitoes or panning for gold. How do these relate to the other pieces?

The two pieces stand in relief and in context of one another. Both are attached to the body as a site of labor or resource exchange. The mosquito is a symbol of the virus. A carrier of data. It's a beautiful surrogate for the idea of this penetration, the accumulation or replication of data inside the body.

And then for the gold, thinking about the technologists of SF and the continuity of entrepreneurial psychology that's associated with California, the gold rush and the 49ers of that era.

One image I find so compelling is the scanned image of the mannequin with the blanket on her head. Tell me about her.

This is in many ways, what I would call a self-portrait. She's blanketed and masked and muted but there's also a power. A power there that I really like, that I see, that might not be evident. It was one of those conversations, I'm having with the algorithm. It's almost a collaboration between what I think I want and what the physics produces in the computer.





## Documented Dialogues No. 7: Caroline Picard, Rhonda Holberton & Tsherin Sherpa

| **Documented Dialogues No. 7** > is a conversation between curator **Caroline Picard** and artists **Rhonda Holberton** & **Tsherin Sherpa**. The conversation takes place within the exhibition **Coming of Age** at **Sector 2337**, and discusses the recontextualization of historical and formal heritages, the intersections of immaterial and material forms, and the capacity of attention to transport.

What possibilities emerge when the immediacy of the virtual verges on the historical?

You can jump to the transcript by [clicking here](#).





*Below is an excerpt of this Documented Dialogue, transcribed from the video above:*

**Caroline Picard:** “I mean that also makes me think about – in some way, I, uh, I almost feel like Thangka paintings, or the tradition of Thangka paintings, is a way of um, where the image can become, like, a kind of portal ...”

**Tsherin Sherpa:** “Yeah.”

**CP:** “... where if you study it long enough and meditate with it long enough you have, you suddenly have access ...”

**TS:** “Yes.”

**CP:** “... to a new ... um ... state of being, or experience, and I think there’s a kind of a really bizarre but interesting or maybe like uncanny parallel with, like, how we relate to the internet, or how we relate to, you know, even if you’re designing a video game how you think about that landscape and the parameters of a protagonist moving through ... um ... but of course the virtual dimensions in those contexts are so much more ambiguous.”

**TS:** “I think, in the, in the case of thangka painting also just the visual image, like, probably that’s why I was very eager to play with the image, is because it has to, the visual image, has to accompany all the map, the guiding map along with it, without that is just becomes what you were saying how did this iPhone appear without you know, like. So yeah, and also probably that has a lot to do with when i see many galleries exchanging this as a merchandise you know uh as an iPhone just being exchanged without that guide-map accompanying it and understanding what this image is all about. So, I guess it relates to that as well, in some ways.

**|Artworks featured in order  
of appearance>**

1. Rhonda Holberton  
(<http://rhondaholberton.com/wp/>), **A  
FIXED RESISTANCE**. Pigment Print  
on Wallcovering, 12.5 x 55”. 15.;  
Rhonda Holberton, 1 and 3 from *A  
FALLEN PIXEL*. Foam, Polyurea, 18 x 11  
x 11.25”, 28.25 x 17.50 x 17.25”.
2. Tsherin Sherpa  
(<http://www.tsherinsherpa.com/>), **Unt  
itled**, 2017. Acrylic and ink on cotton,  
44 x 45.5”.
3. Aki Inomata (<http://www.aki-inomata.com/>), **Why Not Hand Over  
a “Shelter” to hermit crabs?**,  
2009-2016. Mixed media, dimensions  
variable. Installation view, Sector 2337,  
Chicago, 2017.
4. Ebony G. Patterson  
(<http://ebonygpatterson.com/>), **10, 18,  
47, 33, 28, from Invisible**



But, in the beginning when I was confronting it, it was from more of my personal life experience. I was in California, like in the bay area, and there's a large number of, uh, sympathetic, uh, communities for Tibetans and Tibetan Buddhism and all that, but I used to be a traditional artist and they used to always treat me like a "holy being"

[laughter]

**TS:** "and it was to a point where it was almost suffocating in a way, yeah. So, I had to act according to people's projection, you know, so I had to be nice, I couldn't drink ..."

[laughter]

**TS:** "... I couldn't eat meat, you're a Buddhist, but on top of that you're a religious icon painter. So, I guess that frustration was always there to break that notion, like, I'm as normal as anybody else and I didn't want to be something different, I guess. So, probably that also helped me go towards it."

**Rhonda Holberton:** "Yeah. there's something too ... um .. not so much in these works but in some of my more recent works where it's, um, I don't know if it's like this kind of like, the protestant work ethic – so this idea of like, you know, or maybe it's kind of this disassociation from labor that i feel with a lot of the projects, and that I use in also thinking about trying to address, like start thinking about these massive systems, right ..."

**CP:** "mhm"

**RH:** "... that we really can only partially access, and usually through technology. Things like, uh, what does it mean, what does the internet mean? Right, like there's this constant communication. What is climate change? These things that Timothy Morton talks about as like Hyperobjects, so it's like a thing but it can't be understood by one person. So, trying to insert my labor or insert my body into those systems, and was working with mosquitos in my last project so I raised mosquitoes and ..."

**TS:** "Oh."

[laughter]

**RH:** "... so, you know, for me thinking about the virus and thinking about, like, certainly, what, in the past few years, the mosquito means and can I stick my arm into that system or can I – and alternatively part of that project was digging for

**Presence: Bling Memories**, 2014. Fabric, acrylic paint, adhesive, fabric flowers, pinus palustris, lace, rhinestones, ribbons, tassels, crochet doily, crochet tassels, fabric appliques, glitter, pearls, 119 x 24 x 12".

5. Ebony G. Patterson  
(<http://ebonygpatterson.com/>),

**Excerpt from Invisible Presence: Bling Memories**, 2014. In collaboration with Michelle Serieux HD Video, 9:40min.

6. Takahiro Iwasaki  
([https://urano.tokyo/en/artists/iwasaki\\_takahiro/](https://urano.tokyo/en/artists/iwasaki_takahiro/)), **Architecture (roach motel)**, 2012. Cockroach trap and watch, dimension variable.

7. Takahiro Iwasaki  
([https://urano.tokyo/en/artists/iwasaki\\_takahiro/](https://urano.tokyo/en/artists/iwasaki_takahiro/)), **Out of Disorder (Navy Pier)**, 2017. Beach towel, dimension variable.

8. Takahiro Iwasaki  
([https://urano.tokyo/en/artists/iwasaki\\_takahiro/](https://urano.tokyo/en/artists/iwasaki_takahiro/)), **Tectonic Model**, 2017. Books, dimension variable.

9. Takahiro Iwasaki  
([https://urano.tokyo/en/artists/iwasaki\\_takahiro/](https://urano.tokyo/en/artists/iwasaki_takahiro/)), **Out of Disorder (brush)**, 2017. Toothbrush, dimension variable.

10. Aki Inomata (<http://www.aki-inomata.com/>), **I Wear the Dog's Hair and the Dog Wears My Hair**, 2014. A cape made of dog's hair; a cape made of human hair; photo, inkjet print; 11x27", 15x7", 14x21".



gold, and extracting gold, another really physical not comfortable labor. So, it's like how do I get into there, how do I understand something that as a Westerner I'm so disassociated from, and I can really only, kind of, I think, express or play with that as part of my art practice, but it's just this, kind of, I wonder how much is just this aesthetic layer ..."

**TS:** "Yeah."

**RH:** "... and how much am I understanding more about my technology by digging metal out of the earth. I'm not sure."

|>

**Caroline Picard** is an artist, writer, publisher, and curator who explores the figure in relation to systems of power through on-going investigations of inter-species borders, how the human relates to its environment and what possibilities might emerge from upturning an anthropocentric world view. Her writing has appeared in publications like *ArtForum* (critics picks), *Flash Art International*, *Hyperallergic*, *Paper Monument*, *The Seen*, and *e-flux's* live blog. In 2014 she was the Curatorial Fellow at La Box, ENSA in France, (<http://www.ensabourges.fr/index.php/fr/la-box/la-box-archives/178-la-box-programmation-2013-2014/expositions-projet-curatorial-2013-14>) and became a member of the SYNAPSE International Curators' Network (<http://www.synapse.info/profiles/cpicard/>) of the *Haus der Kulturen der Welt* in Berlin in 2015. She is the Executive Director of The Green Lantern Press—a nonprofit publishing house and art producer in operation since 2005—and Co-Director of Sector 2337, a hybrid artspace/bar/bookstore in Chicago. [www.sector2337.com](http://www.sector2337.com) (<http://www.sector2337.com/>).

**Rhonda Holberton** (b. Reston, VA, 1981) is an Oakland-based artist whose multimedia installations make use of digital and interactive technologies integrated into traditional methods of art production. Holberton has exhibited at San Jose Institute of Contemporary Art (<https://www.sjica.org/>), FIFI Projects Mexico City (<http://www.fifiprojects.net/>), the San Francisco Arts Commission (<http://www.sfartscommission.org/>), and The Berkeley Art Center (<http://www.berkeleyartcenter.org/>). Her work has been featured in *Art in America*, *Pulse Magazine*, and the *Copenhagen Institute for Futures Studies*. She is currently a lecturer in experimental media at Stanford University and joined San Jose State University as an Assistant Professor in Digital Media Arts in the fall of 2017. Holberton is represented by CULT | Aimee Frieberg Exhibitions.

11. Essi Kausalainen  
(<http://essikausalainen.com/>), **Anette and Marin at the beach**, 2017. HD video, 7 min.

### | Documented Dialogues>

#### Bonus Materials

Here's the complimentary auto-caption transcript provided by YouTube (<https://www.youtube.com/>).

- 1  
00:00:11,360 --> 00:00:16,230  
I'm Caroline Picard and I curated an
- 2  
00:00:14,969 --> 00:00:19,980  
exhibition called
- 3  
00:00:16,230 --> 00:00:22,859  
coming-of-age at sector to 337 and
- 4  
00:00:19,980 --> 00:00:27,930  
Chicago there are about seven artists in
- 5  
00:00:22,859 --> 00:00:29,910  
the show and today we are fortunate or I
- 6  
00:00:27,930 --> 00:00:32,160  
feel very fortunate anyway to be
- 7  
00:00:29,910 --> 00:00:35,700  
speaking with the sharing Sherpa and



**Tsherin Sherpa** (b. Kathmandu, 1968) studied traditional Tibetan thangka painting from the age of twelve under the guidance of his father, Master Urgen Dorje, a renowned thangka artist from Ngyalam, Tibet. After six years of intense formal training, he left to study Mandarin and computer science in Taiwan. Three years later, he returned to Nepal working with his father in numerous projects that included painting thangkas and monastery murals. In 1998 he moved to the USA working as a thangka artist and as an instructor at several Buddhist centers in California. In recent years his emphasis has shifted from traditional subjects to more contemporary concerns, including imagining what traditional Tibetan spirits would now look like if they too had left Tibet and journeyed with him to California. In 2010 he was featured in the groundbreaking museum show in Beijing, *The Scorching Sun of Tibet*, as well as the landmark Rubin Museum show *Tradition Transformed – Tibetan Artist's Respond*, (<http://rubinmuseum.org/events/exhibitions/tradition-transformed>) in New York. In 2012 he had his first solo show at Rossi & Rossi, London. Sherpa lives and works in California.

|>

8

00:00:32,160 --> 00:00:38,640

around a whole Burton maybe just to

9

00:00:35,700 --> 00:00:40,710

start if you all would be comfortable

10

00:00:38,640 --> 00:00:46,110

talking a little bit about your camera

11

00:00:40,710 --> 00:00:49,070

sure my work in this show is a  
wallpaper

12

00:00:46,110 --> 00:00:52,550

covering in the back it's comprised

13

00:00:49,070 --> 00:00:55,820

composite image made from sand  
dunes

14

00:00:52,550 --> 00:00:59,190

some of the photographs I took  
myself

15

00:00:55,820 --> 00:01:02,160

insolvency military bases of

16

00:00:59,190 --> 00:01:04,110

decommissioned military base and it

17

00:01:02,160 --> 00:01:06,420

really struck me I wasn't expecting to



# TIME TUNNEL

**BRUCE NAUMAN'S** *CORRIDOR INSTALLATION  
WITH MIRROR—SAN JOSE INSTALLATION  
(DOUBLE WEDGE CORRIDOR WITH MIRROR)*









## Virtual Time Tunnel: Andrew Blanton and Rhonda Holberton Discuss the Student-Led VR Project Inspired by Bruce Nauman's ***Corridor Installation with Mirror—San Jose Installation*** ***(Double Wedge Corridor with Mirror)***

The Natalie and James Thompson Art Gallery at San José State University (SJSU) is committed to inspiring visitors to explore the past, present, and future influences of art on our daily lives. We challenge conventional assumptions through scholarly research and public programs, champion diversity through the presentation of an expansive range of object-based and process-oriented genres, and facilitate an ongoing dialogue that diminishes the distance between studying and creating works of art.<sup>1</sup>

With the reinstallation of Bruce Nauman's *Corridor Installation with Mirror—San Jose Installation (Double Wedge Corridor with Mirror)*,<sup>2</sup> our intent was to provide a visitor experience that was as similar as possible to the original installation of this piece, which was first built in this very space in 1970. As such, the corridor itself may be too narrow for all visitors to access. Mindful of our mission to provide a range of cultural experiences for our diverse audiences, to ensure that all visitors can experience this exhibition—and

also to contextualize the corridor in the language of contemporary Silicon Valley—our students developed a virtual reality (VR) installation inspired by Nauman's physical installation that all visitors could experience in the adjacent Theta Belcher Gallery.

The original impulse for the creation of the *Time Tunnel VR Installation*<sup>3</sup> and the intentions of SJSU were threefold: to create an entirely accessible experience for all gallery visitors; to offer the opportunity for students (under the guidance of faculty) to gain hands-on experience in collaborating in the application of the technical and artistic elements of VR to an experiential work of art created by another artist forty-eight years earlier; and to recontextualize the original installation by Bruce Nauman in the language of Silicon Valley, which has emerged to literally surround the SJSU campus in the years since that 1970 installation.<sup>4</sup>

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<sup>1</sup>The author of this text is Jo Farb Hernández, Director of the Natalie and James Thompson Art Gallery, Department of Art and Art History, San José State University

<sup>2</sup>Bruce Nauman (b. 1941, Fort Wayne, Indiana), *Corridor Installation with Mirror—San Jose Installation (Double Wedge Corridor with Mirror)*, 1970, wallboard and mirror, dimensions variable; 120" x 336" x 72" (304.8 cm x 853.4 cm x 182.9 cm) as installed at San José State College, 1970, Solomon R. Guggenheim Museum, New York, Panza Collection, 1991, 91.3829.

<sup>3</sup>Blanton, Andrew, Rhonda Holberton, Roya Ebtehaj, Kevin Nguyen, Cassidy Pong, Tyler Stannard, Michelle Tam, and Don Vo, *Time Tunnel VR Installation*, 2018, virtual reality installation, dimensions

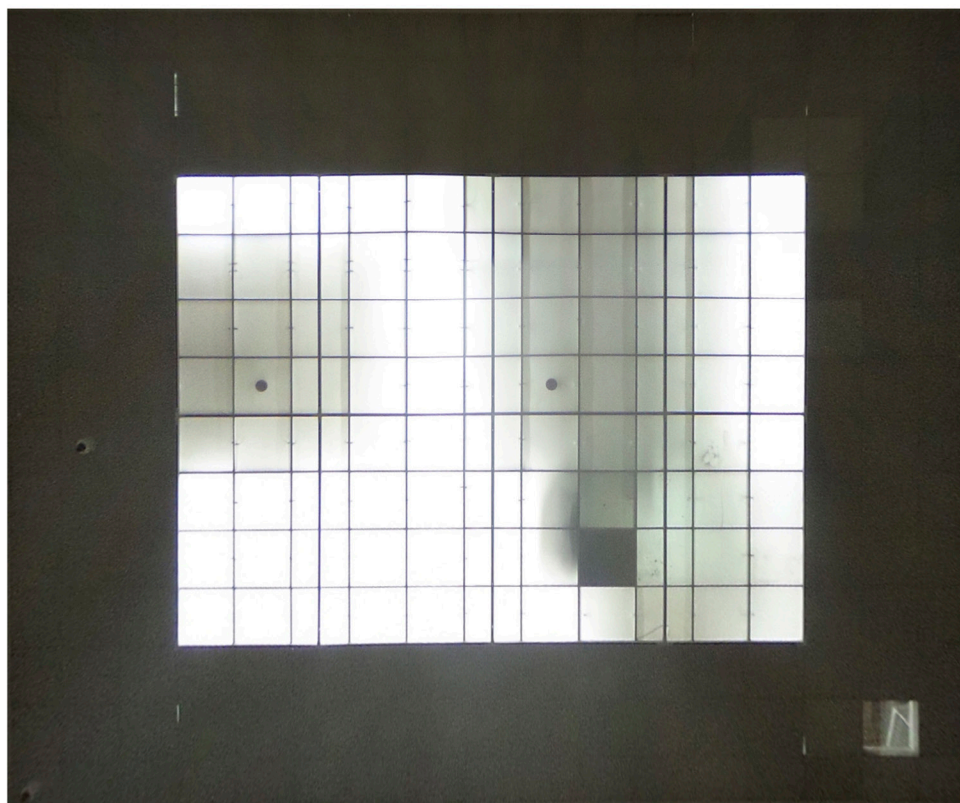
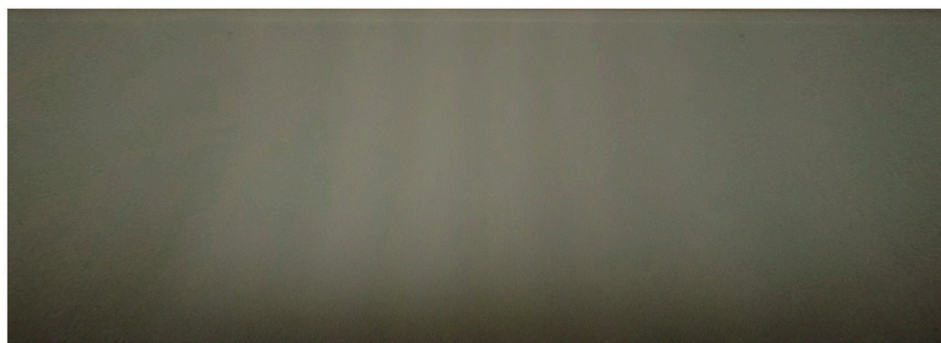
variable, San José State University, San José, CA.

<sup>4</sup>The authors of this text include Dore Bowen, Associate Professor of Art History and Visual Culture, Department of Art and Art History, San José State University; Keith Daly, Cross-Disciplinary Artist and Alumnus of San José State University; Jo Farb Hernández, Director of the Natalie and James Thompson Art Gallery, Department of Art and Art History, San José State University; and Aaron Wilder, Curator and Exhibition Catalog Managing Editor, Natalie and James Thompson Art Gallery, Department of Art and Art History, San José State University











## Time Tunnel VR Installation Project Team

### FACULTY ADVISORS

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**Andrew Blanton** is a media artist and percussionist. He received his BM in music performance from the University of Denver (2008) and a masters of fine arts in new media art from the University of North Texas (2013). He is currently an assistant professor of Digital Media Art at San José State University in San José, California, where he teaches data visualization. His current work focuses on the emergent potential between cross-disciplinary arts and technology, building sound and visual environments through software development, and building scientifically accurate representations of complex data sets as visual and sound compositions. Blanton has advanced expertise in percussion, creative software development, and developing projects in the confluence of art and science.

**Rhonda Holberton** is an Oakland-based artist. Her multimedia installations make use of digital and interactive technologies integrated into traditional methods of art production. Holberton received her MFA from Stanford University and her BFA from the California College of the Arts. She was a CAMAC Artist in Residence at Marnay-sur-Seine, France, and was awarded a Fondation Ténor Fellowship in Paris, France. Holberton has recently exhibited at the San José Institute of Contemporary Art, FIFI Projects Mexico City, the San Francisco Arts Commission, and the Berkeley Art Center. Her work is in the collections of the San Francisco Museum of Modern Art, the McEvoy Foundation, and notable private collections.

### PROJECT LEAD

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**Roya Ebtehaj** is an artist and educator. She received her BA degree in photography in her hometown of Tehran, Iran. After working as a professional in the field of media for more than eight years, she moved to Silicon Valley and is currently pursuing her MFA degree in Digital Media Art at San José State University. Ebtehaj's work incorporates a wide range of cutting-edge technologies that include virtual and augmented reality, creative coding, digital video, and modern web application designs. In the *Time Tunnel VR Installation*, she collaborated with a group of students as a team leader and guided them through the process of ideation and development.

### STUDENT ARTISTS

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**Kevin Minh Nguyen** was born in San Francisco and attended San José State University to study Digital Media Art. Nguyen's main expertise is in game design and pixel art; however, he also works broadly with virtual reality, augmented reality, Photoshop, and game development. For the *Time Tunnel VR Installation*, Nguyen worked on scripting the mirror, setting the lights, and organizing the space in Unity.

**Cassidy Pong** was born and raised in San José, California, and was a third-year undergraduate student at San José State University pursuing a BFA in Digital Media Art during the *Time Tunnel VR Installation*. Her practice focuses on depicting and illustrating topics based on personal experiences to address uncomfortable situations that much of society does not want to acknowledge. She works in a variety of media ranging from traditional art and sculpture to digital practices, such as photography, 3-D modeling, and video editing. Pong helped model the VR space for the *Time Tunnel VR Installation* and assisted in testing the user experience before installation.

**Tyler Stannard**, a digital media artist, received his BFA degree in Digital Media Art at San José State University. Stannard uses his interest in game design and development to uncover the relationship between the digital realm of video games and humanity, as well as the resulting effects. His work integrates a wide scope of media and contemporary technologies using industry-leading game engines to blur the edge between digitality and reality. In the *Time Tunnel VR Installation*, Stannard's role was designer/programmer and virtual reality specialist. His role in the project was to focus on the core virtual reality mechanics, user experience, and scripting.

**Michelle Tam** recently graduated with a BFA in Digital Media Art from San José State University. She is experienced in 3-D modeling and texturing. Her interests are creating 3-D environments and interactive experiences using media such as games and virtual reality. Some of her recent projects include the use of virtual reality to tell a narrative of her experiences as an Asian American. She created textures and maps for the *Time Tunnel VR Installation*.

**Don Vo** is a Digital Media Art and Mathematics student at San José State University. Vo worked for a clothing company as a character designer before attending college. Vo's interests include 3-D modeling, 3-D animation, video gaming, and stop-motion animation. For the *Time Tunnel VR Installation*, Vo provided support in modeling certain objects in the VR environment.



Reflecting on the entire *Time Tunnel* exhibition, the faculty advisors for *Time Tunnel VR Installation*, SJSU Assistant Professors of Digital Media Art Andrew Blanton and Rhonda Holberton, took the opportunity to discuss the experience of advising a team of students to actualize a VR installation inspired by Nauman's *Corridor Installation with Mirror—San Jose Installation (Double Wedge Corridor with Mirror)*. They explored how this unique artistic application of VR relates to the nature of the art viewer experience, the limitations of both physical perception and technological capabilities, and some of the consistent underlying questions of Bruce Nauman's artistic career.

**RHONDA HOLBERTON:** I find Nauman's corridor very tender, in a way, because it necessitates the presence of another viewer in a way that his other [corridor] pieces don't. You need another person to understand what is happening mechanically.

**ANDREW BLANTON:** To understand what you are seeing?

**RH:** Right, to understand that what you are seeing [in the mirror at the end of the hallway] is not yourself, that it is another person. There is a reliance on another body to be the third-point referent. What if we try to conceptually reflect [Nauman's *Corridor Installation with Mirror—San Jose Installation (Double Wedge Corridor with Mirror)*] in the way that we construct the essay? How could two points of view converge, and what would that look like?

**AB:** On the one hand, we should frame the prompting in the work. We were initially asked to address the accessibility of the Nauman corridor. Principally, would there be a way for those in wheelchairs to also be able to participate in the work? But really, in the end, what I found to be one of the most interesting things about it was the relationship between the work, the viewer, and the external virtual installation. In a way, we were able to create what felt like a very natural extension of the work into the virtual world. That was a bit unexpected. But because the work in some way is thinking very carefully about viewership, that's very naturally extended into virtual reality and the complications of viewership in simulated environments.

**RH:** Right, the thing about Nauman's [corridor pieces] is that the body is at the heart of the practice. So, of course, through the development of the project, there are these conceptual conceits that reveal themselves that are in line with his original intent, but there are other places where the [VR

installation and physical installation] diverge. It reminds me of the mirror at the end of the wedge as a site for reciprocity but also a site of divergence, in a way like the physical and virtual versions, trying to find the overlap. Where is that overlap? I think it happens where you get close enough to the thing to figure out where you are in it. For the physical installation, that happens in the "nose," when you make that turn around the sharp bend. In the VR installation, it happens both when you put the headset on ... no, not when you put it on. I'm saying that because I knew what to expect when I put it on. For most viewers, it probably happens when you take it off.

**AB:** Yeah.

**RH:** Right, that moment when you understand the virtual space well enough to exit, it's another kind of unveiling.

**AB:** The other complication is that, in the physical installation, when another person was in the space, the paradigm for interaction completely changed for me. Like when you are walking down the corridor with someone else walking in front of you. Then they turn the corner, but you can still see their back. It's hard to explain why that experience is so particular, but it really stuck with me. Being in virtual space is really different. There is an important intimacy with our reflections in mirrors that is lost in virtual reality, principally because the data for the position of our body are almost nonexistent in these systems. This is totally different in the physical installation. The shape of the corridor provides this uniquely phenomenological experience in many ways that are totally tied to our connection with our physical bodies.

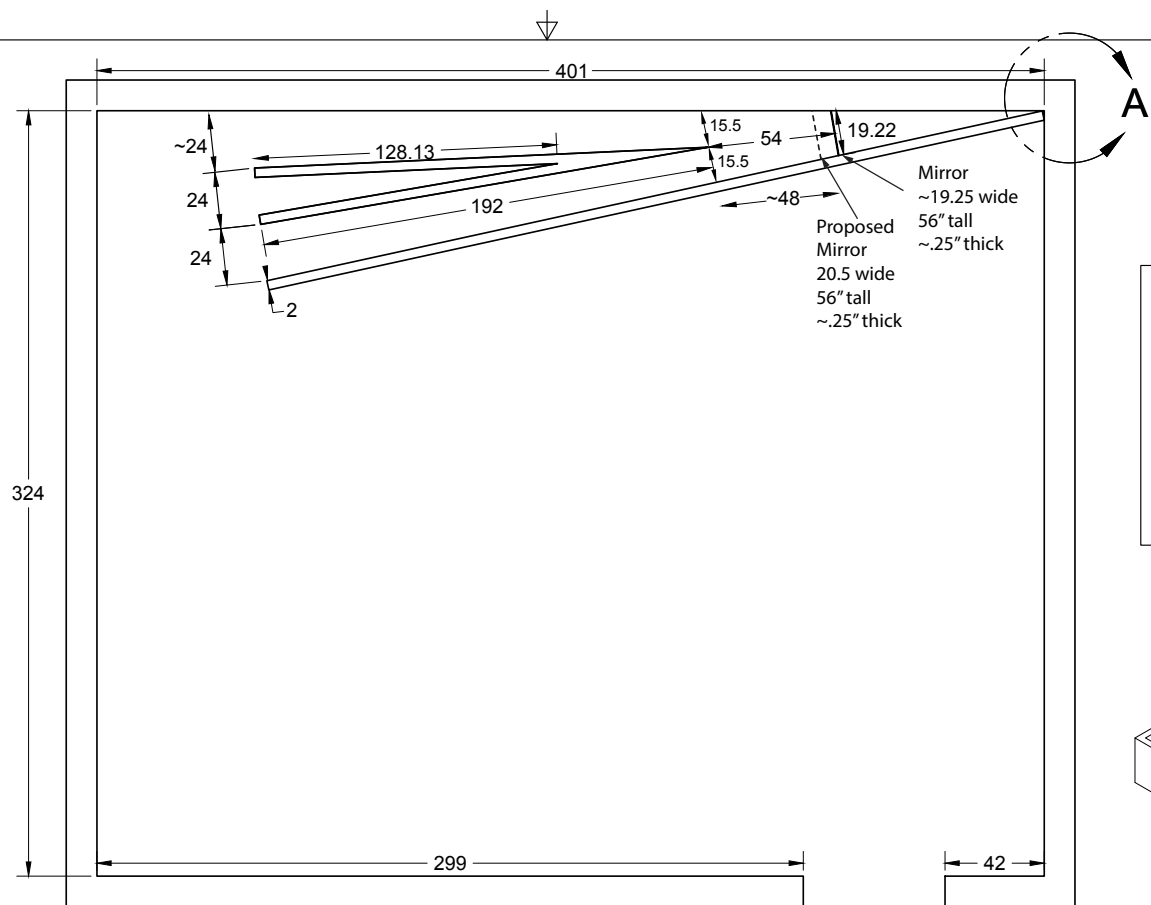
**RH:** You have to stretch your arm out to try to see your reflection, to try to see both sides, but you can never quite catch it.

**AB:** Yeah, but in VR our response to the reflection question was to create an avatar for the [viewer that could be reflected in the mirror]. There's also the attendant who helps the viewer into the VR headset, but who would always be masked as soon as the viewer put the headset on. The viewer was always being observed in the space.

**RH:** There's always a third-party observer.

**AB:** Right.





#### NOTES

Studs (vertical elements) are 2x4in

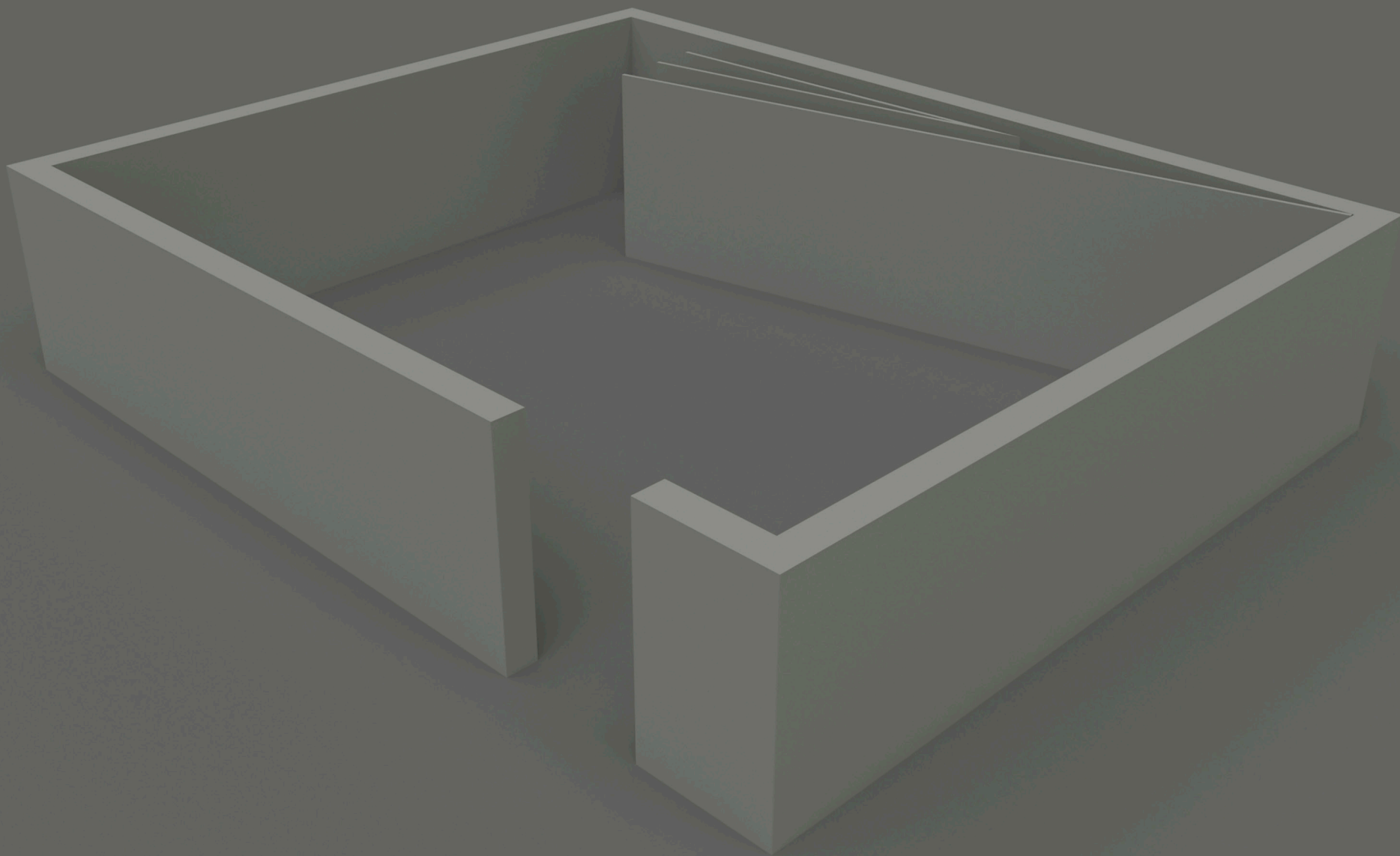
Top & Bottom Rails are 2x2in

1/2" Drywall on inside of corridor walls only

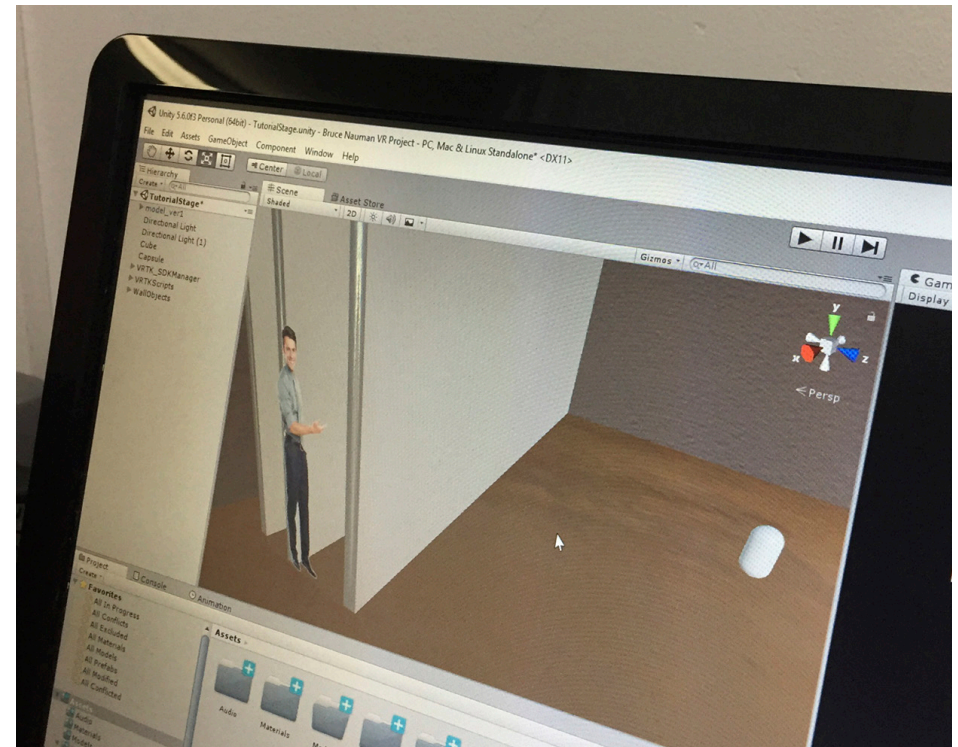
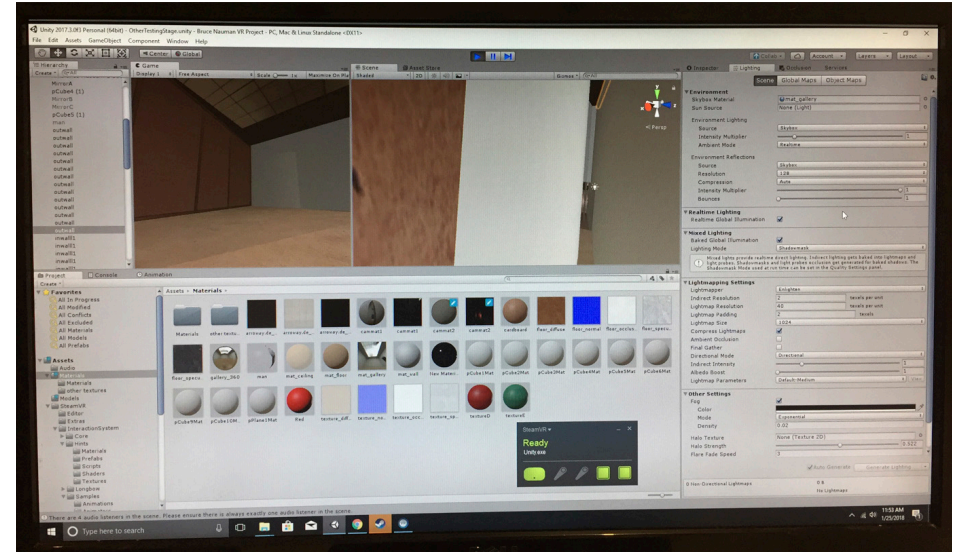
See Tony May Sketches for construction details

		PROJECT <b>NAUMAN_VR</b>			
		TITLE <b>CORRIDOR WITH MIRROR: SJ INSTALL</b>			
		APPROVED	SIZE B	CODE n/a	DWG NO 20171216c
CHECKED				REV C	
DRAWN	Rhonda Holberton 12/17/17	SCALE	1:50	WEIGHT	n/a
				SHEET	1/1











**RH:** That's actually really interesting too, the intimacy of the other. Something that I've always found in VR in institutional settings. There's usually someone there to explain to you how it works but also put the device on you. You need a guide, kind of like a shaman, into virtual space. Someone to literally take care of your body phenomenologically while you have this completely psycho-retinal experience.

**AB:** A physical guide into the virtual space.

**RH:** Yeah, because the body becomes—even able bodies become—completely cleaved from their sense of a natural flow of physical proprioception. I know that I flail, that I've almost fallen down, in VR. You completely lose sense of your body in space in a way that doesn't happen in movies, in screen space. That doubling or uncoupling of self from expectations of causality in physical reality is at the heart of much of Nauman's work. The sense of splitting of self within space and then reuniting with self that happens in the “nose” of the V of the physical installation also happened for me when the students were building the VR environment. During development, they had come up with an iteration of the VR project where you could walk out of the door in the reconstruction of the physical gallery and across the hall into the gallery that housed the VR installation where you were physically standing. The students had placed virtual sculptures that they created in the room, and while it wasn't appropriate for this project, that kind of flipping of the conceptual conceit of physical reality was exactly the kind of cleaving that happened for me in the “nose” of the V in the physical corridor. I'm kind of sad we lost that.

**AB:** It's amazing how navigating a known [physical] space in VR gives you a sense of familiarity, but also a sense of distance. A kind of third space where you don't know exactly what will happen. Like when the students built the exact replica of the gallery, then built the adjacent rooms and hallways because they wanted to explore that physical-virtual interplay, that was really amazing and really at the heart of what is interesting pedagogically—as a teacher, that was so cool to see. I like this idea of cleaving. I agree; there was a really interesting aspect of the corridor where the standard interac-

tion, what we expect to happen in physical space, is suspended. And that was all compounded by the extending of the physical space into the virtual space. Like you could be in the adjacent gallery in virtual space but then navigate virtually across the hall into the space that we were occupying. It's funny, because it's quite technically involved, but I wonder if this type of intervention will seem technically banal in fifteen years. The novelty of the work gave me a sort of *Hole in Space*<sup>5</sup> feeling, but I do think the connection to the physical installation of the Nauman corridor was also just very interesting conceptually. That was certainly my primary interest in working on the installation. The extension of the digital space was a really nice way for the students to explore some of those boundaries and what they could mean in virtual space. The digital installation really evolved to something unique at that point.

**RH:** Yeah, to use an overused term, it's the uncanniness of the unknown known; it's another one of those V points; the ability to both experience the virtual and physical thing. For Nauman, it was really important that your perceptual sense of self in physical space completely changes when you enter into the corridor—it's dampening the physical waves that are making sound in your eardrums—that the corridor narrows down to a point where you have to turn your body sideways to fit through to the end. Those are beautiful performative moments that [Nauman] discusses in relation to conversations he had with the choreographer Meredith Monk in 1968, where he really honed in on a sense of self that comes from action. A sense that you can't get from just thinking about yourself or your body. What is the difference that is left between the expectation of the experience and the enactment of it?

**AB:** Which really relates to what we are doing. Some points there that are really interesting to me are that we purposely chose not to deal with sound [in the VR installation]. The sound has a lot to do with our sense of space and volume, so that compression of sound and space where you have to turn sideways in the physical installation is something that we lost in the virtual iteration. In the VR experience, you have the retinal experience,

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<sup>5</sup>Galloway, Kit, and Sherrie Rabinowitz, *Hole in Space*, 1980, public communication sculpture in New York City, <http://www.medienkunstnetz.de/works/hole-in-space/>.





Personal (64bit) - T Scene.unity - Bruce Nauman VR Project - PC, Mac & Linux Standalone\* <DX11>

GameObject Component Window Help

Center Local

Scene Shaded

Asset Store

Game Display 1 Free Aspect

Inspector

Lighting Occlusion Services

Tag Untagged Layer Default

Transform

Position	X 0	Y 0	Z 0
Rotation	X 0	Y 0	Z 0
Scale	X 1	Y 1	Z 1

VRTK\_Slide Object Control Ac

Object Control Script: LeftController (VRTK\_)

Listen On Axis Chan: X Axis Changed

Slide Settings

Maximum Speed	3
Deceleration	0.1
Falling Deceleration	0.01
Speed Multiplier	1.5

Custom Settings

Body Physics: None (VRTK\_Body Phys)

VRTK\_Slide Object Control Ac

Object Control Script: LeftController (VRTK\_)

Listen On Axis Chan: X Axis Changed

Slide Settings

Maximum Speed	1
Deceleration	0.1
Falling Deceleration	0.01
Speed Multiplier	1

Custom Settings

Body Physics: None (VRTK\_Body Phys)

33 Component

Animation

Animator

0.00

Console

60

animating



which is really dominant, but that decoupled from the auditory experience is really strange.

**RH:** I think that dominance of the retinal versus somatic feedback is a great jumping off place for our students (and for us as artists). One of the wonderful things about this project was being able to have the physical installation next door to the virtual installation. In many ways, that proximity revealed the difference more than it exposed alliances or similarities. One of those differences, like you said, was the sound component. One jumping off point is the ways that you might be able to cross wires and represent that acoustic dampening through visual or synesthetic approximation of haptic feedback in VR.<sup>6</sup> There are many devices built for VR that make use of the relatively weak somatic sensory processors. There are egg-shaped chairs that approximate motion, where you can lean to move in a direction, but just engaging the hip muscles produces that synesthetic moment; it feels like walking when coupled with visual cues from the headset that tell you that you are moving through space in a walking-like way. Another example is the handheld controllers that vibrate when you touch something; the feedback to the brain interprets the vibration as a sense of pressure. It's the same way that Apple fakes the sense of a button being pressed on the trackpad with a vibration, it kind of works—or at least passes. As long as the retinæ are engaged and there are enough indicators to corroborate the sensorial feedback, we are not really sampling at a high enough rate to understand that the vibration we feel isn't pressure, that it's just haptic feedback. There's a lot of creative space in that difference or mixing of signals. We were trying to play it very close to a one-to-one recreation for the purposes of this installation, but I think that's where things could really open up and where our students got really strange and creative. Their imagining of what would happen when you walk out of the recreation of the physical installation across the hallway and into the VR recreation of the room, that the viewer would actually be

physically standing in. That's beautiful, not necessarily the point of the piece, and so we took it out of the final iteration, but it's not entirely outside of Nauman's conceptual framework either.

**AB:** Right, to return to your point about having the virtual installation one door down from the physical installation, the poetics really became more apparent to me after the physical installation was completed. There's a decoupling that was really important, really beautiful. Feeling those differences between the two spaces, and understanding what those differences were, was incredible. At some point, we really hit it, where it was like "Oh, this is really close to the physical installation." But the virtual installation is slightly different in these really interesting ways. We had a day where we were playing with scale. All of a sudden, the virtual avatar was way too small, and the corridor in the Thompson gallery became really enormous. [In VR] you can affect these spaces in weird ways. The students really ran with the idea of realistically representing not just the gallery but the rest of the building and where we would be standing. The modeling of the two rooms became a device for them to conceptually start to wrap their heads around the project.

**RH:** I think that part is really important. In terms of the planning phase, that was something I really tried to highlight: build the mockup first and then figure out what needs to go in it. [The students] wanted to start with discussions about the design of the avatar, but I think you really need to get into the VR space before you can start designing assets. You maybe need a headset or a head reference for the reflection, but hands are the things that really give you the sense of embodied experience. I think it was just a couple months later that the research came out of Japan that proved you don't really need anything other than hands and feet for embodied experience in VR.<sup>7</sup> I think that, for artists, it's much quicker to get to those places, like

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<sup>6</sup>See Willoughby Sharp, "Interview with Bruce Nauman." *Avalanche*, no. 2 (Winter 1971): 22–31; reprinted in Kraynak, ed., *Please Pay Attention Please*, 133–54.

**Bruce Nauman:** When the corridors had to do with sound damping, the wall relied on soundproofing material which altered the sound in the corridor and also caused pressure on your ears, which is what I was really interested in: pressure changes that occurred while you were passing by the material. And then one thing to do was to make a V. When you are at the open end of the V there's not too much effect, but as you walk into the V the pressure increases quite a bit, it's very claustrophobic...

**Willoughby Sharp:** Pressure is also felt on the spectator's own body. Does that come from your ears?

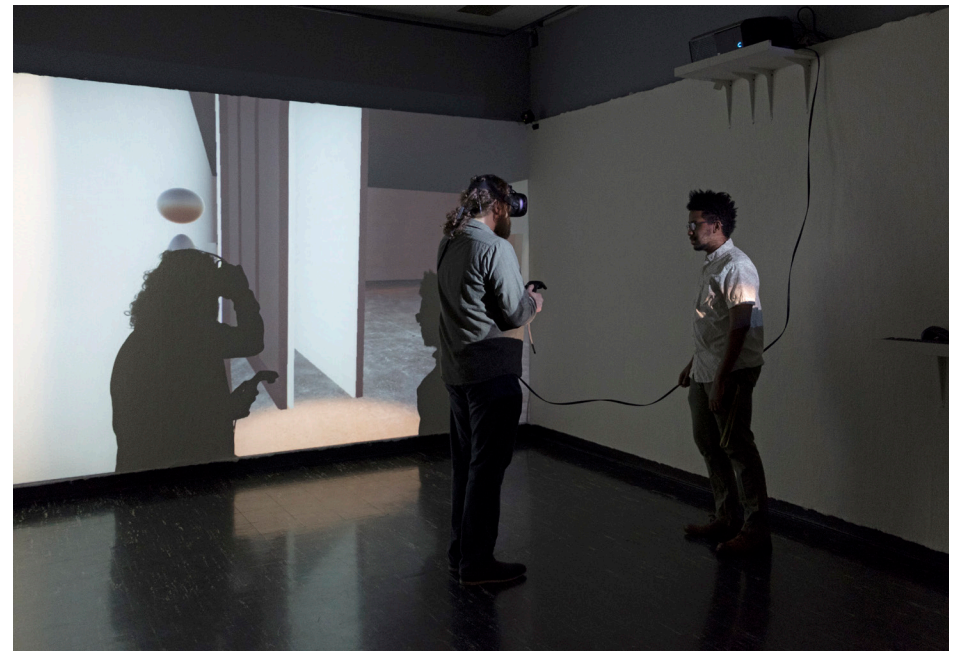
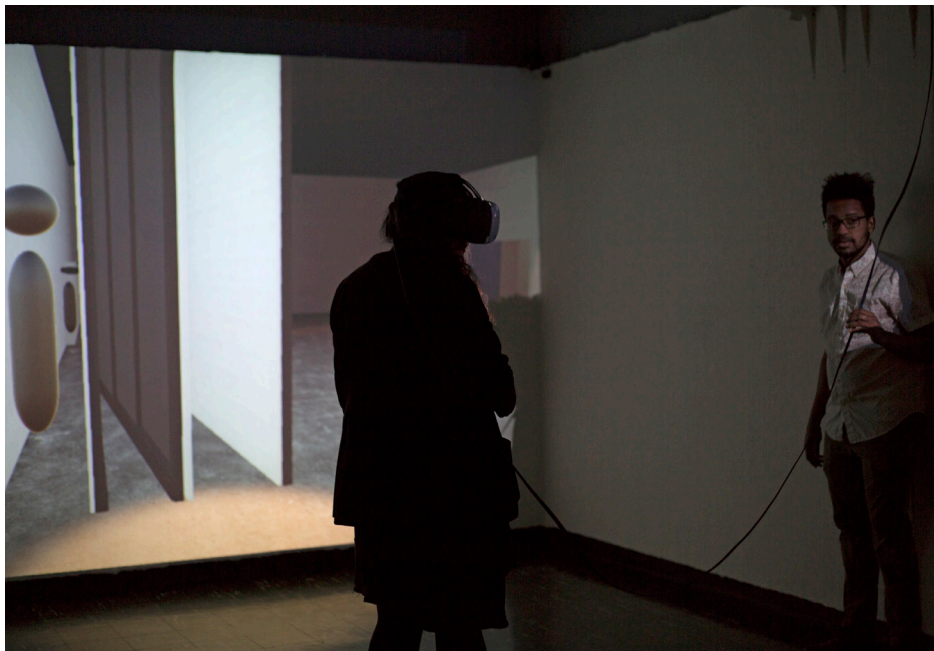
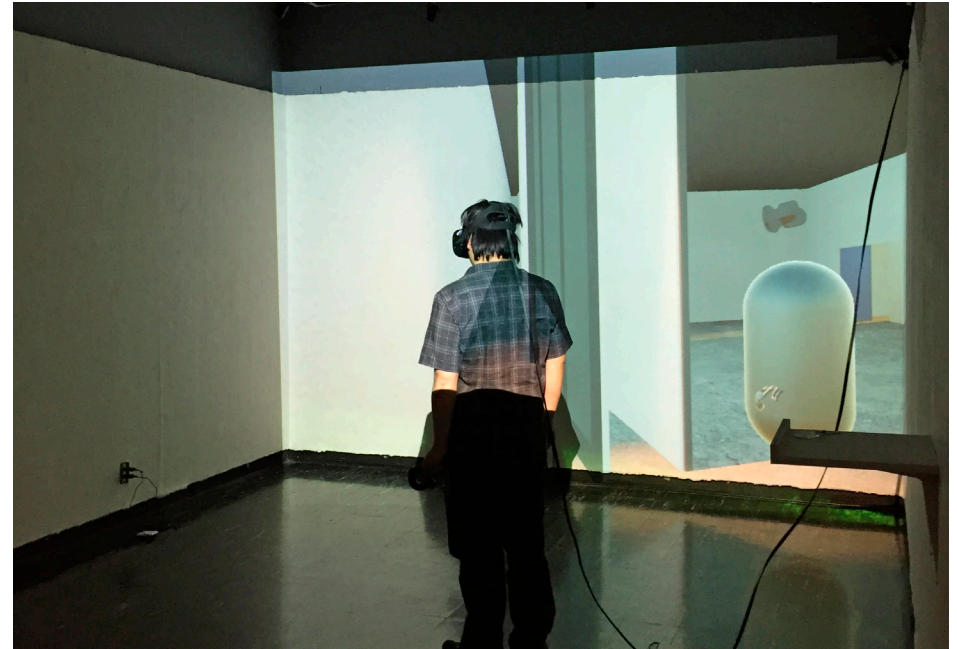
**BN:** It has a lot to do with just your ears.

**WS:** So space is felt with one's ears?

**BN:** Yeah, that's right. (pg. 134)

<sup>7</sup>Kondo, Ryota, Maki Sugimoto, Kouta Minamizawa, Takayuki Hoshi, Masahiko Inami, and Michiteru Kitazaki. "Illusory body ownership of an invisible body interpolated between virtual hands and feet via visual-motor synchronicity." *Scientific Reports* 8 (2018). <https://www.nature.com/articles/s41598-018-25951-2>.











“What are the most efficient ways to do the thing that I want to do? What happens if I play with this aspect, or what does it feel like when this other thing happens?” So in terms of the beautiful poetics between the virtual and physical spaces, those brilliant moments started to expose themselves once the students started to actually build the thing. It didn’t happen in planning phases. It’s kind of like the way a painter would lay down a stroke and then address the way the stroke relates to the canvas as a whole. I think artists using VR in an intuitive or creative way can tell us a lot about what VR is and what it can do.

**AB:** Yes, and there is some really interesting research happening right now in terms of bodily experience and VR. Some researchers at Stanford were experimenting with adding a third arm and trying to get their participants to learn how to use it.<sup>8</sup> I’m not sure if those researchers are familiar with the work of Stelarc, but it seems like a nice extension of his *Third Hand* work.<sup>9</sup> It also makes me think of that work *Gender Swap* by BeAnotherLab, where embodiment through the eyes of someone else is explored through VR.<sup>10</sup> It’s a really unique challenge to have to take on both the technical and artistic challenges of a work like this. For instance, one of the other interesting technical challenges that came up was the building of the mirror. And the mirror becomes a really interesting question: “What is a mirror in virtual reality?” In physical space, a mirror is a reflection of light rays off a glass surface, so if you have a virtual camera that is reflecting virtual light rays back into itself in virtual space, can you see that mirror? Those are all really complex calculations that are a bit unnecessary. In VR, it is easier to just duplicate the scene instead of having a reflection of virtual light rays. You can just build a second room that physically mirrors all of the actions that are happening in the first. So, the mirror in virtual space becomes something more like an actually

mirrored 3-D space, like all of the actions in one space are duplicated and seen through a small portal that is the mirror.

**RH:** Well, I guess that also has to do with the limitations of the technology. The question isn’t “Is it easier?” but “Is it more computationally efficient?” That computational efficiency effects sampling and refresh rates, which turn into a lot of other things in VR. Like how nauseous do you get inside of it? How real does it look? How many other things can happen at the same time? How quickly can you move without dropping frames? I think it’s a really weird question, such an *Alice in Wonderland* question. Is it better to create a surface that can computationally reflect our own? Or is it better to create a backwards world that we peer into to understand our own? In many ways, this is kind of Nauman’s question too. In the interview he did with Willoughby Sharp after the original installation of *Corridor Installation with Mirror—San Jose Installation (Double Wedge Corridor with Mirror)* at San José State College, Nauman talks about his use of video as a kind of electronic mirror.<sup>11</sup> The mirror is both a reflection and a splitting of self. You see this in a lot of his other work, when he’s filming himself trying to pull his cheek out to stretch out the surface of his body or walking around the square.<sup>12,13</sup> He’s tracing a topology, tracing the space where the body meets the reflection of the body vis-à-vis technology (and I would submit that a mirror is technology).

**AB:** It seems to fit so nicely into this provocation that we had for the students: How do we recreate this space and what does the recreation look like? What are the spanning differences between the recreation of space? What is the mechanism for the recreation, and how does that fit philosophically with the initial endeavors that Nauman was exploring? In some way,

<sup>8</sup>Lang, Ben. “Stanford Studies Control Schemes for Three-Armed Avatars in VR.” *roadtovr.com* (November 17, 2016). <https://www.roadtovr.com/why-have-2-arms-when-you-could-have-3-stanford-studies-control-schemes-for-three-armed-avatars-in-vr/>.

<sup>9</sup>Stelarc, *Third Hand*, 1980–1998, performance, <http://stelarc.org/?catID=20265>.

<sup>10</sup>BeAnotherLab, *The Machine to Be Another*, 2013–present, experiential work, <http://www.themachine-to-be-another.org/>.

<sup>11</sup>See Sharp, “Interview.”

**Willoughby Sharp:** Did you consider using a video system in the San Jose piece?

**Bruce Nauman:** Well, in this piece the mirror takes the place of any video element. In most of the pieces with closed circuit video, the closed circuit functions as a kind of electronic mirror.

**WS:** So you are really throwing the spectator back on himself. That’s interesting. I hadn’t realized the similarity between the mirror and the video image before. Is there a natural extension into video from a certain situation, such as this piece? Or didn’t you even consider that?

**BN:** I didn’t consider it. The mirror allows you to see some place that you didn’t think you could see. In other words you are seeing around the corner. (pg. 150)

<sup>12</sup>In 1968, Nauman produced a series of holograms, titled *Making Faces*, in which he contorted and stretched his face into a series of exaggerated gestures.

<sup>13</sup>*Walking in an Exaggerated Manner Around the Perimeter of a Square* (1968), 16-mm film transferred to video (black and white, silent), 10 min.



this idea of a mirror that is a portal into a data-reflected room furthers the V or the wedge in the work.

**RH:** Right. Well, again, that split of self. That split happens in all of his corridor pieces. I've experienced one of the first corridor pieces he did.<sup>14</sup> It's a single corridor created by two freestanding walls. The space between the walls is narrow like the double wedge is at the end of the V, so you are forced to walk sideways down the entire length. It felt more like a journey or a passageway to create a performance. The subtle shifts in material and perspective split the self in a way that narrows the distance between the mind and the body. It brings you closer to yourself by forcing you to focus on your movements in relationship to the material environment. Something must have happened for him during the perimeter pieces, where he was walking the square. Something at the corner, like at that moment where he turned to walk on another plane, there was also a possibility of becoming something other. This is a lot of speculation on my part, but take *Going Around the Corner Piece* (1970). In this work, Nauman took the perimeter he had drawn on the floor of his studio and extruded it vertically. He built four walls that met to create a freestanding square. At each corner, he mounted a video camera. Underneath each camera was a monitor that showed the live feed from the previous wall, so that every time you turn the corner you are chasing the ghost of the image of yourself. In a similar iteration, in *Live Taped Video Corridor* (1970), he creates another narrow corridor that butts into a wall with two televisions stacked on top of one another at the end. The two screens look identical, but as soon as you enter into the corridor you start to see yourself from behind on the top screen. When you get close enough to apprehend yourself properly on the screen, you are far away from the camera and small on the screen. So, in addition to surveilling yourself from behind, you are always chasing the apprehension of the image of yourself. If you turn around to face the camera to try to see yourself as you normally expect to in reflections, your image disappears. In both of these works there are these amazing points of difference in terms of phenomenological experience of the rendered space; you are constantly trying to reconcile the

splitting of self through image. It's really easy in the fantastic experience of VR space to lose yourself in visual sensorium and have a completely retinal experience of space.

**AB:** Because the image is all encompassing.

**RH:** Exactly. But what we had was a really boring environment. I mean, boring in the best way. It wasn't a very interesting thing to look at: drywall and normal building materials.

**AB:** Well, I do think that—let's call it the simplicity of the design—was a really important part of what made the work so powerful. The core of Nauman's idea was really a reflection of the viewer's perception, sort of where we started with this idea of accessibility being at the heart of the work. It's somehow accessible because it's externalizing each participant's experience with the work, or at least highlighting the experience. The technology involved with virtual reality is really the exact opposite in many ways, like the user's reality is hidden and removed to construct another world. For that reason, it becomes a bit tricky to highlight the user's perceptual interaction with the work, but I think we were able to do so in certain ways. Like in the physical installation, you have your own physical presence in the space, and it's a very felt experience.

**RH:** Right, so what happens is this kind of splitting of cognitive self, or this reciprocity of recognition of self. So, you can only really acknowledge yourself as body in two ways: one, because of the banality of the image, and two, because of the double mirroring in both your reflection in the VR model and the reflection of the physical encounter with the physical installation. It's really asking a lot of the viewer to be able to combine these experiences.

**AB:** In a room that is adjacent to the physical installation.

**RH:** Yeah, you are asking the viewer to reconcile embodied memory, but also a kind of embodied projection of that embodied memory into the simulation. It's doing a lot of weird things.

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<sup>14</sup>Bruce Nauman, *Green Light Corridor*, 1970, on display at the Museum of Contemporary Art, San Diego, 2011.