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Non-binary Futures

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Taeyoon Choi

Taeyoon Choi is an artist, educator, and activist based in New York and Seoul. His art practice involves performance, electronics, drawings, and installations that form the basis for storytelling in public spaces. He has published artists' books, including *Urban Programming 101* and *Anti-Manifesto*. Choi's solo exhibitions include *Speakers Corners*, Eyebeam Art and Technology Center, New York (2012); *My friends, there is no friend*, Spanien 19C, Aarhus (2011); and *When Technology Fails*, *Reality Reveals*, Art Space Hue, Seoul (2007). His projects were presented at the *Shanghai Biennale*, Shanghai (2012) and Whitney Museum of American Art, New York (2015). He curated *Resistance and Resilience* at Usdan Gallery, Bennington College, Vermont (2012) and directed *Making Lab* at Anyang Public Art Project, Anyang (2013). Choi holds a B.F.A. from the School of the Art Institute of Chicago and a M.S. from the Korea Advanced Institute of Science and Technology. He teaches at the Interactive Telecommunications Program in the Tisch School of the Arts, New York University. Choi co-founded the School for Poetic Computation where he continues to organize sessions and teach classes on electronics, drawings, and social practice. Recently, he's been focusing on unlearning the wall of disability and normalcy, and enhancing accessibility and inclusion within art and technology.

I don't know about your first experience with the Internet, but mine was not a feeling of liberation. It was not like connecting to an unlimited matrix. It was not a moment of revelation. The Internet offers amazing possibilities to discover new ideas and connect with people but it can also be used as a space of deliberate control. I was always curious why people—technologists and innovators, engineers and theoreticians, and historians and futurists—talk about the "good ol' days" of the Internet when it was a free, vastly open space. Perhaps it's related to the belief that the Internet was created to be a space free of regulations, like the Wild West. I question why the American frontier metaphor is so appealing, and to whom it is appealing.

When I think of the American frontier, an image of John Wayne from the 1972 film *The Cowboys* pops into my mind. In this film, set in the Wild West, there is a noticeable absence of Native Americans and other people of color. I see a connection between Wayne's frontierism,

and the contemporary iteration that's often called innovation as both are based on the notion that uncharted territory is an opportunity waiting to be discovered. But an opportunity for whom? Which people and natural environments are exploited and erased in the process? It's not surprising that John Wayne, the archetypical cowboy, held conservative political views in the later part of his life. The imagination of the frontier is limited to what pioneers know. They go to new places only to recreate the world they left behind and the violence they fled from.

The prevailing narratives of technology, innovation, efficiency, and scale share a sense of optimism. John Perry Barlow, Grateful Dead lyricist and co-founder of the Electronic Frontier Foundation, said "We will create a civilization of the mind in cyberspace. May it be more humane and fair than the world your governments have made before" in A Declaration of the Independence of Cyberspace. Since its creation thirty years ago through today, the Internet continues to be considered a new frontier, decentralized public space, and distributed commons. Today, the Internet is an important part of public life for many people, from libertarians seeking investment opportunities, mining coins, and training automata to communities who are concerned about their privacy, autonomy and freedom online.

What is the Internet, really? The Internet is a computer, just the largest computer that's ever been built. The Internet is a decentralized network of computers that operates on binary computation. Binary is a powerful numeric system that represents all numbers in zeros and ones through repetition and abstraction.

The predominant narratives of technology often obfuscate crucial details and material conditions of computation. This reduction results in misrepresentation. For example, cloud computing is a clever branding of decentralized databases that disguises physical realities. When we order a product from the Amazon.com, the order goes through a complex chain of computational systems, physical infrastructures, and supply chains that we can't see. Ingrid Burrington

writes, "In part, the success of Amazon's web services, arguably the success of Amazon itself, lies with its ability to abstract a infrastructure into a logistics problem" in Why Amazon's Data Centers Are Hidden in Spy Country. When we are anxiously waiting for update from our Amazon Prime, 2-Day Free delivery, we don't think about physical infrastructures or the consumption of energies and natural resources. Our interactions on websites or mobile apps, misrepresents all human, animal, and environmental interactions as a transaction of information.

Who builds the Internet? To revisit the Wild West, there are the cowboys, white male engineers on the bleeding edge of innovation, and there are the miners, such as the Chinese American miners photographed in the Colorado School of Mines near Idaho Springs, Colorado in 1920. These folks were often referred to as "coolies," immigrant laborers working in extremely impoverished environments, often extracting natural resources or building physical infrastructure that would make transportation and communications possible. Just like the Native Americans and Chinese American miners who didn't make it into The Cowboys, there are wide range of erased people who build the technologies that are inherent parts of the reality we live in today. The lack of representation of the diverse people involved with computing and network technologies leads to the general disregard of their labor and reinforcement of the stereotypical image of the tech innovator as a white man. The tech innovator's world views are based on binary division: Zero and One, True and False and Profit and Loss, which offers little space for non-binary identities.

Essentially, what I want is for the Internet to be a non-binary, non-centralized space. This is an oxymoron because the internet is computation, and computation is primarily digital, which is binary. I'm trying to imagine the Internet that is non-binary, which may not be possible. However, this quest for impossible types of space is what we should do as artists.

Why does this matter? A non-binary future is important because the Internet is built from binary reduction and centralization. While tech

giants salute the concept of decentralization and distribution (two different but closely related concepts), they are actually looking to extend their ownership and power via the centralization of control. There is a slide from Microsoft's acquisition of Github which says, "Intelligent cloud, intelligent edge." At the center of the image is a cloud and on the periphery of this cloud it says, "The world is a computer," and the developer is at the center. Arrows are pointing up towards "marketing, operations, etc" to other infrastructures around the space. This is the type of worldview that tech companies believe in and one that they want us to subscribe to. However, the world is not a computer. The world is messier and unpredictable and it requires intimate care. For technical and political reasons, the Internet stops working in different parts of the world.

Autonomy and access to information is crucial. We don't have a lot of control over the data on the Internet. As much as it seems like we can share our data conveniently, most data will disappear in a few years and some of that data (that perhaps we don't want around) may stay online forever. This is what Wendy Chun calls the "Undead" of information. A type of, "walking dead" data that we just can't seem to get rid of but that we also can't acquire when we need it. A great example is the EPA data that the U.S. administration changed and made inaccessible. When we rely on commercial platforms or government facilities, they can stop working at any time.

What kind of internet do we need to build? If we are challenging the computable future – a world where everything presents itself as orderly and computation seems to be a mode of operation for every kind of governance and human relation – what kind of computing technologies and software do we want to build to preserve humanity? There are uncomputable aspects of human life and the natural environment that we need to respect and preserve.

Distributed Web of Care

As a person who spends a bulk of their time on the Internet, I'm concerned about the hyper-commercialization of attention (via social

media applications), surveillance and privacy, libertarian tendencies of pro-deregulation, and guarding the basic code of conduct on the Internet. I want to ask how to create a habitat of care and rigor where we flourish as a community. Decentralization, in itself, is not enough. There are striking similarities between decentralization and structurelessness. Jo Freeman, one of the key figures in first-wave feminism explains how the idea of structurelessness can become the ultimate liberative model intentionally trying to mask the power structures that exist in the Tyranny of Structurelessness. She suggests that the authority should be distributed among as many people as possible. Distribution, delegation, and empowerment are important considerations in my work as a teacher and organizer.

> This brings me to the final point of the distributed web. Distribution is different from decentralization because decentralization offloads agency and responsibility via delegation while distribution obligates everyone to care and need each other because it fosters interdependence. We can think about dandelions and the different proliferation of ideas over space. One project I've been looking at is Dat Project, a distributive data community and peer to peer protocol. The project was started by a group of scientists trying to share environmental data and is sometimes explained as a forkable web. Fork means that you can create your own clone of a project. The way Dat protocol can be used to share data is different from how we typically use email clients or file sharing services. Each user can share or sync data directly with another user by accessing a particular address to retrieve that data. The Dat project is providing alternatives to traditional peer to peer file sharing, such as Bittorrent, by making it easy to have a version controlled history of a file and also keeping the integrity of the large data set.

There are a lot of activities in this space right now. There are people building shared documents or livestreaming toolkits that share the DIY ethics and independence of grassroots communities. I've been working on the Distributed Web of Care, inviting a diverse group of writers and

artists to imagine different types of the Distributed Internet from their perspectives, which are often marginalized identities in this space. The result of our collaborations can be workshops and performances, or educational and technical.

Last part

The pioneers were searching for their future in the Wild West. Their future was a binary future. We can draw an equation between a few parallel concepts of the binary. Binary is zero and one, digital is on and off, dialectical is truth and false. These are all computable states. Therefore, the binary future is, essentially, a computable future.

The computable future is a brightly light space filled with glossy possibilities. The uncomputable future is a space of darkness. However, this is not a darkness of pessimism or negativity. Instead, it's the darkness inside of the forest, potentialities of dark matter, darkness of the unknown, indescribable, and, ultimately, unknowable future. The unknowable future is a humble place. We need to accept that we can not know the future, and the act of speculation often reveals more about the desires of the present. The unknowable future invites people who don't fit in binary identities. Human nature is essentially uncomputable and the efforts to quantify the sense of self leads to great reduction. In fact, most people don't fit into the reductive binaries of man or woman, abled or disabled, privileged or marginalized.

Non-binary futures are not limited to the XYZ Axis, Cartesian coordinates. Instead, they have multiple interlocking knots of encounters.
In this space, we find the sense of commons and common sense.