Imagining an optimistic cyber-future

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Mastering most things humans do requires lifetimes of practice. Woodworking, gardening, and painting are just a few crafts whose histories stretch back thousands of years. But modern telecommunication, the act of communicating nearly instantaneously with someone from afar, is different. Its history is so short that there is relatively little of it: the very first electric telegraph is not even 200 years old, the first telephone patent was granted in 1876, and the World Wide Web was invented in 1989—a mere 32 years ago. The very newness of digital telecommunication means that the Internet we know today is still in a sort of genesis moment. Cyberspace has barely cooled from its initial big bang. The nature, shape, and ultimate utility of our galaxy of computerized (inter)networks are still being formed.

Cyberspace's infancy partially explains its volatility. In the last half century, computing power made at least three great migrations. It first existed solely at specialized, isolated campuses. These early, lonely mainframes were like stars in a mostly empty sky. Then came the Personal Computer (PC) revolution of the 1980's, which rapidly dispersed compute power among homes as though the corporate mainframes burst into millions of pieces. Most recently, compute power has coalesced into datacenters like planetary bodies forming from so much stardust. Consumers know this latest formation as "The Cloud," in which multinationals like Google and Facebook are the strongest gravitational forces. The pendulum swung from centralized to decentralized, and then back to (kind of) centralized again.

Next time the pendulum swings—and it will—what might the catalyzing event be? What shape might the networks that connect our modern world take? And to what ends might we apply such a shift in compute power?

Such questions are critical exercises for honing our collective imagination. They help us refine the language we'll use to describe the future we want to make real. Unlike the trajectories of stars in the sky, what computers do and how they connect to one another are not choices preordained by God. We decide. And since the impact computers will have on our lives is ultimately up to us to determine, imagining an optimistic cyber-future is the first step towards improving our relationship with digital technology.

Social media and its role in society

What is civilization if not knowledge concretized into the physical world around us? Homes have running water because of piping first laid years ago. We call this "plumbing." But plumbing is an activity only possible because of thousands of years spent refining the practice of moving water from one spot to another, an activity so important to so many follow-on activities that our civilization built increasingly specialized tools and water-handling infrastructures to make the task easier, like aqueducts, reservoirs, and water pumps. Modern hydraulic engineering techniques would probably seem magical to early plumbers, but each improvement was relatively obvious when it

was first introduced. Most of this "obvious" knowledge no longer exists directly in any living plumber's memory because it is instead embodied by the very tools plumbers use; an S-trap pipe "knows" how to create a liquid seal under a sink whether or not those using the sink realize its importance.

Similarly, what is society if not the aggregate of communication between individuals? Social life is defined by—and exists within—the abilities one has to communicate with other people. Love letters sent to a sweetheart, dinner conversation with friends, watching the nightly news, or waiting in your car at a red light are all examples of society taking shape in real-time: they are communiqués from one individual or group to another reinforcing or reshaping their position in society. Some social norms erode, others strengthen, and new ones appear as people interact. Society therefore depends on the ability of its participants to contact one another, which means it needs to have a medium over which its participants can engage in expressly social behaviors. Framed in this light, the term "social media" could be understood in the profound way it needs to be if we are to use it as a collective social good.

Unlike the Social Media™ of today, which stimulates an imminent need for human connection but is never never meant to fulfill it, the social media of our optimistic cyber-future will fulfill existing needs for human connection but will not be designed to stimulate a need for more. Imagine no more notifications pressuring you into meaningless interactions. No more "happy birthday" reminders from people you friended decades ago and haven't talked to since. An end to newsfeeds full of FOMO-inducing selfies.

Instead, social media will support pro-social community interactions, and eschew hollow engagement. Its purpose will be stimulating human(e) connections that prioritize the emotional/mental, spiritual/intellectual, and physical/material needs of the people connecting. This simply means that time spent using online platforms will be primarily intended to support *offline* metrics, rather than being designed to addict users to the online activity itself.

The cacophonous distractions of Facebook and Twitter notifications will be gone not because selfies aren't ever taken or shared, but because the "front page" of social networks more honestly serve the needs of actual life. As you log in, instead of being encouraged to doomscroll, imagine being presented with a tip on homemade bread-making posted by the proprietors of your neighborhood bakery. Perhaps you are acquainted with them through their 50th anniversary video call "party" some months back, an event that had simultaneous in-person and virtual meeting spaces as has become commonplace. Also, you don't "follow" the bakery account to receive the update any more than you stalk an individual across town as they go about their day. Rather, you simply happened to be in the same (cyber)space at the same time and "overheard" them in the middle of a public discussion about bread-making. This mimics the way your ear naturally tunes in to a conversation between people you know when you walk by them on a crowded street. Browsing social media will feel more like strolling downtown, and less like quietly wiretapping a distant target.

A social medium that serves rather than subverts the social needs of individuals is also by definition more capable of providing society with a healthier connective tissue, or social fabric, from which positive connection can more readily grow. By recognizing social media as a critical shared resource worthy of protection in the same way rivers and streams are, our social networks can return to being sites of communal engagement over community matters that are defined more prominently by events that shape our day-to-day lives rather than distant celebrity, the way neighborhood centers, town squares, and even marketplaces are today. This does not mean we imagine a total absence of long-distance communication, but rather a restoration of healthy priorities in which the embodied human condition is reflected in the digital technologies we use to go about our lives.

Engaging with our friends, neighbors, and communities will focus once again on concerns over physical space and matters that are relevant to our material lives, rather than some future afterlife, incorporeal existence, or sensational spectacle.

Privacy, property, and abundance for everyone everywhere

Property laws have long been used as a strategy to manage the working class. During the Industrial Revolution, labor militancy was at times effective at disrupting property's supremacy. Union organizing could resist the most exploitative aspects of industrial capitalism because a boss's dependency on the workforce offered workers a means to slow the widening gap in power and control over material resources.

Today, Big Tech employs a similar strategy, though its logic is stretched past absurdity. Workers rent access to online services laced with behavioral trackers from electronic strip malls, where they buy stuff they don't need, hawked by "influencers" using social networks designed to addict them to hatred, fear, and disinformation. All this user data is sold to corporations as fuel for powering AI systems capable of replacing and outperforming us in both manufacturing and service jobs. Data itself is now treated as a form of property, *intellectual* property, even though the logic of ideas is incompatible with the logic of material things. In this new "attention economy" we are making the machines who are buying our thoughts.

In "A Hacker Manifesto," Mackenzie Wark identified the enabling characteristic of such an economy: the way information is being commodified. Intellectual property, she writes, is an abstraction of capital, which is itself an abstraction of land. In the industrial age, economic value was tied directly to the limited amount of land that could be owned. By abstracting value from land, landowners were the first to generate intangible wealth as stocks and bonds.

But abstractions cut both ways: take abstractions too far and their concrete forms lose their immediate potency. For example, a group of workers alienated from their land

have few capital resources with which to stage a rebellion, but a group of *telecommunicating* workers need not rely on the concreteness of physical place to generate value and can thus access new and different resources with potentially fewer constraints. The ability to telecommunicate, as Andrew Feenberg observed, "shifts the boundaries of the personal and the political," extending "politics into daily life"; events as varied as the Arab Spring, the Black Lives Matter movement, and the formation of patient advocacy coalitions such as recent COVID-19 Long Haulers groups are all examples of this.

While it is the people capable of developing a telecommunications network who benefit most from its physical deployment, it is the network's topology that determines who will ultimately benefit most from the doubly-abstracted currency of the data-as-property generated by activity on the network. In a centralized system like Facebook, Facebook is the main beneficiary because all activity is directly mediated by Facebook. By design, mere activity on Facebook's network inevitably enriches Facebook. This is analogous to the way the rentier class extracts money from renters, preventing them from building wealth through home ownership. With the emergence of digital subscription services like Netflix and Spotify, workers must contend with the legal regime of (intellectual) property, technical centralization, and the economics of rent-seeking all at once.

But the same activities made possible by existing centralized systems are also possible on decentralized infrastructures precisely *because* of data's abstractedness. Decentralized networks provide another benefit: they enable coordination with no single command center, which is itself an obstacle to acquiring data-as-property. Mesh topologies do not inherently enrich an existing monopoly, but rather the participants themselves. A group of telecommunicating workers organizing on a centralized system might be able to use tools unavailable to early 20th century labor unions, but their organizing still won't produce wealth of their own. By switching to a decentralized system, the act of organizing itself becomes an act of self-enrichment with no theoretical limit in the data/attention economy.

Imagine how such a communications network could make political discourse of immediate material benefit to those who engage in it. Reclaiming speech from being a data-product mined from our minds will return it to our communities as social cohesion, creating a virtuous circle enriching our collective consciousness. Discourse will highlight reasonable argumentation, aided by collaborative annotations and speedy fact checking tools to help people avoid regurgitating misinformation, opening up opportunities for more productive interactions.

Community-oriented discourse inherently favors local businesses, keeping local wealth in the community. As social ties grow stronger within the bounds of physical proximity, the line between public and private property will inevitably blur. Neighborhood wellbeing systems will grow out of these ties, too, connecting and strengthening interactions where we look after each other to provide security. Rather than outsourcing our individual safety to Ring cameras sending video streams of our

homes to police departments, neighborly telecommunication is used to supercharge existing physical-world alternatives like people letting their neighbors know if they need someone to look after their kids or pets. The "neighborhood network," no longer wholly operated by Amazon Sidewalk, will become a way to break the ice between neighbors and encourage community engagement.

Meanwhile, as the value of data increases, the notion of "property" will continue to evolve from describing objects we own to describing knowledge we share. The most valuable things in life are already those things that are worth as much "used" as they are "new," a distinction that no longer exists in cyberspace. And so the endless replicability of digital things, once punished as "piracy," will be embraced as a way to create new wealth rather than suppressed in the pursuit of rent.

The rise and fall of techno-feudalism

As the Internet embeds itself into more elements of daily life, more people recognize that the gap between State and Corporation is closing. The global economy has already become increasingly codependent with multinationals who are amassing State-like powers and developing bureaucratic governance structures. Critical government functions already rely on corporate operators who are increasingly defining the same government policies they operationalize. Government has all but abandoned its sovereignty as it merges with industry, since government relies on industry to function. Meanwhile, industry is aggressively grafting itself to government since it relies on the functions of the State to police its labor force and to legalize exploitative employment practices. Over time, Silicon Valley will replace everything with robots, and politicians will turn to ever more draconian measures to quell rebellions against the technocracy on which their governments depend.

As glaciers melt, wildfires rage, and government services fail, we imagine more and more of us will recognize the need to decentralize power to push back against this dystopian chimera. We will establish many new heterogeneous infrastructures for networking, storing, and sharing information, because this is important for regaining our autonomy. It has in fact already begun.

Many dual-power projects and self-owned telecoms networks are exploring ways to thrive while minimizing their cooperation with existing capital. The material conditions and physical components necessary for such success are becoming more accessible. For example, physical telecoms infrastructure—radios, cabling, and internetworking devices (routers)—are now almost as ubiquitous in cities as wild grass on ancient plains.

Since the Internet is at its core a set of interconnected computers, many people in dozens of countries already have all the materials they need to service many of their day-to-day needs without involving large companies or sums of money, like keeping

phone numbers synchronized across multiple devices, planning their days with a digital calendar, or drafting documents. We need only take a few steps beyond such modest origins to imagine far more impactful uses for the same equipment where security, autonomy, and activism are interwoven. This realization is leading more and more people to abandon monopolistic corporate services by providing the services they need for themselves using "home-brew servers" running Free Software, like a generation of pioneering digital homesteaders. Even better, in cyberspace, newcomers need not displace an indigenous people to settle cyber-land because the metaphorical "land" itself is virtually infinite.

The Internet as we know it today collapses the experience of distance, making every location in cyberspace feel as near as any other location. But in our optimistic cyber-future we will have resisted the temptation to abandon the physical realm, and thereby the Earth, by focusing instead on interconnecting our own servers and local networks with those of our neighbors. This will have been a key step in building the community-owned and surveillance-resistant networks that eventually give rise to powerful autonomous territories, having enabled us to conduct local coordination on local infrastructure, rather than on Facebook's.

Like the earliest stars in the emptiest skies, these pockets of freedom will grow out of mutual aid networks and good old fashioned neighborly camaraderie. There, an economy organized around freedom and care rather than production and consumption will mean certain needs—food distribution, educational pedagogy, and more—will be fulfilled differently than in the surrounding bureaucracy. The autonomous pockets will quickly seek to interconnect, covering more ground as their practices and networks mature.

Meanwhile, the techno-feudalist State will continue intentionally destroying its citizens' lives through overwork and fascist concentration camps, weakening its ability to extract labor and enforce dogmatic ideology. Its citizenry will face an increasingly stark choice between ecological harmony and autonomy or eventual extinction and serfdom. Surrounded by technology that has turned everything around them into a tool and anything into a weapon, they betray the State, choosing liberty over patriotism.

Fleeing the *ancient regime* grants us access to new spaces for learning and more "free time" for filling with our own curiosity and desires. In-person connection will be encouraged by merging physical resources like tool lending libraries with intellectual resources like traditional book libraries, further enabling cross-disciplinary exchanges that propel a neighborhood's development. In some cases, certain data stores could be most easily accessed in-person at one of these next-generation community hubs, reminiscent of the best parts of religious gatherings or nightclubs.

Borders separating rural and urban areas will fade as telecommuting will become more feasible in more jobs. Weather monitoring equipment will be installed at inner-city community gardens. It will be maintained with the same care and by the same team that ensures the crops there are properly watered by the weather-sensing irrigation system hooked up to the region's intranet. Such geographical consciousness also makes

it easier to imagine more ecologically sustainable futures, in which anti-racist modes of energy production rebalance the burden of climate disaster more equitably across the Global North and the Global South, perhaps by encouraging both individual and institutional action that brings solar energy production costs down.

Having rejected the absurdity of intellectual property, the autonomous regions will be covered by a near total mesh network like an electronic circulatory system. Important public archives, like Wikipedia, will be automatically copied in full to numerous locations in each neighborhood. This will make the notion of paying for Internet access obsolete because residents won't want to pay to reach a distant server when the majority of what we need is readily available in one of a number of nearby locations freely accessible via myriad routes. Horizontally scaling out data stores also dramatically reduces the strain on long-distance links, enabling the autonomous regions to more easily establish free peering relationships with one another. This enmeshed communication will further support anti-colonialist practices of inter-communal, inter-generational, and even international activism that continues to fuel the downfall of the former techno-feudalist society.

Automation will continue to economically devastate the techno-feudalist State due to its zeal for punishing idleness, causing bread lines to grow to horrific lengths. In contrast, the autonomous regions will use increased automation to reap productivity out of shortening work weeks. Eventually, as more economic activity is automated, organized asynchronously, or people simply become willing to embrace new methods of work (without being forced to do so by a traumatic global pandemic), everyone will finally be free to make their own choices about how they spend their time.

Empty city lots and even residential lawns will be transformed into food forests. Next door to each of the food lots, social knowledge hubs will be built because food will be revered as the center of social life. These hubs will host seed-swap events for other urban farmers, replete with seed library catalogues, food share and organic waste systems, and eco-education events. They will publish digital calendars, and the same system will be used to coordinate work schedules among community members. This infrastructure could also catalyze in-person encounters by combining digital resources such as poetry libraries with a platform to participate in poetry readings and writing workshops.

No longer will the social function of something like a garden be made separate from its material function. Telecommunication can facilitate their rejoining. Perhaps it was always meant to.

The Ted K Archive

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