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Art and Internet Infrastructure
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Shortly after the Coronavirus pandemic shut down our schools, our cities, and our social networks, I was asked to sit on a virtual panel titled “Art, Music, and Poetry in the Time of Social Distance.” The panel invited cultural producers to talk about the impacts of the pandemic on our artistic practices, and how these artistic practices might in turn be able to explore the lived realities of the pandemic in generative, creative, and meaningful ways.

At the time of this panel, George Floyd was still alive. The US was just beginning to see the pandemic march forward in ways that both cemented and exacerbated structural inequalities, particularly along racial lines. No one had yet called COVID-19 one half of the “twin pandemics” along with racism as they would in the months to come. Artists like me were instead coming to terms with cancelled exhibitions and lost income, and many were wondering how -- or if -- the mass of shuttered cultural institutions would survive. Now these concerns seem somewhat tangential to the bigger issue of how to deconstruct systemic racism and violence in order to rebuild a more just society -- an urgent task for the activist, the artist, the citizen, the teacher, the learner, the worker, and the people. The artistic response that follows here is therefore very much a time capsule: a look at creative practice in the time of a public health pandemic.

I make art because I have something to say. I am a multimedia artist who exhibits my work in galleries and festivals internationally, and am used to having a voice. But as I considered artistic responses to the pandemic, I felt it was urgent to acknowledge that art might have nothing to say at a time like this, and that it might be productive for art to have a crisis about impact. Likewise, I feel that the drive for artists to respond immediately -- rather than in time, with a thoughtful period for consideration and digestion -- derives from an unhelpful neoliberal and capitalist framework of always-new, always-on culture that my artistic work often seeks to disrupt. Finally, I feel that it is essential to recognize that we often look to art to uplift us in times of great upheaval. I certainly take joy in the creative moves that people began making one month into the COVID-19 pandemic, such as the Australian trend circulating under the hashtag #binisolationouting, whereby ordinary people began taking out their trash bins to the curb donning fantastic costumes, with the idea that their bins were “going out” more than they were. To me there is a joy in seeing a grown man dress as an inflatable dinosaur as he rolls out his trash cans from his garage: it is the joy of creative whimsy injected into the mundane every day. However, as artists, I think we must be careful about letting art become pigeonholed into a singular use of uplifting spirits or entertaining. I believe that artistic practice should also challenge, complicate, reframe, and at times even depress its audience as it communicates.

Turning to my own work, I am an artist of new media, which means that I make work about technology and the technological world around us. Oftentimes, I use technology as my...
medium, itself, working through computer code for instance. But I also make videos, performances, images, texts, and social practice pieces. At the end of March -- when the greater Bay Area was exactly 1 week into shelter-in-place -- I released a new work titled Internet Aerobics (Figure 1): a 20-minute aerobics workout routine about the Internet, streaming to its audience through the Internet. This piece was commissioned for an art series called Heavy Breathing, which is a set of experimental movement seminars designed by artists that combine physical activity with critical discourse. The goal of both the series as a whole, and Internet Aerobics in particular, is to ask what new modes of critical thinking become possible when we are moving our bodies.

Internet Aerobics is akin to a Jane Fonda tape for the Internet age. Filmed in a computer lab, aerobics embody multiple facets of online life, with packets of information speeding through Wi-Fi networks, routers, data centers, fiber optic cables -- often at different speeds due to the lack of net neutrality laws. In Internet Aerobics, aerobics props of long, blue ethernet cables are used, and hyperlink blue is celebrated as the color of online opportunity -- of links that have not yet been clicked (Figures 2, 3, and 4). This workout routine is an invitation to viewers to sweat along in front of their own browser tabs while embodying internet infrastructure, and thinking about and moving through the very makeup of the Internet, itself. Once shelter-in-place began, we came to rely on the Internet in profoundly deep ways for our everyday activities, making it more urgent to critically consider the role of these networks in our lives.
I released *Internet Aerobics* along with a suggested reading list that accompanies the physical workout (see Figure 5). It was important to me that this piece actually have something to say about the Internet: that it be educational, for instance, so that participants learn what a DNS is; and that it be political as well, by advocating for net neutrality governance that might equalize bandwidth speeds rather than give preference to large corporations. Most importantly, *Internet Aerobics* is a work meant to be done at a distance: it’s a noncommercial form of exercise that can be downloaded and streamed in one’s home. It speaks to the new rhythms of isolation, containment, and connectivity, when many of us began to sit in front of our computers far more than we ever had before, and use Internet bandwidth in ways we might not have considered.
As a media artist, I believe the COVID-19 pandemic has signaled a new urgency around the observing, researching, and gathering of meta-commentaries surrounding our increasingly technologized world and our relationships to our technological objects. For instance, telecom towers were destroyed across England this past April after people who believed that 5G causes coronavirus set them ablaze. Besides being a conspiracy, what do these kinds of stories indicate about our relationship to technology? Likewise, what do our relationships with -- or ignorance to -- technological infrastructure more broadly signal about our increasingly digital lives?

I will end by considering one of the foundational infrastructures of the World Wide Web. While the Internet often feels immaterial and Wi-Fi bountifully invisible, our networks are in fact supported by miles and miles of sub-oceanic fiber optic cables that physically line the ocean floors in order to connect continents to each other via the Internet (Figure 6). For Bay Area residents, the closest fiber optic cable docks in Manchester, CA, just south of Mendocino and near the town of Point Arena. This cable powers the Internet in all of Silicon Valley and is

Suggested readings:

- Kyle Vanhemert, “A Field Guide to the Internet Infrastructure That Hides in Plain Sight” (Wired, 2015)
- Electronic Frontier Foundation on Net Neutrality
- Guide to some other Bay Area Internet Service Providers (ISPs) beside the big corporations
- Keith Shaw, “What is DNS and how does it work?” (Networkworld, 2018)
- Tom Riecken, “Learning ASCII Character Codes Is Surprisingly Easy If You Follow This Guide” (2018)

Figure 5. Suggested reading list that accompanies Internet Aerobics, publicly available on Heavy Breathing’s website.
routed under Highway 1 for long stretches at a time. However, roughly half of the households in Mendocino county have marginal or no broadband access, as providers like AT&T skip over them in favor of serving high-yield customers in Silicon Valley.

Figure 6. A partial map of sub-oceanic fiber optic cables that line the ocean floors and power the internet. Image from www.submarinecablemap.com.

As an artistic intervention, three collaborators and I laid our own fiber optic line in the town of Point Arena, less than 15 miles from the Manchester Cable Landing Station where the submarine fiber optic cables that power the Internet connect Northern California to Japan. Titled Field Link, the cable was installed over the course of four days as volunteers used shovels to dig a trench for the fiber optic cable, laid it, terminated it, and buried it to create the first-ever citizen-laid fiber optic connection (Figure 7). At the cable’s terminus, we installed a platform for visitors to connect to high-speed internet in the middle of a field of golden, tall Californian grasses (Figure 8). Field Link is absurd on purpose: it marks the importance to making technological infrastructure and distance both physical and felt, especially in times dominated by disembodied digital existences. As the pandemic shifts into a lasting global health crisis, it has increasingly transformed the physical into digital: our bodies become icons on screens, and our screens connect to vast and mostly invisibilized networks around us. At times like these, it is all the more urgent for artistic practice to problematize the physical-digital divide, and to reinject it with a productive friction that asks what our networks are for, who they serve, and how we want them to be structured for a more equitable future.
Figure 7. Volunteers digging a trench for *Field Link*, a citizen-laid fiber optic cable in Point Arena, CA, 2015. *Field Link* was made in collaboration between the author and Sam Kronick, Ben Lotan, and Tara Shi.
Figure 8. Browsing the internet at the terminus of *Field Link*, a citizen-laid fiber optic cable in Point Arena, CA, 2015. *Field Link* was made in collaboration between the author and Sam Kronick, Ben Lotan, and Tara Shi.