Big Tech Won't Make Health Care Any Better

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Apple CEO Tim Cook claimed in 2019 that his company's greatest achievement will be "about health." But the pandemic has shown that Big Tech's involvement in health care is all about data collection.

Big Tech sees the world as a readable map — and it's long since catalogued every street, hill, and house and begun digitizing every book and photo. It's even aggregated our behavior into analyzable datasets; and as the number of digital devices probing the self and the world increases, so too does the tech monopolies' influence. The borders between digital representation and analogue reality, between map and territory, are becoming ever more elastic.

Maps don't just enable navigation by describing the world. They also turn the world into something manageable and controllable. In this sense, tech companies' constant search for undiscovered terrain should be no surprise. Devices like Apple Watch are just the first forays into a large-scale attempt to map life itself. Asked in 2019 about his company's greatest contribution to humanity, Apple CEO Tim Cook answered that it would be "about health." He could have been speaking for all of Silicon Valley.

Big Tech's ambitions to expand into health care have gained new intensity during the pandemic. The emergency hasn't only made GAFA (Google, Apple, Facebook, Amazon) a ubiquitous, seemingly indispensable presence in our lives. After several years of scandals and congressional hearings for the tech giants, it's also given them a chance to rejuvenate their altruistic image by presenting themselves as champions of a new digitalized branch of health care.

In these conditions, it seems only logical that forecasts anticipate the market for digitized health care will balloon to $979 billion worldwide by 2025. The cutting-edge products and services that these companies are using to relaunch their old and idealized (self-)images will also entrench their power within surveillance capitalism, enabling them to cannibalize even remoter regions. As the geodesists of the digital world have long known, sovereign is he who has the best maps.

Google: Mapping the Body

One of the most sophisticated players in the health-mapping business is Google's parent company Alphabet. It invests relentlessly in both health start-ups and more established companies, and has researched smart contact lenses and surgical robots. Through an AI venture named DeepMind, Alphabet has worked to develop algorithms for predicting disease progression in order to help clinics organize bed occupancies. It has even recently launched an AI-powered assist tool to identify skin conditions.

To be sure, such applications of AI carry great promise. But they also require an enormous amount of patient data. In recent years, Google has obtained millions of data records through partnerships with external health care providers — often without patient knowledge. Since 2015, Alphabet has even had an in-house specialist for collecting patient data: a subsidiary named Verily (formerly Google Life Sciences) that conducts major health studies and even promises to "redesign the future of health."

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As early as 2017, Verily set up Project Baseline, a venture for conducting studies (in collaboration with Google) into both individual diseases such as type 2 diabetes and the

lifestyles of entire age cohorts. For its ongoing health study, which began in 2018, the company has provided ten thousand people with so-called Study Watches to measure their activity over a four-year period, from their daily step count to the quality of their sleep. Additionally, study subjects must regularly fill out surveys and submit to clinical tests of everything from their eyes to their blood. As Project Baseline's website states, "We have mapped the world. Now let's map human health."

The project has become even broader in scope during the pandemic. While government dithered, Google and Verily got down to business developing a website to help US states and regions coordinate testing. In collaboration with local authorities, the companies bypassed bureaucratic hurdles to quickly open testing stations. Thanks to their certified testing lab, they could even offer the public drive-through COVID screenings. Since then, they have continued to expand their operations to more towns and cities. While acknowledging some setbacks and data-protection concerns, an internal report this April claimed that the venture has tested nearly 2.5 million people. Verily has also begun studies into immune system responses to COVID-19 and the distribution of antibodies among the population by drawing in part upon data from the screenings. More specifically, people who test positive for COVID-19 are offered to "contribute to crucial research" led by a "dedicated study team." As they say in Silicon Valley, "(data) sharing is caring."

Even a few years ago, companies seeking to access valuable patient data had to enter into expensive partnerships with health care providers. Now Alphabet is coming to resemble a health care provider itself. But it is using its new infrastructure, cloud services, AI, and datasets to not only conduct research but increasingly to grow its own business. Recently, Verily entered the insurance market and launched Healthy at Work, a program for companies and institutions to continuously screen their workforce for COVID-19. Using an app, employees fill out a daily symptom survey that lets their bosses monitor their health (including whether they've been vaccinated). After its launch in fall 2020, the program's first clients included the University of Alabama and the self-driving car company Waymo. It now counts over 150,000 participating employees.

In addition to Verily's health mapping, Alphabet also engages in traditional modes of mapping with Google Maps, which is now being used to produce Google COVID-19 Community Mobility Reports. Published every few days, these reports give authorities information about population movement trends by drawing on the aggregated and anonymized location data from smartphone users — data normally used to show how busy locations such as bars and parks are at different times of day. This illustrates how convenient services from the company can be turned into administrative tools. While the maps charted by Alphabet appear as little more than a helpful service to the average user, they are also a means of legitimizing data accumulation by surveillance capitalists while enabling them to capture new territory.

Apple: Wearable Research

California's tech companies aren't content with just analyzing historical movement patterns. Thinking several steps ahead, they are exploring ways to detect COVID-19 in advance. To this end, summer 2020 saw several studies developed around the sensory capacities of fitness trackers and smartwatches. For several of these studies, users of wearable devices could become "citizen scientists" by donating personal data on everything from their daily physical activity to sleep cycles.

One such study was dedicated exclusively to the Apple Watch. In the Warrior Watch Study by Mount Sinai Health System (a network of eight New York City hospitals) researchers discovered that the Apple Watch can detect minimal changes in heart rate variability — a possible sign of COVID-19 infection — up to seven days before symptoms occur. As study coauthor Zahi Fayad explained, "This technology allows us not only to track and predict health outcomes but also to intervene in a timely and remote manner, which is essential during a pandemic that requires people to stay apart."

Renowned medical research institutes such as Scripps Research and Stanford University have developed similar studies focused on personal sensor data such as physical activity, resting heart rate, sleep, or even skin temperature. Most recently, researchers from the Seattle Flu Study and the University of Washington launched the Apple Respiratory Study, a collaboration with Apple to understand the extent to which the latest version of Apple Watch can predict respiratory illnesses like COVID-19, particularly by examining heart rate and oxygen levels in the blood.

Such studies may appear to have stemmed from the COVID crisis, but they have a long history in Silicon Valley. Since 2019, Apple Watch users have been able to use the company's proprietary Apple Research app to give their health data to a select number of universities, hospitals, and institutions, such as the World Health Organization, in order to support new scientific discoveries or the development of innovative products. Here exposing one's intimate data is cast not as a flaw but as part of the consumer experience, recalling sociologist Nils Zurawski's observation that surveillance in general is increasingly coming to resemble a "feature" — hence Apple's promotional claim that "the future of health research is you."

"During the pandemic, Amazon's expanded its surveillance to the body and mind."

For those who have followed Apple's and Google's health research in recent years, their April 2020 decision to work together on COVID-19 contact tracing hardly came as a surprise. Claiming there had never been "a more important moment to work together to solve one of the world's most pressing problems" using the power of technology, the tech monopolies were not about to wait for government actors to create a contact-tracing app. Instead, they went the route of unmediated technocracy and presented their own "comprehensive solution": a proprietarily developed interface for enabling decentralized, anonymized data exchange via Bluetooth that now forms the basis for almost all national tracing apps. To be sure, this decentralized app is favorable to centrist models enabling state surveillance on a large scale. But the fact that these companies created such a rigid and virtually inescapable standard underscores the true source of their authority: their infrastructural power.

Facebook: Helping You Help Yourself?

Google and Apple aren't the only members of the technological crisis unit. Facebook also thinks that it's found its calling, and is now attempting to reinvent itself as a rescue-map service. As well as developing a COVID-19 information center for the newsfeed and combatting fake news (especially on vaccinations), Facebook has targeted users with surveys to help researchers from Carnegie Mellon University and the University of Maryland produce a weekly interactive map of self-reported symptoms. Every day, more than fifty thousand people complete these surveys by providing information about their age and place of residence and answering questions about whether they are experiencing symptoms such as cough or fever as well as feelings of anxiety or depression. Facebook does not receive the data from these surveys, as it wants to stay in the background and be seen as *the* neutral infrastructure of social exchange — an idealized image that has suffered greatly from recent data scandals.

Yet Facebook hasn't settled for playing the role of an uninvolved medium. In line with a Californian ethos that sees all problems as stemming from a simple lack of data, it has expanded

its proprietary Disease Prevention Maps. This project — another attempt "to improve the effectiveness of health campaigns and epidemic response" — was deployed as early as 2019 to track cholera in Mozambique. With newly developed tools such as "co-location maps," "movement maps," and "network coverage maps," the company is now recording how its users' movement radiuses and social contacts contribute to the spread of the virus, and whether existing lockdown measures are effective or need to be modified. Meanwhile, the project's motto of "Data for Good" sounds a familiar promise.

Mark Zuckerberg appears to be treating the crisis as a chance to transform Facebook from a social network into a kind of research network. This is suggested not only by his personal donation of $25 million to the COVID-19 Therapeutics Accelerator research hub but also by an ongoing networking effort by Facebook that has culminated in the launch of the COVID-19 Mobility Data Network, in which the company plays a leading role. Facebook has forged partnerships with a who's who of academic leading lights (from the Harvard School of Public Health to Princeton University) as well as with the Bill & Melinda Gates Foundation. The goal of this "non-pharmaceutical intervention" is to use real-time data — provided by apps like Facebook Messenger — to more precisely track the spread of the virus and create predictive models to forecast the course of the crisis.

Only months ago, such data was chiefly used to identify users' preferences, predict their consumer behavior, and target them with advertisements. But now, as with Google's Mobility Reports, the surveillance-capitalist zeal for data collection is being recast in an altruistic light. In Zuckerberg's words, "The world has faced pandemics before, but this time we have a new superpower: the ability to gather and share data for good."

Evidence that Facebook's "superpower" has been helpful during the crisis and that its movement pattern maps have functioned as anything more than a placebo remains largely absent. However — lest anyone doubt its good intentions — in February 2021, Facebook began offering health organizations and governments up to $120 million of free ad space to promote initiatives like vaccination campaigns.

Facebook is sparing neither expense nor effort to win over the public with its systems update. Rather than a profit-hungry marketing platform that corrodes democracy and deserves to be broken up, it now wants to be seen as a well-intentioned, almost caring company that uses our data for the common good. In view of recent recurring data leaks, it seems evident that the company is attempting to "healthwash" its image at a time when clean hands are the need of the hour. Nevertheless, Silicon Valley has long understood that few things sell better than the promise of a healthier, happier future.

Amazon: A Healthy Ecosystem

Beyond interactive map services and selfless proclamations, another well-known player has emerged at the intersection of health and tech: Amazon. Although less research-oriented than businesslike, the "everything store" from Seattle has also begun to make its name in matters of digital well-being. During the pandemic, the world's self-proclaimed "most customer-centric company" launched an entire line of new projects designed to have far-reaching effects.

Already in 2018, the firm acquired the online pharmacy PillPack, and in November 2020, it announced its plans for Amazon Pharmacy, a prescription medications service. Establishing itself in this sector, which is already valued at $900 billion, appears to form part of a longer-term strategy.

"Silicon Valley mapping practices give rise to what could be termed 'Big Health' — the expansion of monopolist data extractivism into health care."

Using its own employees in Seattle, Amazon recently began beta testing the telemedicine platform Amazon Care, which aims to offer comprehensive 24/7 medical care. Via messaging or video chat, employees can receive diagnostic advice from doctors and even schedule house calls or arrange for medical care at (and in a certain sense, from) their employer. The stated goal is to make medical treatment smoother, faster, and more efficient by making waiting rooms and pharmacy visits superfluous. Although the concept is still in the trial phase, Amazon anticipates a full rollout in the near future. Until then, it will have to make do with its employees, who now have the privilege of being surveilled not only during work but also on sick leave. This round-the-clock monitoring is being sold by Amazon as part of a new therapy model, pitched as "health care built around you."

In addition to Amazon Care, the company introduced a fitness tracker last summer called Amazon Halo to compete with market leaders such as Apple Watch and Google's Fitbit. This device can also be used to participate in studies tracking the coronavirus, although it is aimed in particular at the post-pandemic market, with an AI built for new dimensions of health analysis. In addition to measuring steps, heart rate, and skin temperature, Halo uses a type of 3D scan to provide a body-fat analysis twice as accurate as leading at-home smart scales: All that users must do is upload photos of themselves in tight-fitting clothing to the Amazon cloud, which are then used to create simulations of their body and a "more complete picture" of their health. (According to the company, the photos are then deleted from the Amazon servers.) Even the *Washington Post* (owned by Amazon CEO Jeff Bezos) has called the Halo "the most invasive tech we've ever tested," noting in particular the voice-recording feature that uses "affective computing" to draw conclusions about the emotional state of its wearers and how they are perceived by others. Does a user sound happy? Frustrated? Tired? Stressed? Disinterested? Did she express herself in a friendly tone, or a passive-aggressive one? All this is recorded and analyzed in real time, ostensibly to improve both wearers' mental well-being and the way people see them.

Amazon already knows its customers' consumption and streaming preferences — and when they're at home. But during the pandemic, the company has sought to expand its surveillance to the body and mind. With Amazon Pharmacy, Amazon Care, and Amazon Halo, it has constructed not only a digital health system from the ground up but a comprehensive ecosystem in which all aspects of life are permeated with surveillance-capitalist tools.

Economic Imperialism

Companies such as Google, Apple, Facebook, and Amazon have long ceased to function as mere businesses. Instead, they have become tightly woven infrastructures that gather data about our online behavior, our preferences, and our traits, infrastructures on which we physically depend ever more profoundly — something made all the more evident by their entry into the health care sector. Against this backdrop, the pandemic has served to accelerate transformations that were already in motion, aggressively pursued by tech companies seeking to expand their operations. With subsidiaries, research networks, and wearable technologies, these companies are remaking themselves as cartographers of life and limb while ultimately using the platform economy to practice a form of economic imperialism now aimed at what the sociologist Paul Virilio calls the "conquest of the body." Although a promotional video for Verily's Project

Baseline calls on viewers to "make your mark on the map of human health," this might more accurately be seen as describing the tech giants' own behavior.

Mapping practices aren't only a tool for tech companies to expand their business operations and revenue streams, or to develop services that virtually they alone can provide due to their financial resources and data reserves. They are also a subtle means for these companies to expand their power ever more flagrantly and give rise to what could be termed "Big Health" — the expansion of monopolist data extractivism into health care. During the COVID crisis, as traditional structures and institutions appeared to fail and personnel were lacking — logical consequences of perpetual underfunding — tech companies were able to present themselves as smart saviors that can act more quickly than the state — without being burdened by democratic deliberation. In so doing, they have manifested their infrastructural power, which not infrequently (such as with contact tracing) establishes the normative framework in which political and social action takes place. At the same time, they have continued to deepen their probing of everyday life and the individual and social body while selling the public on digital colonization and surveillance-capitalist biopolitics. Their success in doing so cannot be reduced to the nature of their devices. Rather, in uncertain times, the promise of certainty implied by tables, graphs, and data — not to mention the promises of technical solutions to seemingly intractable problems — carries special appeal.

Developments that appear understandable or maybe even necessary during a pandemic can quickly take on a life of their own. From GAFA's perspective, no amount of data collection will ever be enough. These companies will always seek to acquire more data about the world and about us. In refining their maps, health services, and infrastructure, they are systematizing an idea of society in which the expansive, monopolistic use of digital technology so deeply permeates our everyday lives that the boundaries between system and reality, between map and physical location, become unrecognizable. After all, who today can claim not to follow the recommended routes and surveyed trails, to not use — or not need — smart devices and services?

Adapted from *LuXemburg*.

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