# CHAPTER 1. Data colonialism is not a metaphor: Remembering colonialism and why it matters in the digital ecosystem

### Alejandro Mayoral Banos

## Summary

* Data colonialism does not disregard the violence of colonialism in history as a theoretical concept. Still, it reflects on the methods, practices, and oppressions that have been transferred and evolved into digital technologies.
* To understand the scope and boundaries of data colonialism, the correlations between the domains of the colonial matrix of power by Anibal Quijano and the digital practices are explored.

Colonialism has been based on social, economic, political, and epistemic oppressive methods to secure the extraction and misappropriation of resources from different geographies.[[1]](#footnote-1) Black, Indigenous and Peoples of Colour communities have continuously faced violent forms of oppression, such as the aggressive dispossession of lands and their natural resources, displacement, and the practice and consequences of slavery since the Age of Discovery in the 15th century by European empires. Throughout this colonial process, the continuous action of extraction of all types of resources (e.g., natural, intellectual, political, and economical) has been central.[[2]](#footnote-2),[[3]](#footnote-3),[[4]](#footnote-4)

The examination of colonization transcends the control of physical land and resources. It extends to controlling narratives about people —their identities, cultures, histories— and how they should behave, including norms related to gender and sexuality. It continues to exist and influence societies long after direct political control by colonial powers has ended.[[5]](#footnote-5) Currently, the fast advancement of digital technologies and their high penetration level across different sectors and marginalized groups have begun to evolve in an increasingly digital adoption of Information and Communication Technologies (ICTs) across diverse populations worldwide.[[6]](#footnote-6) The transformation of non-digital actions into digital assets restated the embodiment of human knowledge in the digital sphere, which meant that more complex forms of human experience could be at least partially transferred to the digital realm. This included, for example, marketing and political campaigns, cultural expressions, physiological data, economic currencies, and psychological emotions via social media, among others. Cusicanqui argues that colonialism is not only a historical phenomenon but also a structure that shapes our mental categories and social practices.[[7]](#footnote-7) Therefore, digital technologies are transformed when our mental and social practices are translated into the digital world.

The advancement of computer power to produce and maintain these forms of abstraction signified that human experiences could be processed as data and, in this form, generate patterns and create meaning in order to produce capital value. The context for this huge change in knowledge and value production was that, in the last part of the 20th century, the extraction of natural resources decelerated to being a sustainable and profitable source of revenue due to the clearly changing climate conditions and the continuous incremental capital accumulation, which contrasted with the limited quantity of physical resources available in the nature (e.g., oil, water, minerals, among many others). As a result, the colonial essence of resource extraction started to become limited and unsatisfying for the capital interests of the private sector.

Therefore, from the abstraction of human experiences to the digital world, a deliberate conception of data as a ‘natural resource’ from a colonial lens was conceived. It emerged as a form to embody the physical environment in the digital realm, thus raising awareness of the impact digital technologies are having at the individual, communal and environmental levels —as well as helping envision possible systemic changes. This conceptualization was mainly based on data becoming the new source of revenue, replicating historical and colonial practices of oppression through different technologies and their monopolies.[[8]](#footnote-8) It is on this basis that data colonialism emerged as a way of naming this phenomenon but simultaneously recognizing the extractive and oppressive nature of digital ecosystems. This chapter explains the essential characteristics and importance of data colonialism through the analysis of its intersections with the colonial matrix of power in order to build awareness and expertise in this form of oppression.

## Characteristics of Colonialism

Colonialism is a complex term due to the extensive nature of its usage and the consequences of its oppressive practices. In 2000, Aníbal Quijano and Michael Ennis conceived *the colonial matrix of power* as an approach to explain how different European empires implemented several domains to secure the misappropriation of all types of resources (e.g., natural, political, economic). These strategies were segregated among different colonial nations and their colonies, and therefore we can see common forms of oppression worldwide across many diverse communities and regions. In other words, the colonial matrix of power frames the essential characteristics of colonialism, and although the local definitions and experiences of colonialism may differ from one geography to another, the prevalent forms of domination remain the same because they have a common colonial origin: European ideologies. These ideologies and forms of exercising power in colonialism have had the primary purpose of guaranteeing continuous processes of extraction.[[9]](#footnote-9)

According to Quijano,[[10]](#footnote-10) colonialism involved four domains through which European empires exercised power over their colonies, which are linked through the idea of the colonial matrix of power:

1. ***Authority***: The colonial powers maintain and foster unequal political relationships that secure resource appropriation; several forms of authority, such as the colonial governments, monarchies and armies, were institutionalized, validated and legalized within the colonies.
2. ***Economy***: A significant unequal global distribution of the benefits from resource extraction (e.g. global poverty, multimillionaires, monarchies) through land appropriation, exploitation of labor (e.g. slavery, forced labor) and control of natural resources.
3. ***Gender****/****Sexuality***: Women were objectified and seen as a medium for reproduction. Women were displaced from positions of power to foster the individualistic and sexist perspective of capital accumulation via family and education; male-dominant societies were fostered and encouraged; and
4. ***Knowledge and subjectivity***: the enforcement of European epistemic ideologies over other ways of knowing to make sense of all the oppression. This power imbalance reinforces epistemic ideologies over others, which erases several cultural identities, perpetuating racist and sexist practices to hold hegemonic power.[[11]](#footnote-11)

These four characteristics of European colonial ideology, working together, have created huge socioeconomic inequalities and disparities worldwide. They have also fostered and developed the current global climate crisis through the uncontrolled extraction of natural resources for decades. Moreover, colonialism was justified by its protagonists through the claim of racial superiority, which justified that particular representatives of the human race could dominate and extract from the environment and nature without limits and consequences. The continuous desire for economic dominion has created unlimited wealth accumulation from what was always a finite amount of available natural resources.

The colonial matrix of power provides a general overview of the common oppressive characteristics of colonial structures in digital spaces; however, as Cusicanqui asserts,[[12]](#footnote-12) it is essential to acknowledge the agency and resistance of colonized communities in shaping their own experiences of colonialism at the local level. Therefore, although these characteristics are common to diverse contexts, the importance of local definitions and experiences of colonialism needs to be emphasized when this concept is being applied at the local level, and therefore they need to be reflected and adapted to the unique historical and cultural contexts of each community.

## The Matrix of Power and Digital Technologies

When the methods and consequences of oppressive digital practices were exposed through public scandals —such as the *Cambridge Analytica* appropriation of people’s Facebook data for divisive electoral purposes— the conception of data colonialism as a way of articulating these oppressions became a natural step.[[13]](#footnote-13) However, data colonialism does not intend to disregard the violence of colonialism in history as an epistemic concept, but it aims to reflect the methods, practices, and oppressions that have been transferred and evolved into digital technologies.[[14]](#footnote-14),[[15]](#footnote-15),[[16]](#footnote-16) Moreover, the analysis of data colonialism is part of an effort to dismantle these practices by conceiving alternative solutions and learning from the historical resilience of groups in the margins and oppressive practices. Furthermore, the advancement of digital technologies brings new technical and ethical challenges and threats that require transdisciplinary lenses and reflections in order to find solutions and opportunities for the complex problems of climate change and global inequality.[[17]](#footnote-17) These practices must be conceived as complex constructions from different identities, knowledge areas, and geographies. Therefore, data colonialism is not conceived as a metaphor but as an epistemic and pragmatic concept that aims to build awareness of the non-neutral and negative consequences of the digital ecosystem.

Continuous extraction as a method of violence and unequal profitability defines the vital component between colonialism and its relationship with data. Moreover, the domains of the *colonial matrix of power*[[18]](#footnote-18) within digital technologies continue to transform into ‘innovative’ forms of oppression that create the illusion in the general population that digital tools are neutral and, moreover, that digital tech is a simple solution for social and environmental justice. At the same time, the scope of colonial extraction has now been heavily amplified under digital technologies. This expansion is part of the evolution of historical colonialism, which expanded European ideologies to new territories and centers of power. Nowadays, the European ideologies of extraction are not centered in continental Europe *per se* but elsewhere, where primarily Washington (USA) and, secondarily Beijing (China) are the ideological and geopolitical power centers for promoting capital accumulation and hegemonic dominance.[[19]](#footnote-19)

In order to understand the scope and boundaries of data colonialism, we need to explore the correlations between the domains of the colonial matrix of power and digital practices. Indeed, this helps us imagine possible responses to these multiple forms of oppression:

(1) *Authority and digital tech*: Digital technologies have increased the world’s securitization through internet tools: the cloud, Artificial Intelligence, big data, social media and the Internet of Things (IoT).[[20]](#footnote-20) This factor is happening in various nation-states through exploiting technology for surveillance, biometric scanners, and radio frequency identification tags,[[21]](#footnote-21) to name just a few. Online devices can provide billions of eyes to the US Department of Defense, the (US) National Security Agency, and the Central Intelligence Agency for global surveillance.[[22]](#footnote-22) Moreover, several dissident voices against authoritarian regimes have been censored (e.g., incarceration, assassination, disappearances) with internet tools.[[23]](#footnote-23),[[24]](#footnote-24)

In this matter, several authors have linked big data, IoT, cloud computing and social media to the Foucauldian application of the panopticon and Orwell’s concept of Big Brotherbecause these technologies shape perfect forms of surveillance and power.[[25]](#footnote-25),[[26]](#footnote-26)In other words, from these perspectives, digital technologies are used as oppressive tools to maintain control and surveillance over citizens.

Moreover, crime has also found a new place of growth in the dark web of the internet, enabling this type of crime to exist outside of the scope of the Panopticon and Big Brother of the national totalitarian states because of the anonymity and privacy features that are attributed to the dark web.[[27]](#footnote-27),[[28]](#footnote-28)

Furthermore, the super-accelerated development of digital technologies is expediting the decline of the ‘democratized, decentralized and open-source Internet’ due to the concentration and commodification of information by a deficient number of stakeholders.[[29]](#footnote-29) This transformation is due to the economic and technical power of a few global companies: Google, Apple, Meta (formerly Facebook), Amazon and Microsoft (Mosco calls them the ‘Big Five’, and other authors call them GAFAM) and the national jurisdiction that rules these companies, i.e., the United States government.

As stated by Guatemalan lawyer and activist Renata Ávila-Pinto: ‘The power of surveillance and the concentration of the data gathered by both public and private mechanisms is focused on a small number of actors, public and private, based mainly in one jurisdiction and leading to a rapid erosion of state sovereignty and democracy’.[[30]](#footnote-30) This concentration of power and decision-making is one of the signs of the oppressive character of digital technologies. Transnational American tech companies significantly affect how global data is managed and controlled across various jurisdictions. Regarding this issue, Couldry and Mejias claim that transnational tech companies replicate practices from the extractive industries (e.g., mining, lodging) through big data and cloud services.[[31]](#footnote-31)

In the same regard, Shoshana Zuboff coined the term ‘surveillance capitalism’ as a form to describe how tech companies ‘predict and modify human behaviour as a means to produce revenue and market control’.[[32]](#footnote-32) Moreover, she described a new form of an economic order that generates a new social and political order through non-transparent commercial practices of extraction, prediction and sales. In this form, the logic of colonial practices continues and is being fostered by the market.

However, these approaches are not recent. In 2006, David Noble warned about the increase of big data and the use of cloud computing, stating that: ‘visions of democratization and popular empowerment via the [N]et are dangerous; whatever the gains, they are overwhelmingly overshadowed and more than nullified by the losses. As the computer screens brighten with promise for the few, the light at the end of the tunnel grows dimmer for the many’.[[33]](#footnote-33)

(2) *Economy and digital tech*: The enormous economic power private tech companies have over digital technologies signifies that few people from certain regions and identities are responsible for most of the infrastructure and policies regarding digital tech. Laws, policies and regulations allow this disparity to continue over time and in different regions. In the same way, several legal frameworks justified land extraction and exploitation during historical colonialism. One of those frameworks was the doctrine of discovery and the papal bull of *terra nullius* (from the Latin expression which means ‘nobody’s land’), which justified the violence and oppression to steal the land and resources of several Black, Indigenous and local communities.[[34]](#footnote-34) This continuous form of extraction created the economic oligarchies and empires established across Europe since the 15th century.

In the same form, the current digital ecosystem replicates the economic oligarchies of historic colonialism (and imperialism), in which few companies and entities own and control both capital resources (i.e., cables, servers and data) and intellectual resources (i.e., the most advanced technicians and research institutions) of digital technologies. Nowadays, these structures are protected by domestic and international legal frameworks (e.g. intellectual property rights), which prevent small economies from adopting policies in favor of local goods and services with the threat of legal proceedings for adopting anti-competitive measures.[[35]](#footnote-35) This also occurs in the legal protection of the continuous extraction of knowledge from Black, Indigenous and local communities, as well as in the continuous unequal distribution of the benefits derived from such information. Moreover, it is also bringing the ability for digital companies to exploit information and build online communities while generating revenue primarily through the personal data of the users using data mining and advertising.[[36]](#footnote-36),[[37]](#footnote-37)

(3) *Gender/Sexuality and digital tech*: The utopia that digital technologies were neutral regarding gender, race, class, religion, language, and other identity categories has been remarkably disproven by all types of power demonstrations across countries, regions, and platforms.[[38]](#footnote-38) The sociocultural constructs of gender and sexuality are being transferred from the non-digital to the digital realm through the identities and constructs of the designers and developers of digital spaces and, moreover, through the user-generated content uploaded to digital platforms. Digital technologies based on artificial intelligence and machine learning reproduce the same biases as their white-male dominant creators and designers.[[39]](#footnote-39)

In this regard, Lugones has argued that colonialism operates through a logic of domination, where certain groups are deemed superior and others inferior based on their race, gender, sexuality, and other identity categories.[[40]](#footnote-40) When applying Lugones' framework to the realm of digital technologies, it becomes evident that these technologies are not neutral but rather perpetuate and reproduce the power dynamics of colonialism. As mentioned, digital technologies are designed and developed by predominantly white-male creators who bring their biases and perspectives into the digital realm. This results in reproducing patriarchal and male biases within the digital space.

As a recent example, in 2018 the United Nations called out Facebook for its function in inciting racist violence and hate speech in Myanmar, which led to the Rohingya genocide.[[41]](#footnote-41) Similarly, Salazar asserts that digital technologies are mainly written in English, and they do not adapt to other communities’ language necessities.[[42]](#footnote-42) Ultimately, studies have concluded that digital technologies are culturally and socially dominated by patriarchy and male biases because of digital hegemony.[[43]](#footnote-43),[[44]](#footnote-44)For more on this topic, see the Chapter by Joana Varón below.

(4) *Knowledge and digital tech*: The original utopian vision that the internet (especially Web 2.0) was an open space for “everyone” to share their knowledge and be heard became overwhelmingly challenged through the conception and development of social media. The political aspiration of freedom in social media is contested, as large numbers of discourses on the Internet are not allowing marginalized voices to be heard, and nowadays, they are frequently censored.[[45]](#footnote-45) Only people with a certain number of followers or subscribers on social media (or those who can pay for them) are considered part of the political debate. Alongside this phenomenon, cyberbullying and online hate speech promote new forms of violence against those voices.[[46]](#footnote-46),[[47]](#footnote-47) In other words, oppressive and exclusionary practices are replicated and amplified in several digital spaces, and social divisions are maintained. From an epistemological point of view, this phenomenon signifies that only certain voices, identities and ideologies dominate digital spaces and discussions; commonly, these forms of knowledge are European/capitalist/military/Christian/patriarchal/white/heterosexual/male. Therefore, the dominance of knowledge production by elites continues to be replicated in digital tech.

This Chapter’s analysis of digital tech through the lens of the Colonial Matrix of Power highlights the different ways in which colonial methods of oppression continue to be replicated and expanded. Their tangible consequences in the different aspects of the economy, societies and global politics continue to shift the discourses shaping the laws, policies, and regulations worldwide. Data colonialism is a departing point where activists, academics, technology creators, designers, and stakeholders come together to propose and imagine how digital technologies can be recreated and transformed to dismantle systems of power and oppression.

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