Senior Theses   Undergraduate Scholarship and Creative Works

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Technologies of Connection

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Senior Thesis

<p style="text-align:center"><u>A Tracking of Work and Thoughts</u></p>

At the beginning of the semester, when I'd tell people what I was working on, they'd ask "oh, what's a connective technology?" The best response I could come up with was "I don't know, that's what I'm trying to figure out." So far, the foundation of this thesis comes from these three works, which I read in the past for other projects, but constantly refer back to.

> Hilderbrand, Lucas. "Grainy Days and Mondays: Superstar and Bootleg Aesthetics." *Inherent Vice: Bootleg Histories of Videotape and Copyright*, Duke University Press Books, 2009, pp. 161–281.

>> Hildebrand's main focus is on how copy-write and media distribution intersects. In discussing the history and necessity of bootlegging the underground classic video piece *Superstar: a Karen Carpenter Story,* he talks about how the illicit copies of the movie would acquire "anaesthetic" adornment, adding to the sentimental value of the VHS's, even if the video itself would be visually undecipherable.

> Lury, Celia. *Prosthetic Culture: Photography, Memory and Identity*. Routledge, 2007.

>> Prosthetic culture is about how our perception and authorization of self is inseparably mediated by the photographic image, making photography a form of prosthetic to our memory.

> Morris, Rosiland C. "A Room with a Voice: Mediation and Mediumship in Thailand's Information Age." Media Worlds: Anthropology on New Terrain, University of California Press, 2002, pp. 383–398.

>> In this work, Morris discusses the idea of mass mediation through Thai ghost stories, namely, "the room with a voice". The room with a voice is a room where a spirit manifests, and when entered, you receive perfect understanding of what the spirit is communicating without need of words.

When beginning research, I went to look for *Media Worlds,* first, since it was most directly related to the idea of information being transmitted across distances. At this point, my interest was in the idea of Signal, the bits of energy/information that get moved from one place to another in some form of oscillation. The words that kept coming up were:

<p style="text-align:center">Transmission, broadcast, reception, connection</p>

I met with Una for the first time, and as we talked, definitional questions started to come up, such as what's the difference between transmission and broadcast. But more importantly, Una suggested thinking about Trevor Paglen's project Deep Web Dive, where Paglen took a group of curators diving to see the internet cables that connect the contents. From this point, we started to think about this

"connective technology" project as potentially a site-specific network piece. This meant starting to learn more about network design and electrical engineering, while also learning more about the specific set up of the campus's connective technologies.

After this initial conference I started to look at the books I checked out from the library that were adjacent to Media Worlds, starting with:

Depew, David. "From Heat Engines to Digital Printouts: Machine Models of the Body from the Victorian Era to the Human Genome Project." *Memory Bytes: History, Technology, and Digital Culture*, Duke University Press, 2004, pp. 47–75.

This essay argues that the way we conceive, talk about, and teach the body is based entirely on the steam engine, since it was one of the first widely witnessed things that mimicked the human bodies' capability. It then talks about how the different advances of technology create new ways to understand and map our biology.

Manufactured mechanical influences on how we interface with and think of our bodies opened up the possibility of not just using bodies to depict technological systems -- which in all honesty sounds unsatisfying even to me -- and instead think about how I could use technological maps in a body. I ended up contacting Mo Gallagher, head of Campus Operations in order to find more maps of "connective technologies."

After getting a prompt response from Mo, we met in her office. As we were trying to figure out what I was after and what she could provide, we settled on looking more into the SLC network system, which, while it was historically associated with campus operations, was now in the IT department. Mo remembered a map of the original dial up system of the campus which she found a copy of and then gave me a photocopy of that. Mo also took me into the bowels of the Andrews annex, where we talked about the number of obsolete wires that line the buildings and Ethernet connections that aren't used anymore. I wrote down the names of various pieces of equipment, and eventually we ended up in the room that houses all the historical blueprints for the campus. We didn't find anything pertaining exactly to electrical systems, and Mo didn't know how much she could legally share with me, but one of the main things I took from the visit is the sheer amount of history, and renovation that's being dealt with in to hold this campus together. A few days later Mo also put me in touch with Khanh Tran, Associate Director of IT, in order to talk more about the network infrastructure.

In a two hour conversation with Khanh, I learned a lot of things regarding not only general network functioning and the campus's function, I also learned a lot about Khanh and the school/municipal politics that have to be negotiated if something goes wrong with the network. Khanh has been working at this school for 20 years, since he was 19. He plays the bass and was originally going to be a musician. He's been in charge of building all three generations of network on campus, and according to him, got most of his knowledge by "breaking things". One of the main things I learned from him were leads on various dynamics that occur with the network that could be interesting to explore and embody, but I'll need more time to shore up my understanding of how these work.

Most of my notes and afterthoughts from this meeting are in a document called "some notes on networking". Some excerpts from that document:

- Thinking through IP addresses, how places have been connected. (don't skip the past tense)

- What is the bounce between the seven layers of the internet?
- What is the body described by network.
- Connective technology is something that lives spread across both the physical and the non-physical. Both are needed, but the non-physical can continue, even with the inevitable failure of the physical
    - This isn't correct. That is the industrial point of view. The physical never fails, it just continues into compost.
    - Signal doesn't continue. It just keeps going getting quieter until it doesn't matter anymore. Generations of memory.
- Regarding the servers/network: It doesn't care where you are, or where it is, or what it looks like or even if it fails. It might look scared but all its doing is protecting itself objectively.
- Looking for similarity in gesture rather than anthropomorphizing the network. What is the antonym of anthropomorphizing?

And then this led me to in the Oxford English Dictionary for definitions of my initial words:

Transmit:

1. Cause (something) to pass on from one place or person to another.
2. Broadcast or send out (an electrical signal or a radio or television program)
3. Pass on (a disease or trait) to another.
4. Allow (heat, light, sound electricity, or other energy) to pass through a medium.
5. Communicate or be a medium for (an idea or emotion).
    - *The idea of moving energy without thinking about it in terms of maintaining an equilibrium or going in a particular direction.*
    - *The natural ecology of a network*
        - *The network as a 7 layered ecological system, in isolation from the power etc that sustains it.*
    - *Chaos does not lead to chaos, just to the need for new things to sustain it?*

Broadcast:

1. Transmit (a program or some information) by radio or television.
2. Scatter seeds by hand or machine rather than placing in drills or rows.
3. A radio or television program or transmission.
4. Relating to radio or television transmission.
5. By scattering.

Receptions:

1. The action or process of receiving something sent, given, or inflicted.
2. The way in which a person or group of people reacts to someone or something.
3. The receiving of a broadcast signals.
4. The quality of this.
5. The action of admitting someone to a place group or institution.
6. The formal ceremonious welcoming of a guest.

Connection:

1. A relationship in which a person, thing, or idea is linked or associated with something else.
2. The action of linking one thing with another.
3. The placing of parts of an electric circuit in contact so that a current may flow.
4. A link between pipes or electrical components.
5. A link between two telephones.
6. An arrangement or opportunity for catching a connecting train, but, aircraft, etc.
7. A connecting train, bus, etc.
8. People with whom one has social or professional contact or to whom one is related especially those with influence and able to offer one help.

With all this I also decided I was interested in using the amphitheater as the performance space, especially since its instillation has posed the greatest threat to the network on campus. If something goes wrong with its instillation, it would lead to a third of the campus losing internet access (including Una's office) and the need to tear up Kimble in order to re-lay the fiber optic cable. At this point in my thinking, the history the amphitheater will have had by the time it's available to be performed on became another material of interest.

The same week that I met with Khanh I went to my Great Aunt Helen's 80th birthday celebration in New Jersey. Besides having a good time with distant family, I met my first-cousin, once removed, Mike, a Cisco network engineer. We fell into a conversation that had a lot of super interesting points in it, from the windowless but well ventilated buildings throughout New Jersey that house servers, to the fact that the increased size of cell phones means that you need both hands to use it instead of one. He also clued me into some interesting developments that are changing the future of networking as well as the corporate structures that developed around it.

Overall, networking is complicated and plentiful in provoking ideas in all directions. Thinking about it in relationship to people is incredibly interesting, but hadn't led me to a genuine question yet. I ended up falling into a lull with the project since I had so many potential threads to follow and things started to ramp up with my other classes. I did read some useful things during this time period, and I was accumulating ideas. At one point, I was interested in using a drone to track the underground map of the campus, at another I wanted to costume the performers in terrycloth so that if it rained, the choreography could wipe water out of a standing performer's way. I also fell in love with umbrellas since they're practical, keeping equipment dry, but also versatile objects. They provide protection, but turned upside mimic the shape of a satellite dish and become excellent for collection. The main book I was looking at during this time was:

Johnston, Carla B. Screened out: How the Media Control Us and What We Can Do about It. Routledge, 2000.

This explores the various ways that TV media, particularly the news, gets manipulated by corporate structures. It points to some great questions about what functional role the news is supposed to have in the general populations and what it's been doing now. It also ends with a chapter entitled "What we can do about it."

This book is generally just helpful to consider since I've remained interested in a more journalistic perspective with this project through out. Mostly, I learned the term "infotainment" and have been given new considerations on what potential effects a "media artist" has had -- and can have.

Maybe this read was interesting mainly because of how its insights have been amplified since its publication, but considering the role news has in the history of broadcast at least, it's valuable from a historical perspective.

Around this time I got news that the poetry festival had potentially booked the amphitheater on one of the days of that I decided to perform on. When I talked to Una about this, there were two options that came up. One would be to contact whoever's in charge of the poetry festival and see if they'd be willing to let me use the space. The other was to make the work mobile, with a slight change between versions, creating what Una described as a "white and red version" of it. I'm interested in this idea, but also can see the potential it has for overcomplicating the work. Likely, I'll start by making a plea to the poetry people, but will probably end up with a more creative solution in the end.

The next big research breakthrough in the project came with the discovery of a rather large rusted old lighting fixture in the PAC dumpster and the reading of a chapter from a book I pulled from the library based on the title.

Bateson , Gregory. "Neither Supernatural nor Mechanical." Angels Fear: Towards an Epistemology of the Sacred, Macmillan Publishing Company, 1987, pp. 50–64

Bateson breaks down theological perspectives of the world into two categories of "Supernatural" or "Mechanical" types. Supernatural applies to people who believe unexplainable exterior forces are responsible for what something is, and mechanical refers to people who believe solely in the scientific kinetics of things that happen. People who are fervently in one camp often find themselves swinging to the other when they're lost for an understanding.

I can't track the chain of ideas this breakdown resulted in (it was one of those things that occur late at night with little documentation) but it did lead me to consider a new sense of the system that I've been dealing with thus far. Mainly it pulled me into the question of "how information constructs the body", because ultimately that's what I've been interested in since reading *Prosthetic Culture* three years ago. While I'm still working on the phrasing of the question, mainly because I think the word "information" is at once too broad and too specific, the word "body" is incredibly intentional. I could use the terms "identity" or "personality" but those tend to refer to things that are more static, and "body" has the idea of something that is distinguished from, while also fully engrossed in, its network of perceiving the world.

Because of this, I shifted the components of the piece completely in my head. While I haven't mentioned it much here, I have throughout the semester been working on something like a script of ideas to put on a group of six to eight performers. But with the idea that this needs to be focused on a body, I realized that a lot of the time, connective technology starts from a single point that traces out into a bigger network of things. So now, I'm going to start by working on a solo piece, which not only makes sense in context of the subject matter, but is also more practical, since now I have a lot fewer schedules and technical abilities to negotiate. Right now, I'm thinking of setting it on myself since the amount of research I'm investigating might be hard to communicate and explore within a semester's worth of time with other people.

But since I have very bad stage fright and believe that in performance the audience is an essential part that needs to be implicated, there are a few things I want to explore and include in order to broaden the amount of perspectives and participants in the piece. Returning back to the large light in my closet, I'd like to attach it to a bicycle generator and use it as the lighting source for the show. Since it's a solo show, I'd have the audience negotiating and taking turns in keeping the show lit, stopping anytime the light goes out, creating moments of disruption where suddenly people have to remember each other to keep things going. Since I'm fully aware that this is kind of an expensive undertaking, I'll be applying for a grant to get funding in order to build it. The other framing device I'm interested in is a series of interviews with people where we explore what their experiences are when it comes to different forms of connection and disconnection. But these would take on a bit of an unusual format, kind of entering the territory of "psychology experiment". I'd film from two perspectives, one camera in a dark corner, the other would be visible and framing interviewer and subject. It'd start as a traditional interview, then the interviewer would give the subject an envelope and take away the visible camera. The subject knows that there's another camera, but they'll be asked to finish the interview alone, reading questions from the envelope and answering them to the room.

When I originally proposed this project, I said that ballet would be an important part of the exploration, and I thought that I'd be working from an oral historical perspective collecting ideas from various people around campus regarding their relationships to the idiom. But when I started this semester, I realized that the concept of connective technology was complicated enough that I should focus on it exclusively initially. Now, I think that I'm going to stay on the path I've been following, instead of adding in yet another thing into my consideration. That's not to say ballet won't be present, though. I've found that when making something in the past, I'm often working with two sets of questions, a public set and a private set. The private set are the ones that are answered but in subtle and secretive ways with in the work. They're positioned in places that make sense, but their significance is really only visible to myself and maybe to people who know me well. This is a long way of saying that I think ballet and my questions relating to it will be part of the piece, but not necessarily part of its public conversation.

One of the last readings I did this semester was assigned for another class, but reframed how I was viewing systems, and helped expand the vocabulary I've been working with regarding network.

Riccio, Thomas. "Rhythm Reality " Rhythms and Steps of Africa, WAM Publisher, 2012, pp. 121–135.

> In African culture, dance, and world beliefs, rhythm is at the root of everything, and even from a somewhat scientific perspective, rhythm overlaps are constantly forming a sense of topographical place.

I love this essay since it discusses this idea of system, which I associate with kind of an external quality, from the perspective of rhythm, which has a more of an internalized sense and sonic idea to it. Not only in terms of how it discusses polyrhythm both performed and constant, but also the term rhythm itself reflects the idea of network. How it does this though, I haven't found the words to explain yet, but that might just make it better suited for exploration in a studio.

Riccio's writing ties into some of the ideas of Luciana Parisi, whose work I'm looking at over break. I became excited about Parisi when I read her essay, "The Nanoengineering of Desire", where

she discusses ideas behind body-sex through criticizing the dichotomy of Natural vs. Cultural, then favoring the idea that with a quantum theoretical perspective, everything could fall under the category of cultural. "The Nanoengineering of Desire" in all honesty, it's a pretty complicated piece of writing and I'm still trying to understand it. But from what I gathered, Riccio talking about rhythm as worldly element ties in nicely to Parisi's idea that the base of all matter is phenomena. Between these two texts, I've found new ways to consider the idea of "network" from both a more sonic as well as quantum perspective. This, I think, is what I want to keep thinking through as the project progresses, looking at the different sensorial ways to think about this landscape and find a new dimensionality in my understanding of it. As I keep thinking about this I've been reading one of Parisi's books:

> Parisi, Luciana. Contagious Architecture: Computation, Aesthetics, and Space. The MIT Press, 2013.

>> "A proposal that algorithms are not simply instructions to be performed but thinking entities that construct digital spatio-temporalities."

It's one of those books that is ten steps down a line of logic you're already interested in. I've also been looking through the writing and films of Apichatpong Weerasethakul, whose work I was introduced to my first year. It contains an incredible consideration and documentation of how rural Thailand has been transformed, from considering the endangerment of ghost stories to looking at the instillation of Electrical lines and factories.

I'm working on practical measures as well, thinking through how I'm going to schedule rehearsals, looking for people who could help run any lights or sound, as well as figuring out what I have access to in terms of equipment and resources. There's only so much I can do regarding these now, since a lot of it depends on coordinating schedules and talking to staff and faculty. Already I know the key to a lot of this work is going to be time, and regularity in practicing it. I'm at the point right now, where I have very few exact visions for what this is going to look like, but a lot of ideas I want to explore. This is probably the best place I can be, since from here I can really develop something rather than "stage the internet".