Digital colonialism: the evolution of American empire

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In 2020, billionaires made out like bandits. Jeff Bezos's personal holdings surged from $113 to $184 billion. Elon Musk briefly eclipsed Bezos, with a net worth rise from $27 billion to over $185 billion.

For the bourgeoisie presiding over "Big Tech" corporations, life is grand.

Yet, while the expanded dominance of these corporations in their domestic markets is the subject of numerous critical analyses, their *global* reach is a fact seldom discussed, especially by dominant intellectuals in the American empire. In fact, once we investigate the mechanics and numbers, it becomes apparent that Big Tech is not only global in scope, it is fundamentally colonial in character and dominated by the United States. This phenomenon is called "digital colonialism."

We live in a world where digital colonialism now risks becoming as significant and far-reaching a threat to the Global South as classic colonialism was in previous centuries. Sharp increases in inequality, the rise of state-corporate surveillance and sophisticated police and military technologies are just a few of the consequences of this new world order. The phenomenon may sound new to some, but over the course of the past decades, it has become entrenched in the global status quo. Without a considerably strong counter-power movement, the situation will get much worse.

WHAT IS DIGITAL COLONIALISM?

Digital colonialism is the use of digital technology for political, economic and social domination of another nation or territory.

Under classic colonialism, Europeans seized and settled foreign land; installed infrastructure like military forts, sea ports and railways; deployed gunboats for economic penetration and military conquest; constructed heavy machinery and exploited labor to extract raw materials; erected panoptic structures to police workers; marshaled the engineers needed for advanced economic exploitation (e.g. chemists for extracting minerals); siphoned out Indigenous knowledge for manufacturing processes; shipped the raw materials back to the mother country for the production of manufactured goods; undermined Global South markets with cheap manufactured goods; perpetuated dependency of peoples and nations in the Global South in an unequal global division of labor; and expanded market, diplomatic and military domination for profit and plunder.

In other words, colonialism depended upon ownership and control of territory and infrastructure, the extraction of labor, knowledge and commodities and the exercise of state power.

This process evolved over centuries, with new technologies added into the mix as they were developed. By the late nineteenth century, submarine cables facilitated telegraphic communications in service of the British empire. New developments in recording, archiving and organizing information were exploited by U.S. military intelligence first used in the conquest of the Philippines.

Today, Eduardo Galeano's "open veins" of the Global South are the "digital veins" crossing the oceans, wiring up a tech ecosystem owned and controlled by a handful of mostly US-based corporations. Some of the transoceanic fiber-optic cables are fitted with strands owned or leased by the likes of Google and Facebook to further their data extraction and monopolization. Today's heavy machinery are the cloud server farms dominated by Amazon and Microsoft that are used to store, pool and process big data, proliferating like military bases for U.S. empire. The engineers are the corporate armies of elite programmers with generous salaries of $250,000 or more. The exploited laborers are the people of color extracting the minerals in the Congo and Latin America, the armies of cheap labor annotating artificial intelligence data in China and Africa and the Asian workers suffering from PTSD after cleansing social media platforms of disturbing content. The platforms and spy centers (like the NSA) are the panopticons, and data is the raw material processed for artificial intelligence-based services.

More broadly, digital colonialism is about entrenching an unequal division of labor, where the dominant powers have used their ownership of digital infrastructure, knowledge and their control of the means of computation to keep the South in a situation of permanent dependency. This unequal division of labor has evolved. Economically, manufacturing has moved down the hierarchy of value, displaced by an advanced high-tech economy in which the Big Tech firms are firmly in charge.

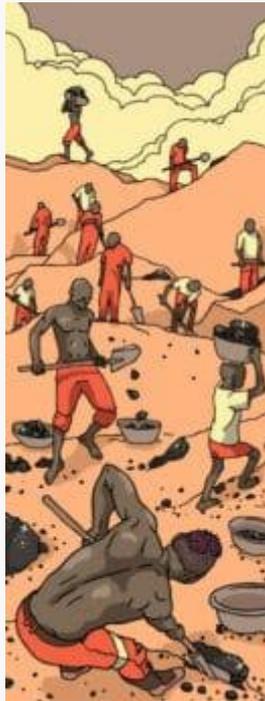# THE ARCHITECTURE OF DIGITAL COLONIALISM

Illustration by Zoran Svilar

Digital colonialism is rooted in the domination of the "stuff" of the digital world that forms the means of computation–software, hardware and network connectivity.

It includes the platforms acting as gatekeepers, the data extracted by intermediary service providers and the industry standards, as well as private ownership of "intellectual property" and "digital intelligence." Digital colonialism has become highly integrated with conventional tools of capitalism and authoritarian governance, from labor exploitation, policy capture and economic planning to intelligence services, ruling class hegemony and propaganda.

Looking first at software, we can see a process where code which was once freely and widely shared by programmers became increasingly privatized and subject to copyrights. In 1970s and 80s, the U.S. Congress began strengthening software copyrights. There was a counter-trend to this in the form of "Free and Open Source Software" (FOSS) licenses which granted users the right to use, study, modify and share software. This had inherent benefits for countries in the Global South as it created a "digital commons," free of corporate control and the drive for profit. Yet, as the Free Software movement spread to the South, it prompted a corporate backlash. Microsoft scorned Peru when its government tried to shift away from Microsoft's proprietary software. It also tried to prevent

African governments from using the GNU/Linux FOSS operating system in government ministries and schools.

Alongside the privatization of software came the rapid centralization of the Internet into the hands of intermediary service providers like Facebook and Google. Crucially, the shift to cloud services nullified the freedoms FOSS licenses had granted to users because the software is executed on the computers of the Big Tech corporations. Corporate clouds dispossess the people of the ability to control their computers. Cloud services provide petabytes of information to corporations, who use the data to train their artificial intelligence systems. AI uses Big Data to "learn"–it requires millions of pictures to recognize, say, the letter "A" in its different fonts and forms. When applied to humans, the sensitive details of peoples' personal lives become an incredibly valuable resource that tech giants are incessantly trying to extract.

In the South, the majority of the people are essentially stuck with low-level feature phones or smartphones with little data to spare. As a result, many millions of people experience platforms like Facebook as "the internet," and data about them is consumed by foreign imperialists.

"Feedback effects" of Big Data make the situation worse: those who have more and better data can create the best artificial intelligence services, which attracts more users, which gives them even more data to make the service better and so on. Much like classic colonialism, data has been ingested as raw materials for the imperialist powers, who process the data and manufacture the services back to the global public, which further strengthens their domination and puts everyone else in a subordinate situation of dependency.

Cecilia Rikap, in her forthcoming book, _Capitalism, Power and Innovation: Intellectual Monopoly Capitalism Uncovered_, shows how the U.S. tech giants base their market power on their intellectual monopolies, commanding a complex commodity chain of subordinate firms in order to extract rents and exploit labor. This has given them the ability to accumulate the "know-who" and "know-how" to plan and organize global value chains, as well as to privatize knowledge and expropriate the knowledge commons and public research outputs.

Apple, for example, extracts rents from the IP and branding for its smartphones, and it coordinates production along the commodity chain. The lower level

producers, such as the phone assemblers at manufacturing plants hosted by Taiwan-owned Foxconn, the minerals extracted for the batteries in the Congo and the chipmakers supplying processors, are all subordinate to the demands and whims of Apple.

In other words, the tech giants control business relationships across the commodity chain, profiting from their knowledge, accumulated capital and dominance of core functional components. This allows them to bargain down or dispense with even relatively large corporations who mass-produce their products as subordinates. Universities are complicit. The most prestigious ones in the core imperialist countries are the most dominant actors in the academic production space, while the most vulnerable universities in the periphery or semi-periphery are the most exploited, often lacking the funds for research and development, the knowledge or capacity to patent findings and the resources to fight back when their work is expropriated.

COLONIZATION OF EDUCATION

One example of how digital colonization plays out is in the education sector.

As I detail at length in my doctoral dissertation on education technology in South Africa, Microsoft, Google, Pearson, IBM and other tech giants are flexing their muscles in educational systems across the Global South. For Microsoft, this is nothing new. As mentioned above, Microsoft attempted to strongarm African governments to replace Free Software with Microsoft Windows, including in schools.

In South Africa, Microsoft has an army of teacher trainers on the ground who train teachers in how to use Microsoft software in the education system. It also provided Windows tablets and Microsoft software to universities such as the University of Venda, a partnership that it advertised extensively. More recently, it partnered with mobile provider Vodacom (majority owned by British multinational Vodafone) to provide digital education to South African learners.

While Microsoft is the top supplier, with contracts in at least five of the nine provincial education departments in South Africa, Google is also seeking market share. In partnership with South African startup CloudEd, they are seeking to strike the first Google contract with a provincial department.

The Michael and Susan Dell Foundation has also joined the mix, offering a Data Driven District (DDD) platform to provincial governments. The DDD software is designed to collect data which tracks and monitors teachers and students, including grades, attendance and "social issues." While schools upload the collected data weekly rather than in real-time, the ultimate goal is to provide real-time monitoring of student's behavior and performance for bureaucratic management and "longitudinal data analytics" (analysis of data collected about the same group of individuals over time).

The South African government is also expanding Department of Basic Education's (DBE) Cloud, which may be eventually used for invasive technocratic surveillance. Microsoft approached the DBE with a proposal to collect data "for the lifecycle of the user," starting from school and, for those who keep Microsoft Office 365 accounts, into adulthood, so that the government can conduct longitudinal analytics on things like the connection between education and employment.

The digital colonialism of Big Tech is spreading rapidly throughout education systems in the South. Writing from Brazil, [Giselle Ferreira and her co-authors state](#), "The resemblance between what happens in Brazil and Kwet's (2019) analysis of the South African case (and likely other countries in the 'global South') is striking. In particular, when GAFA [Google, Amazon, Facebook, Apple] companies generously offer technologies to disadvantaged students, data is unimpededly extracted and subsequently treated in a manner that renders local specificities devoid of importance."

Illustration by Zoran Svilar

Schools make great sites for Big Tech to expand their control over digital markets. Poor persons in the South are often reliant upon governments or corporations to provide them with a device at no cost, making them dependent upon others to decide which software they use. What better way to capture market share than to preload Big Tech software on devices offered to children– who may have little other access to tech than a feature phone? This has the added benefit of capturing future software developers, who may come to prefer, say, Google or Microsoft (instead of people's tech solutions based on Free Software) after spending years using their software and becoming accustomed to their interface and features.

LABOR EXPLOITATION

Digital colonialism is also evident in the way the countries across the Global South are heavily exploited for menial labor to provide the critical inputs for digital technologies. It has long been noted that the Democratic Republic of the Congo supplies more than 70 percent of the world's cobalt, an essential mineral for batteries used in cars, smartphones and computers. Fourteen families in the Democratic Republic are currently suing Apple, Tesla, Alphabet, Dell and Microsoft, accusing them of benefiting from child labor in the cobalt mining

industry. The process of mining for minerals itself often adversely impacts the health of workers and their surrounding habitats.

As for lithium, top reserves are located in Chile, Argentina, Bolivia and Australia. Wages for workers in all Latin American countries are low by wealthy country's standards, especially considering the working conditions they endure. While the availability of data varies, in Chile, those employed by the mines earn somewhere between about $1,430 and $3,000 per month, whereas in Argentina monthly wages can be as low as between $300 and $1,800. In 2016, the monthly minimum wage of miners in Bolivia was *increased* to $250. In contrast, Australian miners earn around $9,000 per month and can reach $200,000 per year.

Countries in the South also offer an abundance of cheap labor for tech giants. This includes data annotation for artificial intelligence datasets, call-center workers and content moderators for social media giants like Facebook. Content moderators cleanse social media feeds of disturbing content, such as gore and sexually explicit material, often leaving them psychologically damaged. Yet, a content moderator in a country like India can make as little as $3,500 per year– and that is after a pay *increase* from $1,400.

A CHINESE OR U.S. DIGITAL EMPIRE?

In the West, there is a lot of chatter about "a new Cold War," with the U.S. and China battling it out for global technological supremacy. Yet, a close look at the tech ecosystem shows that U.S. corporations are overwhelmingly dominant in the global economy.

China, after decades of high growth, generates around 17 percent of global GDP and is predicted to overtake the U.S. by 2028, feeding into claims that American empire is on the decline (a narrative that was previously popular with the rise of Japan). When measuring the Chinese economy by purchasing power parity, it is already larger than the US. However, as economist Sean Starrs points out in the *New Left Review*, this wrongly treats states as self-contained units, "interacting as billiard balls on a table." In reality, Starrs contends, American economic dominance "hasn't declined, it globalized." This is particularly true when looking at Big Tech.

In the post-WWII period, corporate production was spread across transnational production networks. For instance, in the 1990s, companies like Apple began outsourcing electronics manufacturing from the U.S. to China and Taiwan,

exploiting sweatshop workers employed by companies like Foxconn. U.S. tech transnationals often design the IP for, say, high-performance router switches (e.g. Cisco) while outsourcing manufacturing capacity to hardware manufacturers in the South.

Starrs profiled the world's top 2,000 publicly traded companies, as ranked by Forbes Global 2000, and organized them according to 25 sectors, showing the dominance of U.S. transnationals. As of 2013, they dominated in terms of profit shares in 18 of the top 25 sectors. In his forthcoming book *American Power Globalized: Rethinking National Power in the Age of Globalization,* Starrs shows that the U.S. remains dominant. For IT Software & Services, U.S. profit share is 76 percent versus China's 10 percent; for Technology Hardware & Equipment, it is 63 percent for the U.S. versus 6 percent for China, and for Electronics, it is 43 and 10 percent, respectively. Other countries, such as South Korea, Japan and Taiwan, often fare better than China in these categories as well.

Portraying the U.S. and China as equal contenders in the battle for global tech supremacy, as is often done, is therefore highly misleading. For example, a 2019 United Nations <u>"Digital Economy" report</u> states that: "Geography of the digital economy is highly concentrated in two countries"–the United States and China. But the report not only ignores factors identified by authors like Starrs it also fails to account for the fact that most of China's tech industry is dominant *inside* China, save a handful of major products and services, such as 5G (Huawei), CCTV cameras (Hikvision, Dahua) and social media (TikTok), which also hold large market shares abroad. China also has substantial investments in some foreign tech firms, but this hardly suggests a genuine threat to the dominance of the US, which has a much larger share of foreign investments as well.

In reality, the U.S. is the supreme tech empire. Outside of U.S. and Chinese borders, the U.S. leads in the categories of search engines (Google); web browsers (Google Chrome, Apple Safari); smartphone and tablet operating systems (Google Android, Apple iOS); desktop and laptop operating systems (Microsoft Windows, macOS); office software (Microsoft Office, Google G Suite, Apple iWork); cloud infrastructure and services (Amazon, Microsoft, Google, IBM); social networking platforms (Facebook, Twitter); transportation (Uber, Lyft); business networking (Microsoft LinkedIn); streaming entertainment

(Google, YouTube, Netflix, Hulu) and online advertising (Google, Facebook)–among others.

The upshot is, whether you are an individual or a business, if you are using a computer, American companies benefit the most. They own the digital ecosystem.

POLITICAL DOMINATION AND THE MEANS OF VIOLENCE

Illustration by Zoran Svilar

The economic power of U.S. tech giants goes hand-in-hand with their influence in the political and social spheres. As with other industries, there is a revolving door between tech executives and the U.S. government, and tech corporations and business alliances spend a great deal lobbying regulators for policies favorable to their specific interests–and digital capitalism in general.

Governments and law enforcement agencies, in turn, form partnerships with tech giants to do their dirty work. In 2013, Edward Snowden famously revealed

that Microsoft, Yahoo, Google, Facebook, PalTalk, YouTube, Skype, AOL and Apple all shared information with the National Security Agency via the PRISM program. More revelations followed, and the world learned that data stored by corporations and transmitted over the internet is sucked into enormous government databases for exploitation by states. Countries in the South have been targets of NSA surveillance, from the Middle East to Africa and Latin America.

Police and the military also work with tech corporations, who are happy to cash fat checks as providers of surveillance products and services, including in countries across the South. For example, through its little-known Public Safety and Justice Division, Microsoft has built an extensive partnership ecosystem with "law enforcement" surveillance vendors, who run their tech on Microsoft cloud infrastructure. This includes a city-wide command-and-control surveillance platform called "Microsoft Aware" that was purchased by police in Brazil and Singapore and a police vehicle solution with facial recognition cameras that has been rolled out in Cape Town and Durban, South Africa. Microsoft is also deeply involved with the prison industry. It offers a variety of prison software solutions that cover the entire correctional pipeline, from juvenile "offenders" to pretrial and probation, through jail and prison, as well as those released from prison and put on parole. In Africa, they partnered with a company called Netopia Solutions, which offers a Prison Management Software (PMS) platform that includes "escape management" and prisoner analytics.

While it is not clear where exactly Netopia's Prison Management Solution is deployed, Microsoft stated that "Netopia is [a Microsoft partner/vendor] in Morocco with a deep focus on transforming digitally, government services in North and Central Africa." Morocco has a track record of brutalizing dissidents and torturing prisoners, and the U.S. recently recognized its annexation of Western Sahara, in contravention of international law.

For centuries, imperial powers tested technologies to police and control their citizens on foreign populations first, from Sir Francis Galton's pioneering work on fingerprinting applied in India and South Africa, to America's combination of biometrics and innovations in managing statistics and data management that formed the first modern surveillance apparatus to pacify the Philippines. As historian Alfred McCoy has shown, the collection of surveillance technologies deployed in the Philippines offered a testing ground for a model which was eventually brought back to the United States for use against domestic dissidents.

Microsoft and its partners' high-tech surveillance projects suggest that Africans continue to serve as a laboratory for carceral experimentation.

PUSHING BACK

Digital technology and information plays a central role in politics, economy and social life everywhere. As part of the American empire project, U.S. transnational corporations are reinventing colonialism in the South through their ownership and control of intellectual property, digital intelligence and the means of computation. Most of the core infrastructure, industries and functions performed by computers are the private property of American transnational corporations, who are overwhelmingly dominant outside U.S. borders. The largest firms, such as Microsoft and Apple, dominate global supply chains as intellectual monopolies.

An unequal exchange and division of labor ensues, reinforcing dependency in the periphery while perpetuating mass immiseration and global poverty.

Instead of sharing knowledge, transferring technology and providing the building blocks for shared global prosperity on equal terms, the rich countries and their corporations aim to protect their advantage and shake down the South for cheap labor and rent extraction. By monopolizing the core components of the digital ecosystem, pushing their tech in schools and skills training programs and partnering with corporate and state elites in the South, Big Tech is capturing emerging markets. They will even profit from surveillance services provided to police departments and prisons, all to make a buck.

Yet against the forces of concentrated power, there are always those who push back. Resistance to Big Tech in the South has a long history, dating back to the days of international protests against IBM, Hewlett Packard and others doing business in apartheid South Africa. In the early 2000s, Global South countries embraced Free Software and the global commons as a means to resist digital colonialis

m for a while, even if many of those initiatives have since faded. In the last few years, new movements against digital colonialism are emerging.

There is much more going in this picture. An ecological crisis created by capitalism is rapidly threatening to permanently destroy life on Earth, and solutions for the digital economy must intersect with environmental justice and broader struggles for equality.

To stamp out digital colonialism, we need a different conceptual framework that challenge root causes and major actors, in connection with grassroots movements willing to confront capitalism and authoritarianism, American empire, and its intellectual supporters.

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