RESISTING DATA COLONIALISM
A PRACTICAL INTERVENTION
THE TIERRA COMÚN NETWORK

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A PRACTICAL INTERVENTION

CONTENTS

STORIES OF RESISTANCE

ACKNOWLEDGMENTS

INTRODUCTION. THERE IS SOMETHING WRONG WITH DATA EXTRACTION

NICK COULDRY

Some people, mainly from the privileged West, think that colonialism is long over. Others are sure that colonialism has never stopped. This book explores a third possibility: that not only is colonialism still continuing, but that right now it is morphing into its most powerful version yet. We call this data colonialism.

Data colonialism is a landgrab that's going on in societies across the world. We don't mean a literal grab of land, but an act of seizing resources, any sort of resource, in an absolute way. Colonialism, while of course it is much more than this, was originally built from such landgrabs, but even historical colonialism seized much more than land: it seized the resources under the land and produced from farming the land, as well as the bodies to do that work.

Today what is being seized is the social life of human beings. The flow and texture of individual human lives are being seized by corporations —and sometimes governments too. They are being seized in the form of data. That data generates value: economic value for corporations and the value that governments get from controlling us more effectively. Either way, a new source of power is being created at human beings' expense, in a new data *landgrab*. [1],[2],[3]

It is not that tracking human life to extract value from it is wholly new. Some institutions such as prisons and schools have for centuries involved close surveillance. Some workers have been tracked much more intensively than others, the most extreme case being the constant eye of the plantation owner on his slaves.

What is new today is the *scope, scale and depth* of how human life is being tracked for the benefit of commercial and governmental elites. Today's forms of data extraction are more widespread, more fine-grained, and more multi-layered than anything previously seen in history. And data extraction operates not just at particular moments, but cumulatively: the data taken from us *at one moment* can be combined with data collected from us *and* from other people *at other times*. Our lives are becoming part of a vast grid of continuous comparison and analysis by external institutions.

This represents a major shift in the power relations in contemporary life: knowledge is power, and the amount of knowledge that external institutions have about us is increasing

1   Ulises Ali Mejias and Nick Couldry, Data Grab: the New Colonialism and how to Resist It, Penguin and W. H. Allen & Company, 2024 forthcoming.
2   Nick Couldry and Ulises Ali Mejias, The Costs of Connection: How Data is Colonizing Everyday Life and Appropriating it for Capitalism, Stanford University Press, 2019.
3   Paola Ricaurte, 'Data epistemologies, The Coloniality of Power, and Resistance', Television and New Media, 20.4 (2019): 350-365.

massively. A shift in power relations potentially as dramatic as that involved in the original landgrab of historical colonialism.

In this short book, we try to build some tools to understand what is going on with data today, why it is colonial, and how collectively to resist it. This is hard. Not only has resisting colonialism always been very hard, because of the highly unequal forces pitted against each other. But today the new stage of colonialism —data colonialism— is arguably implicated in the everyday running of the economy in ways even deeper than when historical colonialism provided the fuel for capitalism to emerge over two centuries ago. Today's colonizers are not adventuring conquistadors or governors of provinces, but the very same corporations that provide us with what seem like our basic services for living — platforms to social life, apps for monitoring our health, the interfaces where our children learn in school, and so on.

Instead of coming just from competing European countries, today's colonizers are dominated by two poles (the US and China), with other countries (e.g., India, Israel, and various European countries) playing a role too in shaping how data is extracted through digital platforms. So the geopolitics of data colonialism is complicated, but that does not make data colonialism any less real.

This means that we need to look at the familiar shape of our digital culture in a new and critical light: in a way that remembers the history of colonialism and sees its whole history —including today's unfolding new phase of massive data extraction— as the continuation of a process of unequal resource extraction from the many by the few that has been going on for 500 years.

This book is intended as a *practical tool*. It is the work of many voices and draws on a diversity of ways of thinking. Building upon decolonial scholars, our goal is that this discussion of data colonialism should lead to *praxis*: the enactment of resistance. We therefore hope the book will prove useful to citizens, communities, and teachers who want resources to help start thinking and taking action in regards to data colonialism in their lives.

We have not tried to disguise our individual voices. This book is like a small concert where all our voices can be heard. It is like a river that allows the streams of our individual thinking and writing to come together in a larger river that one day will reach the ocean: the ocean of a bigger movement to resist data colonialism across all parts of the world.

The first part of the book sets out a framework for understanding and resisting data colonialism. Chapter 1 by Alejandro Mayoral reflects on what colonialism has been historically, and its different dimensions. Chapter 2 by Nai Lee Kalema looks at why capitalism is always racial capitalism, and how that, in turn, is combining with data colonialism to form digital racial capitalism. Chapter 3 by Teresa Numerico reflects on the role of science —including Artificial Intelligence, science's latest dominant form— in providing an apparently natural medium through which the far-from-natural processes of colonialism and racial capitalism can work. Chapter 4 by Gabriel Pereira and Nick Couldry looks at the sorts of specific harm data colonialism is carrying out today across the world. Chapter 5 by Joana Varón explores however, beyond banal forms of datafication, data practices work to erase ways of life, particularly in the domain of sexuality and gender.

The second part of the book is composed by Stories of Resistance. These are case studies of resistance to data colonialism, written from the viewpoint of different communities around the world. We place these cases [later in] the book so that you have lived realities as a reference-point for thinking about the broader ideas we propose.

Finally, the book also offers practical resources in the form of A Call to Action, including ten decolonial principles to live by, and a lexicon of keywords for this struggle.

This book emerged from a thoroughly collective process. Our network, Tierra Común,[4] which was formed at the start of the global COVID-19 pandemic, identified a book as a potential common project. Over time, a small group formed who wanted to work on this more intensively to create a common text that could be useful to others. We discussed these different texts and, across the time span of a year, wrote and edited the different parts across remote meetings.

The text is published also on the Tierra Común website and that of the Institute for Network Cultures: other members are free to add to its online form, including by adding case studies, at any time. This is a living text. A text whose life we hope will contribute to struggles against data colonialism everywhere. . .

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4   Tierra Común. Interventions for data decolonization. https://www.tierracomun.net/en/home/

FRAMEWORK FOR RESISTANCE

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] 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],[3],[4]

Ramón Grosfoguel, 'Transmodernity, border thinking, and global coloniality. Decolonizing political economy and postcolonial studies', Revista Crítica de Ciências Sociais 80.4 (2008).

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]

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1   Ramón Grosfoguel, 'Transmodernity, border thinking, and global coloniality. Decolonizing political economy and postcolonial studies', Revista Crítica De Ciências Sociais 80.4 (2008).
2   Couldry and Mejias, The Costs of Connection: How Data is Colonizing Everyday Life and Appropriating it for Capitalism.
3   Grosfoguel, 'Transmodernity, border thinking, and global coloniality. Decolonizing political economy and postcolonial studies'.
4   Jathan Sadowski, 'When data is capital: datafication, accumulation and extraction', Big Data & Society 6.1 (2019). doi:10.1177/2053951718820549.
5   María Lugones, 'Heterosexualism and the Colonial/Modern Gender System', Hypatia 22.1 (2007): 186–209.

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] 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] 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] 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.

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6   Manuel Castells y Pekka Himanen (eds.), Reconceptualización del desarrollo en la era global de la información, Fondo de Cultura Económica, 2016.

7   Silvia Rivera Cusicanqui, 'Ch'ixinakax utxiwa: A reflection on the practices and discourses of decolonization', South Atlantic Quarterly 111.1 (2012): 95–109.

8   Densua Mumford, 'Data colonialism: compelling and useful, but whither epistemes?', Information, Communication & Society 25.10 (2021): 1511–1516.

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]

According to Quijano,[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]

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9   Aníbal Quijano and Michael Ennis, 'Coloniality of power, Eurocentrism, and Latin America', Nepantla: Views from South 1.3 (2000): 533–580.
10   Quijano and Ennis, 'Coloniality of power, Eurocentrism, and Latin America'.
11   Lisa Nakamura and Peter Chow-White (eds.), 'Introduction—Race and digital technology: Code, the color line, and the information society', in Race after the Internet, Routledge, 2012, pp. 1–18.

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] 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] 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],[15],[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] These practices must be conceived as

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12   Cusicanqui, 'Ch'ixinakax utxiwa: A reflection on the practices and discourses of decolonization'.
13   Couldry and Mejias, The Costs of Connection: How Data is Colonizing Everyday Life and Appropriating it for Capitalism.
14   Couldry and Mejias, The Costs of Connection: How Data is Colonizing Everyday Life and Appropriating it for Capitalism.
15   Mumford, 'Data colonialism: compelling and useful, but whither epistemes?'.
16   Sadowski, 'When data is capital: datafication, accumulation and extraction'.
17   Alejandro Mayoral-Baños, Tech Anishinaabe Medicine Wheel: Decolonial Design Principles within Digital Technologies through the Development of the Indigenous Friends Platform, unpublished PhD diss., York University, Ontario, Canada, 2021. https://yorkspace.library.yorku.ca/xmlui/handle/10315/38793.

complex constructions from different identities, knowledge areas, and geographies. There-
fore, 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] within digital technologies continue to transform into 'inno-
vative' 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 envi-
ronmental 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]

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 Inter-
net of Things (IoT).[20] This factor is happening in various nation-states through exploiting
technology for surveillance, biometric scanners, and radio frequency identification tags,[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] Moreover, several dissident voices against authoritarian regimes have been
censored (e.g., incarceration, assassination, disappearances) with internet tools.[23],[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 Brother
because these technologies shape perfect forms of surveillance and power.[25],[26]In other

18   Quijano and Ennis, 'Coloniality of power, Eurocentrism, and Latin America'.
19   Walter Mignolo, The darker side of Western modernity: Global futures, decolonial options, Durham, NC:
       Duke University Press, 2011.
20   Vincent Mosco, Becoming digital: Toward a post-Internet society, Bingley, UK: Emerald Group
       Publishing, 2017.
21   Laurent Elder, Rohan Samarajiva, Alison Gillwald and Hernán Galperin, Information lives of the poor :
       fighting poverty with technology, Canada: International Development Research Center, 2013.
22   Mosco, Becoming digital: Toward a post-Internet society.
23   Elder, Samarajiva, Gillwald and Galperin, Information lives of the poor : fighting poverty with technology.
24   Evgeny Morozov, The net delusion: The dark side of Internet freedom, New York: PublicAffairs, 2011.
25   Morozov, The net delusion: The dark side of Internet freedom.
26   Mosco, Becoming digital: Toward a post-Internet society.

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],[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] 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] 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]

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] 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 democrati-

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27   Morozov, The net delusion: The dark side of Internet freedom.
28   Tim Unwin, Reclaiming information and communication technologies for development, Oxford: Oxford University Press, 2017.
29   Mosco, Becoming digital: Toward a post-Internet society.
30   Renata Ávila-Pinto, 'Digital sovereignty or digital colonialism?', Sur – International Journal on Human Rights 15.27 (2018): 15–27.
31   Couldry and Mejias, The Costs of Connection: How Data is Colonizing Everyday Life and Appropriating it for Capitalism.
32   Shoshana Zuboff, 'Big other: Surveillance Capitalism and the Prospects of an Information Civilization', Journal of Information Technology 30.1 (2015): 75–89. https://doi.org/10.1057/jit.2015.5

zation 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 many'.[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] 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] 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.[36,37]

(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] 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

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33   Andrew Feenberg, 'Toward a critical theory of the Internet', in Andrew Feenberg and Norm Friesen
      (eds.), (Re)Inventing the internet: Critical case studies, Boston: Sense Publishers, 2012.
34   Couldry and Mejias, The Costs of Connection: How Data is Colonizing Everyday Life and Appropriating it
      for Capitalism.
35   Ávila-Pinto, 'Digital sovereignty or digital colonialism?.
36   Ávila-Pinto, 'Digital sovereignty or digital colonialism?.
37   Unwin, Reclaiming information and communication technologies for development.
38   Lisa Nakamura, 'Race and identity in digital media', in James Curran (ed.), Media and Society, London:
      Bloomsbury Publishing, 2010, pp. 336–347.

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]

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] 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] Similarly, Salazar asserts that digital technologies are mainly written in English, and they do not adapt to other communities' language necessities.[42] Ultimately, studies have concluded that digital technologies are culturally and socially dominated by patriarchy and male biases because of digital hegemony.[43],[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] 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],[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

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39   Ruha Benjamin, Ruha. Race After Technology: Abolitionist tools for the new Jim code. United States: Polity, 2019.
40   Lugones, 'Heterosexualism and the Colonial/Modern Gender System'.
41   Tom Miles, 'U.N. investigators cite Facebook role in Myanmar crisis', Reuters, 12 March 2018, https://www.reuters.com/article/us-myanmar-rohingya-facebook-idUSKCN1GO2PN
42   Juan Francisco Salazar, 'Activismo indígena en América Latina: estrategias para una construcción cultural de las tecnologías de información y comunicación', Journal of Iberian and Latin American Research 8.2 (2002): 61–80.
43   Nakamura, 'Race and identity in digital media'.
44   T.V. Reed, Digitized lives: Culture, power, and social change in the Internet era, Routledge, 2019.
45   Mark Bauerlein, The digital divide: Arguments for and against Facebook, Google, texting, and the age of social networking, New York: Penguin, 2011.
46   Bauerlein, The digital divide: Arguments for and against Facebook, Google, texting, and the age of social networking.
47   Morozov, The net delusion: The dark side of Internet freedom.

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 high-
lights 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 cre-
ators, designers, and stakeholders come together to propose and imagine how digital tech-
nologies can be recreated and transformed to dismantle systems of power and oppression.

CHAPTER 2. INTERSECTIONS OF DATA POWER: UNMASKING THE NEXUS OF DATA COLONIALISM AND DIGITAL RACIAL CAPITALISM

NAI LEE KALEMA

Summary

- Modern global capitalism relied on processes of imperialism and racialization—a technology of power—to justify the differential relations of economic appropriation and exploitation—to extract racial surplus value. Thus, modern global capitalism has remained inextricably linked to racialization processes.

- Today, digital transformations across global political-economic systems are giving rise to the emergence of digital racial capitalism. This is occurring through the convergence of digital transformation, racial capitalism, and data colonialism practices, resulting in digital- and data-mediated forms of racialisation, structural violence, and data necropolitics.

- Digital racial capitalism creates racialized hierarchies of risk and vulnerability to data colonialism, by using data and digital tech to reconfigure or create new categories of racialisation (e.g., migrant, terrorist, etc.), and digital technology and data-mediated harm. Racialized and ethnicized groups of people are structurally more vulnerable to hyper-surveillance and digital harms across several dimensions of intersectionality,

- Digital racial capitalism conceptually explores how colonial power enables and is reproduced by data colonialism alongside the structurally violent implications of data colonialism. The data obtained from data colonialism is being used to create new forms of categorisation, stratification and racialisation that place people into different categories of 'dispossessability' and 'disposability'.

What connects the complexities of colonialism —its multiple, linked dimensions that Quijano called 'the colonial matrix of power'— to wider historical processes? In particular, what connects them to colonial power relations generally is the continued role that racialism and imperialism have played in the organization of economies and societies during the past five centuries, particularly under capitalism? This is what I explore in the rest of this chapter.

Looking Back: Coloniality of Power

In 1992, the Peruvian sociologist Aníbal Quijano introduced his concept of the 'Coloniality of Power' —the structures of power, control, and hegemony emerging from the era of historical

colonialism continue to the present day in the form of a global caste system.[1] The concept of the coloniality of power emerged to look at how colonial legacies of power were globally and locally interpreted and reconstituted throughout the world and the complex dimensions of structural inequality stemming from it. Coloniality of power *continues* to structure racialized, classed, and gendered social hierarchical orders that privilege (or provincialize) people, cultures, and knowledge systems. The association of dominated groups of people with non-paid or non-waged labor was premised upon their perceived inferiority based on coloniality's social classifications and racialized hierarchies.[2] This concept brings into greater relief how 'social classification' has structured social inequality both within nations and globally as reflected in the current day social and economic relations, particularly global capitalism and the geo-politics of knowledge, that structure contemporary societies.[3],[4]

There are very interesting links from this concept to earlier work on the multiple complexities of how race interacts with other dimensions of power. In her 1990 ground-breaking book, *Black Feminist Thought: Knowledge, consciousness, and the politics of empowerment*, sociologist and Black Feminist scholar Patricia Hill Collins introduced the concept of the 'Matrix of Domination'.[5] Conceptually, the Matrix of Domination explores the interlocking systems of oppression along the lines of race, gender, class, sexuality, and other social identities that lead to the marginalization and othering of certain groups of people.[6]

Extending from this, in 2000, Quijano conceptualized the 'Colonial Matrix of Power'' to articulate how the coloniality of power became articulated through four key domains —authority, economy, knowledge and subjectivity, gender and sexuality— and propagated through racialism and economic systems.[7],[8] As noted in chapter 1 by Alejandro Mayoral, the colonial matrix of power produces new categories of racialization across global and local granularities to justify and sustain differential social relations of exploitation and appropriation of resources and labor depending on an identity group's positionality in racialized hierarchies. But from here, it is only a short step to see that capitalism itself, far from merely being a matter of the organization of the economy, is also always from the start a social formation, that is, *racial* capitalism.

1   Aníbal Quijano, 'Coloniality and modernity/rationality', Cultural studies 21.2 and 21.3 (2007): 168–178.

2   Quijano and Ennis, 'Coloniality of power, Eurocentrism, and Latin America'.

3   Ramón Grosfoguel, 'Colonial Difference, Geopolitics of Knowledge, and Global Coloniality in the Modern/Colonial Capitalist World-System.' Review (Fernand Braudel Center) 25.3 (2002): 203–24. http://www.jstor.org/stable/40241548.

4   Ramón Grosfoguel, 'THE EPISTEMIC DECOLONIAL TURN: Beyond political-economy paradigms', Cultural Studies 21.2 and 21.3 (2007): 211–223. https://doi.org/10.1080/09502380601162514.

5   Patricia Hill Collins, Black Feminist Thought: Knowledge, consciousness, and the politics of empowerment, Routledge, 2000.

6   Cirila P. Limpangog, 'Matrix of Domination', in Nancy A. Naples (ed.), The Wiley Blackwell Encyclopedia of Gender and Sexuality Studies. John Wiley & Sons, Ltd, 2016, pp. 1–3. https://doi.org/10.1002/9781118663219.wbegss611

7   Quijano and Ennis, 'Coloniality of power, Eurocentrism, and Latin America'.

8   Walter Mignolo, 'DELINKING: The rhetoric of modernity, the logic of coloniality and the grammar of de-coloniality', Cultural Studies 21.2 and 21.3 (2007): 449–514. https://doi.org/10.1080/09502380601162647

Racial Capitalism

Historian Eric Williams' book, *Capitalism and Slavery*, illustrates how modern global capitalism emerged from the transatlantic slave trade between Europe, Africa, and the Americas. First, the premature accumulation of vast sums of capital extended from the surplus value elite actors were able to extract from the labor of enslaved African people; the surplus value extracted from their labor would later play a pivotal role in financing the industrialisation of Europe and the Americas.[9] Colonial imperial expansion has remained entangled with modern global capitalism through its reliance on racialisation as a technology of power to extract racial subsidies by marking racialized populations of people as inherently more disposable through racist scholarship, policies, and state violence.[10]

Williams' work would later be expanded upon through the Black Radical Tradition's concept of 'Racial Capitalism'. Political Scientist Cedric Robinson conceptualized Racial Capitalism to describe how 'the development, organization, and expansion of capitalist society pursued essentially racial directions, so too did social ideology. As a material force, then, it could be expected that racialism would inevitably permeate the social structures emergent from capitalism'.[11] The racial capitalism thesis investigated how racialist ideologies, like white supremacism and antiblackness, were used to structure power along political and economic systems through racialized hierarchies.[12],[13],[14]

Importantly, racial capitalism does not ascribe intentionality, sociologist Gargi Bhattacharyya elaborates that 'racial capitalism is a way of understanding the role of racism in enabling key moments of capitalist development—it is not a way of understanding capitalism as a racist conspiracy or racism as a capitalist conspiracy'.[15] Ruth Wilson Gilmore, a political-economic geographer, articulates the coevolutionary nature of racialism and capitalism in shaping the contemporary global political-economic systems, emphasizing that 'capitalism requires inequality and racism enshrines it'.[16] Gillmore highlights that race is 'the modality through which political-economic globalization is lived' and materiality felt by people.[17] As the digital transformations of those modalities occur, the logic undergirding them, unfortunately, remains the same —imbued with 'colonialism's economic imperatives— expansion, exploitation, inequality'.[18] Racial Capitalism's economies of dispossession are still very present in global digital transformation processes. Thus, many critical digital scholars are looking back

9   Eric Eustace Williams, Capitalism and Slavery, Penguin Classics, 2022.
10   Achille Mbembe, Out of the Dark Night: Essays on decolonization, Columbia University Press, 2021.
11   Cedric James Robinson, Black Marxism: The making of the Black Radical Tradition, University of North Carolina Press, 2000.
12   Kehinde Andrews, The New Age of Empire: How racism and colonialism still rule the world, United States: Bold Type Books, 2021.
13   Ruth Wilson Gilmore, Abolition Geography: Essays towards liberation, Verso, 2022.
14   Robinson, Black Marxism: The making of the Black Radical Tradition.
15   Gargi Bhattacharyya, Rethinking Racial Capitalism: Questions of reproduction and survival, United Stated: Rowman & Littlefield Publishers, 2018
16   Gilmore, Abolition Geography: Essays towards liberation.
17   Gilmore, Abolition Geography: Essays towards liberation.
18   Gilmore, Abolition Geography: Essays towards liberation.

while looking forward to conceptually looking at the interconnectivities between racialism, capitalism, and the digital.[19],[20],[21],[22],[23],[24]

So, then, what is racial capitalism? Racial capitalism 'speaks not of racialization, but rather of racializations in the plural'.[25] Essentially, racial logics are both globally and locally con-stituted. The factors that undergird global racialism also create across local geographies 'racial categories, structuring race relations via laws, labor and spatial territory demands, the transportation of bodies across borders, and building early ideologies and justifications of racial rationale and violence'.[26] Consequently, while racialization is articulated differently in different places, it is still produced relative to needs of 'the global capitalist order'.[27] Thus, critical digital studies scholars are both looking back at historical European colonialism and postcolonial neocolonialism and forward at its modern incarnation.

Critically, racialization is used as a technology of power to legitimize the subjugation and oppression of some groups of people over others in the modern global economy. Global racial capitalism is promulgated through economic, political, and knowledge systems at the global and local levels. While global white supremacy remains at the apex of the global hierarchical order under global racial capitalism, it cannot be reduced to bodies alone. Rather, whiteness remains 'materially and symbolically represented' through a particular group's position at the apex of a racialized hierarchy.[28] National racialized hierarchies are embedded into global racial capitalism's own racial hierarchy. Not only do people occupy different positionalities on multiple hierarchies at once but also access to 'symbolic whiteness' is premised on factors that extend beyond one's phenotypic expression.

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19   Rediet Abebe, Kehinde Aruleba, Abeba Birhane, Sara Kingsley, George Obaido, Sekou L. Remy, and Swathi Sadagopan. 'Narratives and counternarratives on data sharing in Africa', FAccT 2021 - Proceedings of the 2021 ACM Conference on Fairness, Accountability, and Transparency, (2021): 329–341. https://doi.org/10.1145/3442188.3445897

20   Ruha Benjamin, Ruha. Race After Technology: Abolitionist tools for the new Jim code. United States: Polity, 2019.

21   Simone Browne, Dark Matters: On the surveillance of blackness, Duke University Press, 2015.

22   Joy Buolamwini and Timnit Gebru, 'Gender Shades: Intersectional Accuracy Disparities in Commercial Gender Classification', Proceedings of Machine Learning Research 81 (2018): 77–91.

23   Tressie McMillan Cottom, 'Where Platform Capitalism and Racial Capitalism Meet: The Sociology of Race and Racism in the Digital Society', Sociology of Race and Ethnicity 6.4 (2020): 441–449. https://doi.org/10.1177/2332649220949473

24   Safiya Umoja Noble, Algorithms of Oppression: How search engines reinforce racism, New York University Press, 2018.

25   Mishal Khan, 'The Indebted Among the "Free": Producing Indian Labor Through the Layers of Racial Capitalism', in Destin Jenkins and Justin Leroy (eds.), Histories of Racial Capitalism, Columbia University Press, 2021, pp. 85–110. https://doi.org/10.7312/jenk19074-005

26   Michelle Christian, 'A Global Critical Race and Racism Framework: Racial Entanglements and Deep and Malleable Whiteness', Sociology of Race and Ethnicity 5.2 (2019): 169–185. https://doi.org/10.1177/2332649218783220

27   Khan, 'The Indebted Among the "Free": Producing Indian Labor Through the Layers of Racial Capitalism'.

28   Christian, 'A Global Critical Race and Racism Framework: Racial Entanglements and Deep and Malleable Whiteness'.

This provides a deeper basis from which to understand recent debates about the digital and data. The emergence of digital capitalism relies on the accumulation of data. Zuboff explains how surveillance capitalism enables actors to extract massive amounts of data as a strategic asset for possible later use through her concept of behavioral surplus.[29] While data dispossession is fundamental to data capitalism, communities' level of vulnerability to data dispossession and its harms is tied to racial capitalism.

Racialized communities are more likely to be hyper-surveilled and thus more vulnerable to data dispossession.[30],[31] Thus, the types of beliefs used to justify the predatory expropriation and exploitation seen around data—to get the behavioral surplus that facilitates the emergence of digital capitalism—are tied to racialisation. Cedric Robinson explains that as 'surplus was necessary to the production and reproduction of capitalism, it necessitated discipline and management, through constant and differing modes of racialization'.[32] is not merely apolitical and non-ideological but also premised on very old (and some new) ideological foundations worth examining.

Racialism is central to capitalism. It helps legitimize the inequality that capitalism requires by creating fiction about the differential worthiness of human groups based on the myths of racialization.[33] Coloniality is the ideological basis used to explain the differential worthiness ascribed to human beings —based on the bodies they occupy, cultures they are part of, and geographies they find themselves in or from— to justify inequality.[34] Imperialism, racialism, and coloniality converge to create a fiction about the differential worthiness of human beings to sort people into categories of (1) disposability and (2) dispossessability in across political and economic systems.[35],[36] Digital racial capitalism's innovation upon racial capitalism is in its use of digital technologies, digital transformation processes, and datafied ways of knowing to devalue, exclude, and stratify human beings in ways that are tied to and extend beyond prior iterations of racialism.

Central to this process of digital racial capitalism —in today's Big Data era— is data colonialism. Data colonialism is commodifying human relations, bodies, and behaviors *through*

29   Shoshana Zuboff, The Age of Surveillance Capitalism: The fight for the future at the new frontier of power, PublicAffairs, 2019.
30   Browne, Dark Matters: On the surveillance of blackness.
31   Nancy Fraser, 'Is Capitalism Necessarily Racist?', Politics/Letters Quarterly, 20 May 2019. http://quarterly.politicsslashletters.org/is-capitalism-necessarily-racist/
32   Allan E. S. Lumba, 'Transpacific Migration, Racial Surplus, and Colonial Settlement', in Destin Jenkins and Justin Leroy (eds.), Histories of Racial Capitalism, Columbia University Press, 2021, pp. 111—134. https://doi.org/10.7312/jenk19074-006
33   Jodi Melamed, Represent and Destroy: Rationalizing Violence in the New Racial Capitalism, University of Minnesota Press, 2011.
34   Jodi Melamed, 'Racial Capitalism', Critical Ethnic Studies, 1.1 (2015): 76—85. https://doi.org/10.5749/jcritethnstud.1.1.0076
35   Nancy Fraser, 'Expropriation and Exploitation in Racialized Capitalism: A Reply to Michael Dawson', Critical Historical Studies 3.1 (2016): 163—178. https://doi.org/10.1086/685814
36   Nancy Fraser, Race, Empire, Capitalism: Theorizing the Nexus, New Delhi: South Asian University, 2018.

data.[37] The hierarchies of risk in terms of which bodies, categorized through the uses of data, are most vulnerable to that dispossession and its implications are tied to existing forms of structural oppression and types of racialisation. These generate the basic features of today's data-driven digital racial capitalism.

Digital Racial Capitalism

The convergence of global racial capitalism, imperialism, and data colonialism is leading to the emergence of new types of risks and harms that are mediated through Big Data, AI, and digital technologies. These data and digital-technology-mediated risks and harms are unevenly distributed along intersectional racialized hierarchies that mark some populations of people as inherently more dispossesable and disposable and thus more vulnerable to data colonialism, hyper surveillance, algorithmic harm, and structural violence, or in other words, digital racial capitalism.[38] Digital racial capitalism also explores how data and digital technologies, like AI, are being used to create new forms of racialisation —ascribing racial meanings to a relationship, practice, or group for the purpose of domination, exploitation, and social exclusion—[39] through data and the algorithmic sorting of people. Digital racial capitalism exacerbates existing and perpetuates new patterns of racialization and categorization among populations based on levels of disposability, and exposure to data-driven necropolitics. Digital racial capitalism both proceeds and extends from data colonialism. Finally, digital racial capitalism explains how digital risks and harms get structured in society whereas the structural violence of digital systems, algorithmic technologies, and data relations are disproportionately present at the bottom of racialized hierarchies. tied to global capitalism.[40]

Digital racial capitalism is being instrumentalized through the state as well. At different points in time, governments have deployed differing logics of distribution and calculations of racialization to decide who should make up the deserving versus undeserving among their citizens and non-citizens alike.

How states determine who lives and dies through their bureaucratic and administrative systems is what political theorist Achille Mbembe conceptually refers to as 'Necropolitics'. Mbembe's concept of Necropolitics explores how assemblages of power instrumentalize human life for some populations while managing the material destruction of other populations.[41] In turn, this shift which is dependent on the use of computers has led to societal transfixation

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37 Couldry and Mejias, The Costs of Connection: How Data is Colonizing Everyday Life and Appropriating it for Capitalism.

38 Nai Lee Kalema, 'Deconstructing the Global Coded Gaze on Digital Transformation', in ANTI-RACISM POLICY JOURNAL. A Harvard Kennedy School Student Publication, edited by Ian Daniel, Courtney Howard, and Paula D. Walker, 67–74. Harvard Kennedy School, 2023. https://arpj.hkspublications.org/wp-content/uploads/sites/27/2023/06/ARPJ-2nd-Edition-2023-HKS.pdf

39 Michael Omi and Howard Winant, Racial Formation in the United States: From the 1960s to the 1980s, Routledge & Kegan Paul, 1986.

40 Kalema, 'Deconstructing the Global Coded Gaze on Digital Transformation'.

41 Achille Mbembe, 'Necropolitics', in Stephen Morton and Stephen Bygrave (eds.), Foucault in an Age of Terror: Essays on Biopolitics and the Defence of Society, Palgrave Macmillan UK, 2008, pp. 152–182. https://doi.org/10.1057/9780230584334_9

with not only predicting the future and sorting people into categories of dispossessability but also the preoccupation of powerful private and public actors alike with manufacturing the future through the means of instrumentarian power be it through its velvet-gloved 'nudges' or other, more direct, ways.[42]

Reminiscent of Couldry and Mejias' explication on data colonialism's commodification of human life itself, Mbembe articulates how computational capitalism's molecular deployment of race through the identification of biological differences has taken a techno-genomic turn, whereas data and the digital are being utilized to demarcate further human variation beyond the phenotypical.[43] Underwriting the global resurgence in racialism and ethnonationalism is a belief in the division of humanity into groups based on one's assumed superiority over another. These ideologies of xenophobia and supremacism are not new. What is new is how they are being operationalised and reconfigured through digital technologies targeted at surveilling the bodies of people who are minoritized, racialized, and subalternized in the name of 'security'.

Mbembe illustrates this point further, saying: 'We particularly need to explore the emerging nexus between biology, genes, technologies, and their articulations with new forms of human destitution. At stake in the contemporary reconfigurations and mutations of race and racism is the splitting of humanity itself into separate species and subspecies as a result of market libertarianism and genetic technology'.[44] In a sense, Mbembe is warning about how data and the digital are being used to create new racialised typologies of people based on their behavioral data that can be used to limit, exclude, deny, dehumanize, and ultimately kill— facilitating the emergence of data necropolitics.[45]

Bhattacharyya explains that global racial capitalism's 'sorting of global and local populations into hierarchies of disposability is assisted by practices of racialisation'.[46] In the context of digital racial capitalism, data colonialism is facilitating the sorting of populations along hierarchies of disposability today as marked by their level of actual or risk of subjugation to data necropolitics of the state.

Data necropolitics refers to the forms of digital governance that expose people to health inequalities, social violence and death (both literal and social) and how data is instrumentalized by governments to normalize health and social inequity.[47] According to the political scientist Michael Chisnall, 'the subsequent use of such data to feed technology that seeks to control our behaviour, emotions and consumption, so diminishing our capacity to appropriate our own lives, is morally repugnant'.[48] The extensive and exploitative nature of data extractionism and the ways in which people's personal data is being instrumentalized is self-alienating,

42   Mbembe, Out of the Dark Night: Essays on decolonization.
43   Mbembe, Out of the Dark Night: Essays on decolonization.
44   Mbembe, Out of the Dark Night: Essays on decolonization.
45   Antonio Pele, 'Data Necropolitics V2', SocArXiv, 2021. doi:10.31235/osf.io/pvs2z.
46   Bhattacharyya, Rethinking Racial Capitalism: Questions of reproduction and survival.
47   Pele, 'Data Necropolitics V2'.
48   Mick Chisnall, 'Digital slavery, time for abolition?' Policy Studies 41.5 (2020): 488–506. https://doi.org/
      10.1080/01442872.2020.1724926.

diminishing people's positive freedoms and cultivating what Chisnall describes as the emergence of digital slavery.

Conclusion

In sum, racialism (along with other intersectional categories) is utilized to facilitate the exploitative social relations necessary to enable data colonialism's processes of dispossession. In turn, data colonialism is facilitating digital racial capitalism, producing contemporary states' *data* necropolitics. To put it succinctly, data colonialism and digital racial capitalism are co-constitutive of one another and facilitative of global digital domination, in the process diminishing people's agency (e.g. their ability to contest decisions) as well as alienating people from their data.

CHAPTER 3. SCIENCE AND COLONIALISM: THE VIOLENCE OF ABSTRACTION

TERESA NUMERICO

Summary

- Throughout modernity, both science and colonialism have relied on practices of abstraction that underlie both the idea of objectivity and specific practices like cybernetics and information science

- Data colonialism continues this process by automating practices of social classification, whose roots go back much earlier in modernity but which have been intensified by the forces of capitalism

- The asymmetries, biases and limits of AI and Big Data all derive from these problems of abstraction and standardization, which must be replaced with a truly relational view of knowledge

Colonialism and racial capitalism don't change the world through brute power alone. They work through knowledge and imagination. Knowledge and imagination are key elements in how economies and societies get built. A crucial tool in the emergence of colonial and capitalist economies and societies was (and still is) *science.* This chapter explains the crucial role, behind the scenes of everyday life, that the institution of modern science has played in making colonialism and capitalism possible.

From the start of Western science, the idea of scientific progress is related to the quantification and measurement of phenomena which are the object of interest of the scientists. According to Hannah Arendt in *The Human Condition*, for the scientist to measure and conceive the scientific object they have to exit from the space of representation.[1] This means they have to stop relying on their structure of everyday perception and trust artificial tools. The emergence of Western science thus started with Galileo's and Descartes' work on the mathematization of the understanding of physical phenomena (Galileo) and the measurement of space, via its geometrization (Descartes)—a work accomplished with the advent of Enlightenment, around the 17th century.[2],[3]

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1   Hannah Arendt, The human condition, University of Chicago Press, 1958 (2013).

2   Alexandre Koyré, From the Closed World to the Infinite Universe, Baltimore: Johns Hopkins Press, 1957.

3   Alexandre Koyré, Metaphysics & Measurement: Essays in Scientific Revolution, Harvard University Press, 1968.

The very concept of objectivity was defined a bit later, from the start of the 18th century.[4] However, once this concept prevailed among others it defined the idealization of the object that needed to be understood and described by the scientific method. The notion of objectivity is crucial to understand all the forms of abstracted knowledge on which modern science depends.

Contemporary ideology toward scientific method and organization of information and knowledge has many different sources. One of the most effective and influential was cybernetics, which was officially born in 1948 with a book by Norbert Wiener, entitled *Cybernetics: or control and communication in the animal and the machine*. This trans-discipline, which contributed to ideas such as Artificial Intelligence and the simulation of human behavior with machines, conceived of interaction between human beings as a form of communication. It suggested that communication was a general activity that could belong to humans, but also across different animals and machines.[5]

Cybernetics consisted in understanding the feedback loops that were necessary to adjust conducts in relation to the environment. The idea was that these feedbacks were very common in natural contexts as well as in interacting with machines such as radars and thermostats. The mechanisms that allow animals to survive in natural hostile situations, according to Wiener, were reproducible patterns that could be simulated in machine interactions. Control was a special type of communication in which we want to make sure that the receiver agent of the message accomplished the order prescribed in the communication stance. The linguistic context of Cybernetics as well as most of the content that was its object of study was related to the Second World War and retained most of the war-like atmosphere in which it was conceived.[6]

This approach opened science to a completely new vision of what it meant to offer a scientific explanation of a phenomenon, whose objectivity was guaranteed more by the technical system of automating data gathering and the subsequent data retrieval and sorting out in relevant context. The human role in science was limited to the governing of the general process, without any control on the analysis and the organization of data and relevant models of explanation.[7]

Cybernetics was preceded by a seminal paper by Rosenblueth and Wiener on the role of models in science, according to which the aim and the organization of science involved a distinctive epistemic frame.[8] What did it mean to create a scientific model? Models could be abstract or material but they both required sorting out some closed-box problems, deciding which of the variables that contributed to the phenomenon were worth measurement and which should remain hidden inside the box.

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4   Lorraine Daston and Peter Galison, Objectivity, Princeton University Press, 2010.

5   Norbert Wiener, Cybernetics: or Control and Communication in the Animal and the Machine, The MIT Press, 1948 (1961).

6   Paul N. Edwards, The Closed World: Computers and the Politics of Dis- course in Cold War America, MIT Press, 1997.

7   Joseph Carl Robnett Licklider, Libraries of the Future, MIT Press, 1965.

8   Arturo Rosenblueth and Norbert Wiener, 'The Role of Models in Science', Philosophy of Science 12.4 (1945): 316–21. http://www.jstor.org/stable/184253.

The evolution of the scientific framework of Western science was then based on the measurability, objectivity, and abstraction of relevant characteristics. The idea behind this approach to science was that the scientist should be in the universal and absolute position to judge and classify phenomena according to a quantitative, explicit, and rigorous way.

This is the scenario against the background of which the process of colonial datafication and extraction of information from human beings and human life emerges as a project that continues the broader trajectory of Western science.

Data colonialism and the automation of classification

In modern western science there is a reliance on classification. Major efforts are made to organize knowledge in the form of a classification following a precise style of judgment that defines substances as subjects and attributes as characteristics that belong to them. Substances are hierarchically superior to attributes that are predicated of them. This is the legacy of Aristotelianism. Modern science was born against scholastic knowledge, which was supported by the Church, but though it criticized most of the fundamental premises of that epistemology, it retained the Aristotelian structure of knowledge in terms of categories, substances, and attributes.

In the western world there was also a different tradition which was based on a more relational conception of reality, both in epistemological and in ontological terms. Why did the Western tradition choose to silence, or diminish the influence of a relational approach to knowledge and understanding that would have been more inclusive, acknowledging the situatedness and subjectivity of every point of view? The answer lay in the juridical necessity to justify the appropriative attitude toward the land of indigenous people, who had to be considered less 'human' than the colonizers. This approach was also backed by the Christian church which was defeated by the refusal of Modern Western science to accept its authority in justifying knowledge, but rebuilt a new alliance with the scientific knowledge in the colonization of imagination.[9]

The ideology of modern science was supported together with the first essays of capitalistic appropriation of land in the United Kingdom during the time of the British monarch, Elizabeth the First, that allowed the first enclosures of public land for private exploitation. The model of national land grabbing offered by enclosures was soon exported on the global level, due to the never-ending need of capital for new sources of appropriation to feed the infinite growth process. The UK example was followed by the recently founded nation states in Europe: Spain, Portugal and then France. There was a colonial appropriative movement also within the western world, and then it was exported abroad.

Underlying this convergence between theoretical science and practical extraction was the vision of a new relation between humanity and nature that had been announced by English philosopher Francis Bacon in his book *Novum Organon*, originally written in 1620. For Bacon

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9   Quijano, 'Coloniality and modernity/rationality'

nature existed for man to extract from it, through techniques of knowledge and force, whatever value man wanted, and without concern for the consequences.[10]

The idea of Bacon, in fact, was not only that it was possible to extract value from land but also that this extractive process could last forever, because no resistance to it was imagined. The possibility of other human users of that same land was never considered. This landgrab was in fact the original historical accumulation which was necessary for capitalism to happen at all. According to Jason Moore in his book *Capitalism in the Web of Life*, we can read this large-scale reorganization of resources that comprised early colonialism as a search for a new frontier of primitive accumulation.[11]

Capitalist ideology and Western science ideology could survive only if they could demonstrate the global progression of exploitation, continuous increase of resources appropriated, never-ending progress of knowledge creation and the development of technological tools that are more and more powerful.

This attitude toward unlimited appropriation together with the ideology of hierarchical categorization of scientific objects and their characteristics is not necessary for science or for knowledge. It is only necessary for capitalistic exploitation. This sets the scene for understanding the special role of *data* in contemporary science.

Data as quantified, biased, conservative interpretation of the research object

How does this primitive accumulation connect with data? The idea that data can be a brute univocal representation of facts, without any intermediation, descends from the suggestion that phenomena can be reproduced, and eventually directly created in the form of data without the implication of a representative choice or any specific view. It presupposes that the data is not situated in a specific contextual way of representing objects. The idea of objectivity that was crucial for the idea of western modern science according to Daston and Galison relied on the invention of some technical devices that allowed the possibility to compare representations in a univocal way.[12] In the world of data gathering the bare idea that it is possible to access such a huge amount of data counts as the accessibility of *the totality* of the object of research.

From a traditional epistemological point of view, however, this view of knowledge is completely devoid of foundation. Data is a perspective on the world, as all representations are. Data always falls short of representing the totality of what is 'datafied' and needs all sorts of external explanation in order to be implemented in a system whose aim is the production of future predictions, related to people's characteristics, preferences and behaviors.

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10   Francis Bacon, Francis Bacon: the new organon, Cambridge University Press, 1620 (2000).
11   Jason W. Moore, Capitalism in the Web of Life: Ecology and the Accumulation of Capital, Verso Books, 2015.
12   Daston and Galison, Objectivity.

We know that decision-making algorithms must use some methods/tools to interpret past data to obtain predictions of future behaviors. Many assumptions are embedded in such projections of past data onto future situations. These assumptions are often neglected, and they are not objects of attentive, explicit, conscious reflections. Such a lack of awareness together with the arrogance of the knowledge system which claims its accuracy and precision without exhibiting a correct method of collective auditing of its epistemic scaffoldings is the potential cause of the appropriative, colonizing structure of this knowledge acquisition method. This attitude is particularly dangerous because it projects its (limited) results on the future, configuring the future around the partial interpretations of past events and presumed preferences and behaviors.

There is a connection between the Western scientific approach to understanding highlighted here and racism —a connection made by Hannah Arendt.[13] The categorial representation of the people allows easily the interpretation of difference as the indication of exclusion characteristics that are described as 'naturally' inferior to the proxy classification of what we are prepared to consider the standard model of subjectivities.[14],[15],[16]

The infrastructure of knowledge that allows such a systemic appropriation and projection of people's data is critical from a political as well as from an epistemological point of view.[17] Its commercial conditions of production imply a strong asymmetry of power between those who are modeled and the subjects who are the actors of the knowledge production strategy. Data science scholars work on a technical and epistemic structure that is opaque, blurred and hidden, though its effects are rather visible on society as a whole. The asymmetry is not only a feature of data's technical infrastructure scaffoldings but also linked to the people hired to manage data, who are all trained in the same universities and belong to a similar group in terms of gender, ethnic origin and socio-cultural milieu.[18],[19],[20],[21] This asymmetry is reinforced by how data is gathered from everyone who uses digital devices and services. Most of the people whose data is used are not themselves represented among the workers who make decisions based on that data through algorithmic processing.

13   Hannah Arendt, The origins of totalitarianism, Houghton Mifflin Harcourt, 1973.
14   Allen Chun, (Post) Colonial governance in Hong Kong and Macau: a tale of two cities and regimes, Postcolonial studies 22.4 (2019): 413–427.
15   Virginia Eubanks, Automating inequality: How high-tech tools profile, police, and punish the poor, St. Martin's Press, 2018.
16   Cathy O'Neil, Weapons of math destruction: How big data increases inequality and threatens democracy, Crown Pub, 2016.
17   Paul N. Edwards, Geoffrey C. Bowker, Steven J. Jackson, and Robin Williams, 'Introduction: an agenda for infrastructure studies', Journal of the association for information systems 10.5 (2009). doi:10.17705/1jais.00200.
18   Jessie Daniels, '"My Brain Database Doesn't See Skin Color" Color-Blind Racism in the Technology Industry and in Theorizing the Web', American Behavioral Scientist 59.11 (2015): 1377–1393.
19   Sinduja Rangarajan, 'Here's the Clearest Picture of Silicon Valley's Diversity yet: It's Bad. But Some Companies Are Doing Less Bad', Reveal, 25 June 2018. https://www.revealnews.org/article/heres-the-clearest-picture-of-silicon-valleys-diversity-yet/
20   Sarah Myers West, Meredith Whittaker, and Kate Crawford, 'Discriminating Systems: Gender, Race and Power in AI', AI Now Institute, 1 April 2019. https://ainowinstitute.org/discriminatingsystems.html
21   Catherine D'ignazio and Lauren F. Klein, Data feminism. MIT Press, 2020.

In the following sections, I describe some of the characteristics of the data interpretation process that deals with automated decision-making systems. The aim of the description is to suggest the following points: there is no such a thing as raw data, data are always cooked, no matter if implicitly or explicitly, there is always some model at work in interpreting data, models used in AI inferences tend to amplify past conditions to predict future events, considered inevitable and not contingent. And, for these reasons, data processing always involves a certain epistemic violence on the actual environment from which its knowledge is abstracted.

The implicit role of context

For the correlations to make sense within the statistics of data, it is necessary that the context is clearly established, otherwise it is possible to make erroneous correlations produced by the lack of independence between data. We can, for example, erroneously deduce that people with cardiovascular problems are more protected than others against pneumonia, which is just the consequence of the fact that those patients are more monitored than the others due to special prevention measures assumed to avoid worse consequences in case of catching pneumonia. In order to understand data, then, it is necessary to have the context in which data is gathered and all sorts of co-implications of types of data.

Quality plus abstraction produces quantification

When we use data for representing a situation and modeling it for projecting the past data in future prediction we have to choose an abstraction method in order to define how to describe the situation in quantitative format and what can be counted together.[22] One of the crucial activities of data science is the production of clusters where data of different subjects are considered as part of a unique group. Such a process requires decisions about how to abstract between different data in order to define a common category to which they are treated as belonging.

Abstraction is a necessary activity when we want to define a proxy, for example, in an automated recruitment process. We need to decide which are the features that are considered the desired ones in order to choose a candidate for a job position. However, the definition of the model candidate is not as the definition of the model cat, because it is full of potential discriminations, depending on which characteristics we select to abstract and create the proxy of our preferred worker. The abstraction is necessary to create the profile that we want the system to learn in order to predict the most valid candidates for the shortlisting exercise. The technicality of the learning system allows us to hide the decisions inside the procedure, but the abstraction choices are there anyway and orient systemic choice in a situated way.

Biases are necessary to the learning process

The use of machine learning methods for the creation of automated decision-making tools is based on the possibility of making sense of huge quantities of data. In order to interpret

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22   Deborah A. Stone, Counting: How we use numbers to decide what matters, Liveright Publishing, 2020.

data the systems need some strategies to identify patterns that are used as examples for future recognition of similar peculiarities in testing data, once that training sets of data are identified, classified and properly tagged. The use of training sets or other relevant methods used to make sense of future data relies on some sort of learning bias.[23] The learning bias is not necessarily negative or epistemically problematic, but it is a way to synthesize the many possible interpretations that are available to make sense of data.

The result is that if we don't control precisely the external choices that allow the bias to happen, we risk implementing prejudices and prescriptions in the code, whose aim is to create an effective learning function to organize data with meaningful connections. The way in which we create those connections will influence the results of the system outputs. This is clearly stated in accounts of data colonialism.[24]

One of the consequences of this learning bias over data is the tendency to project past data into future prediction. One of the implicit inferences that are adopted by machine learning methods is the use of the inductive principles to obtain sound conclusions.[25] But, of course, if we project the past on the future the temptation is to consider the past as the measure of the future, and to normalize the conditions of the past as if they were inscribed in the nature of the subjects whose future behaviors need to be guessed in advance.

If society were a perfect system in which everybody had access to the same opportunities in life, intellectual stimuli, education and wealth, then this approach would face no fundamental objections, but the truth is that the concrete and practical conditions of human beings are *not* equal or comparably distributed. Society is unfair because of the historical unequal conditions imposed from the colonial legacy and other differences in access to privileges in wealth and cultural consciousness possibilities. If we fail to take the historical injustices into account we will repeat the inequities of the past, with the help of the oracular effect of future predictions offered by technological systems which are considered more objective and trustworthy than human predictions. Contingent conditions are absolutized by the automated abstraction process without any awareness from both who set the system in place and who use its conclusions as valid without any extra checking effort.

Data processing's methods end up by imposing a conservative approach to predictions which are relevant to anticipate behaviors, desires, attitudes and preferences of people, inferring those judgements on their past behaviors, desires etc. Or, even worse, by clustering people in groups, associating their characteristics to belonging to the same set of people that share some common elements. These correlations that start from clusters

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23   Mireille Hildebrandt, The issue of bias: the framing powers of ML. Machines we trust. Perspective on dependable AI, MIT Press, 2021.

24   Couldry and Mejias, The Costs of Connection: How Data is Colonizing Everyday Life and Appropriating it for Capitalism.

25   Osonde A. Osoba, Benjamin Boudreaux, Jessica M. Saunders, J. Luke Irwin, Pam A. Mueller, and Samantha Cherney, Algorithmic Equity: A Framework for Social Applications, Santa Monica: RAND Corporation, 2019.

of people to demonstrate their qualities or behaviors is particularly dangerous because it is the same attitude of traditional racism evaluations.[26],[27]

We cannot avoid noticing that the huge economic and technical investments behind the development of AI machine learning tools, and the tendency to amplify digital surveillance in all its possibilities,[28] imply a deep asymmetry of power between those who face the use of their data for predicting purposes and those happy or unhappy few who are in control of the algorithmic processing of data. Understanding this context precisely means to acknowledge the fact that predictions become prescriptions, because there is no way to oppose the systemic vision imposed by AI machine learning tools.[29] In fact, it doesn't matter if data was not correctly *describing* the situations because the prescriptive approach to the future outcomes, together with the impossibility to enter the so-called black box where predictions get made and validated, results in a situation where the subjects of the predictions are unable to defend themselves.[30],[31] Data-driven predictions taken in an oracular form and there is no way to discuss them or even ask for a justification of their assumptions.[32]

The standardization of interpretations

How do these underlying points about the underlying nature of data processing connect with our everyday experience of the world today?

Take the example of how data systems, for example embedded within social media platforms or marketing data, attempt to define a particular set of facial characteristics as a signal that can be interpreted as a proxy for whether someone is part of a straight or gay group.[33] The universalistic approach to knowledge as based in single ways of classifying the world is at work here. In this example such a classification is explicitly inadequate to describe the complex and highly contextual sexual identities of actual people. The boundaries between straight and gay are, after all, not the only possible distinctions between people in terms of their sexual identities.

It is not possible to think about all the possibilities of life on earth through a single classificatory grid, and this is particularly true when such classification is married with an universalistic

26   Benjamin, Race After Technology: Abolitionist tools for the new Jim code.

27   Wendy Hui Kyong Chun, Discriminating Data. Correlation, Neighborhoods, and the New Politics of Recognition, MIT Press, 2021.

28   Oscar H. Jr. Gandy, The panoptic sort: A political economy of personal information, Oxford University Press, 2021.

29   Antoinette Rouvroy and Thomas Berns, 'Gouvernementalité algorithmique et perspectives d'émancipation. Le disparate comme condition d'individuation par la relation', Réseaux 177.1 (2013): 163–196.

30   Frank Pasquale, The black box society: The secret algorithms that control money and information, Harvard University Press, 2015.

31   Frank Pasquale, New laws of robotics: defending human expertise in the age of AI, Belknap Press, 2020.

32   Ed Finn, What algorithms want, MIT Press, 2018.

33   Paul B. Preciado, 'Dissident Interfaces: Shu Lea Cheang's 3x3x9 and the Digital Avant-Garde', in Preciado, Paul B. (ed.), 3x3x6. Shu Lea Cheang, Taiwan: Taipei Fine Arts Museum, 2019, pp. 69–90.

attitude toward research and science. The risk here is the standardization of the gaze toward reality so that it is not possible to understand the nuanced possible interpretation. The standardization is prescriptive when it is applied to social and human behaviors and it renders it difficult to be accepted for people who are not perceived as normal.

However, normality is an imposition of the universalistic approach to understanding. This is yet another aspect of what Quijano called 'the coloniality of power' (see chapter 2 by Nai Lee Kalema). This is one of the methods of cultural imposition and appropriation that is acted by the knowledge/power structure. It is based on the asymmetry of power between who is producing the understanding process and who is the object of such a process, without any assessment, or 'aware and informed consent' procedure, or audit process in place. The voices of the subjects represented in the data are always muted. In fact, they are muted twice because data is always coded as silent and because there is no representation of those subjects in the processes of knowledge creation and development.

The relational and collective approach to knowledge

It is however possible to understand phenomena from a different perspective, a pluralistic one, which is based on a relational ontology and/or epistemology as it is suggested by philosophers from Global North and Global South such as Whitehead, Stiegler, Mbembe or Yuk Hui, among others. Wendy Chun's book, *Discriminating Data* (2021), shows that it is not necessary to interpret reality according to a unique system that is based on a precise ideology of discrimination, normalization, and standardization of human relationships and habits.[34]

In order to work in favor of a decolonial perspective about data it is necessary to step out of the universalistic approach of western science, and to exit from modernity.[35]

We need to provincialize Europe because there is no universal history to deploy.[36] We have to understand to accept pluralistic interpretation of facts, habits and desires of people, so that we do not seek to hypostatize the relative digital traces transforming those traces into methods for expropriate behaviors of people by offering a univocal abstract symbolic meaning. We need to find a way to preserve digital pluriversality.[37]

Without such a transformation of viewpoint, human beings risk being expropriated as an open terrain, and becoming a new frontier for the appropriation on which capital survives.

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34   Chun, Discriminating Data. Correlation, Neighborhoods, and the New Politics of Recognition.
35   Yuk Hui, The question concerning technology in China: An essay in cosmotechnics: 3, MIT Press, 2019.
36   Dipesh Chakrabarty, Provincializing Europe, Princeton University Press, 2009.
37   Arturo Escobar, Designs for the pluriverse: Radical interdependence, autonomy, and the making of worlds, Duke University Press, 2018.

CHAPTER 4. DATA COLONIALISM NOW: HARMS AND CONSEQUENCES

GABRIEL PEREIRA & NICK COULDRY

Summary

- Data colonialism is the latest stage of colonialism: instead of land, it grabs human life in the form of data. This data extraction is radically different in scale and depth from data extraction in the past.

- We get drawn into this data extraction in banal ways on platforms and on our devices, but this is only part of a much larger change in how business relates to human life through extraction.

- This can't be fixed by reforming a few rogue cases, because this is a new landgrab on a truly colonial scale, affecting many sectors: even education, agriculture and health, the fundamental sectors for ensuring the quality of human life, are now dominated by tech corporations that use them to extra data on an industrial scale.

What is data colonialism?

Colonialism, and the appropriation of resources and knowledge, like all major historical phenomena, is not static: it goes on developing. Its latest form is data colonialism. Whereas historical colonialism grabbed land, the land's resources and the bodies to mine them, the latest phase of colonialism acquires something new to appropriate and grab: human life, seized through the medium of data. The flow and texture of individual human lives are being seized by corporations and sometimes governments too. They are being seized in the form of data. That data generates value: economic value for corporations and the value that governments get from controlling us more effectively. Either way, a new source of power is being created at human beings' expense.[1]

It is not that tracking human life to extract value from it is wholly new. Some institutions such as prisons and schools have for centuries involved close surveillance. Some workers have been tracked much more intensively than others, the most extreme case being the constant eye of the plantation owner on enslaved people. Most often, it was through data that marginalized communities have been controlled and surveilled, for example through 'race classification' under Apartheid.

What is new today is the scope, scale and depth of how human life is tracked for the benefit of elites. Today's forms of data extraction are more universal, more fine-grained, and more

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1   Mejias and Couldry, Data Grab: the New Colonialism and how to Resist It.

multi-layered than anything previously in history. And data extraction operates not just at particular moments, but cumulatively: the data taken from us at one moment can be combined with data collected from us and from other people at other times. Our lives are becoming part of a vast grid of continuous comparison and analysis by external institutions, which often remain opaque under the guise of company's Intellectual Property (IP) secrets. This represents a major shift in the power relations in contemporary life: knowledge is power, and the amount of knowledge that external institutions have about us is increasing massively.

We are often alert to power grabs of this sort. But the data power grab is happening in ways that are completely banal, through social relations of data extraction that can seem harmless, until their wider impacts are understood. For example, the 'cookie' started this: it was invented in 1994 to make interaction with websites easier. It is a file that gets added to your computer when you visit a web page, a file that enables your computer to be tracked every time it revisits that page, or even visits other pages. But the cookie was just the start of a vast shift in how advertisers operate, from mass marketing to individually targeted marketing, based on continuous surveillance.

What is data colonialism's specific importance today?

With the COVID-19 pandemic, the scale and pervasiveness of data colonialism has grown. As the pandemic progressed there was a growing need to monitor how the disease was spreading throughout the world and as people were under lockdown, many more processes moved onto digital platforms. As the scale and pace of digital transformation grew, so too did the reach of data colonialism. Data dispossession is particularly material when also looking at how that same data is being instrumentalised with the AI technologies of digital-era government.[2]

In fact, it may be easy to not perceive data colonialism as a part of our lives. Data and algorithms are most often operating without any direct consent or permission, in the background of our lives. We often agree to this because companies say they just want to make things more seamless, connected, organized. We may also end up trapped within these extractive systems because there are no other options, or even due to the fact they are useful for us. For all of these reasons, it may be really hard to imagine an alternative way beyond the colonial framework that we see around us.

Recognizing the operation of data colonialism allows us to better respond to its harms and consequences. Data colonialism allows us to understand the oppressions of datafication today, including the material impacts data extraction has on people's wellbeing. This includes, for example, how it is used to further entrench racism through datafied systems (as previously discussed by Nai Lee Kalema in Chapter 2). Moreover, it serves as a stepping-stone towards a generative project that considers which future we actually want. A decolonial framework considers how people can have full control over their data, as well as any algorithms that operate from those. It considers not only which kinds of data collection we want, but also those we do

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2   Killian Clarke, 'When Do the Dispossessed Protest? Informal Leadership and Mobilization in Syrian Refugee Camps', *Perspectives on Politics* 16.3 (2018): 617—33. doi:10.1017/S1537592718001020.

not want because they are not necessary. What counts as 'necessary' (in terms of what data is to be collected and processed, and how) is, after all, strongly shaped by powerful interests: we need to move towards a situation where it is shaped more by actual social deliberation by citizens, that is, by those affected by data's categorisations. As such, we suggest considering data colonialism as a call for thinking otherwise, for building alternative futures.

How is data colonialism happening in practice?

Data is not neutral. The way data is collected and constructed defines what it will do in the future, and what gets privileged or not. Extractivism and dispossession undergird how data is located across our everyday life today: a key goal of the dominant system is taking control over people's data in order to profit from it.

The digital platforms we use, like Facebook, literally make no sense except as machines that process and extract value from the data we generate by using them. The same goes for our phones and search engines —except that, in those cases, a public backlash against tracking has led to some recent adjustments. Google has announced that from 2023 it will prohibit third party tracking cookies in its Chrome browser, while Apple has decided to require that apps on its phones must ask for consent to track users via Apple's mobile advertising ID. But that Apple ID was invented to help those same third parties (and Apple) track us continuously!

But these recent changes will make only a small shift in the wider landscape. The reality is that we are being tracked continuously by websites, apps, and our devices; and countless third parties can track us via those routes. That's the way the digital economy has come to work over the past three decades. And this is still only the beginning of a much bigger shift in how human beings relate, are governed, and exploited, a much bigger shift in power relations.

We often first hear of these developments through scandals, particularly in areas where governments are involved. We hear that, in the hope of saving money, governments in many countries are employing algorithms to automate their decision-making, or that of their key agencies. Very often, however, those shortcuts don't work well. For example, the commercially developed COMPAS algorithm, designed to influence a criminal court's legal sentence by 'predicting' whether the accused is likely to commit a future offense, was found to be no more accurate than a guess made by contributors to the Amazon Mechanical Turk platform.[3] And yet, US judges had been asked to rely on it in deciding their sentences, without having any access to the details of how it worked (or didn't work).

Data colonialism has been particularly effective in changing how social welfare works. In the UK and US, algorithms have been used to 'automate' decisions about the protection of vulnerable children by social services departments, but those algorithms have been found to embed numerous errors which, very often, only compound existing inequalities and injustices. A similar project took place in Argentina, through the collaboration between Microsoft and

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3   Julia Dressel and Hany Farid, 'The accuracy, fairness, and limits of predicting recidivism', Science
        advances 4.1 eaao5580 (2018). https://doi.org/10.1126/sciadv.aao5580

the Salta Province. The Horus Project, as it was called, monitored poor women and children, using algorithms to supposedly prevent teenage pregnancy and school drop-out.[4] Not only does it continue the longer trajectory of over-surveilling marginalized communities, the project further inscribes goals of prediction that ignore the lived experience of subjects in favor of data and computation.

Meanwhile, in India, a comprehensive biometric data system called Aadhaar is being developed for centralizing welfare, taxes, and all interactions with the State. Its key goal is transforming citizens into machine-readable data, which can be managed and controlled. As explained by Linnet Taylor, 'the database started as a way to keep track of welfare payments and work programs, but has gradually morphed into a unique public-private configuration'.[5] The consequences of this are manifold: although the project continues to gather data in ways that are unsafe and threaten privacy, it did not in fact help reduce the inefficiency issues it was proposed to solve. Moreover, its inflexible requirement may reinforce inequality for people who, for any reason, have their biometrics not recognized: they may, for example, be denied subsidies and grants and thus further marginalized.

Other examples of data colonialism in our everyday life abound. In education, large EdTech (Education Technology) companies such as Apple, Google, and Pearson are an increasingly significant force in the classroom. They design and run the platforms on which our children study, as well as shape curriculum management, evaluation and guidance of students, and school management. When these companies enter the classroom, not only do they earn by selling their technology, they also seek to gather huge amounts of data on student use of their tools and to get students 'hooked' on their proprietary platforms. And what's more: they can also use their newly-captured data for surveilling students. This can go as far as the use of eye-tracking in classrooms to detect 'mind wandering' or any student distraction. Not only do such surveillance technologies generate lots of errors, they also exacerbate the tendency of further data grabs, concentrated in the hands of few companies and allowing them a central role in the analysis of education — a crucial element of our society.

A very different sector which faces similar pressures is agriculture. As Alistair Fraser has said, 'the landgrab yields a data grab'.[6] AgTech companies such as John Deere are producing 'smart' farm technologies that rely on the continuous gathering of data about the farming process at previously unimaginable levels of detail, but always under the control of the corporation. Other companies like Monsanto are similarly expanding towards data control, extracting data from sensors which can be sold back to farmers. Not only do these forms of data analysis further the monopoly of data in companies from the Global North, they also support a way of farming which ignores local knowledge and further introduces biodiversity-endangering monocultures. In resistance to such prospects is, for example, the work of the Indian Digital Ecosystem for

4   João Carlos Magalhães and Nick Couldry, 'Giving by Taking Away: Big Tech, Data Colonialism, and the Reconfiguration of Social Good', International Journal of Communication 15 (2021).
5   Linnet Taylor, 'Why Today's Aadhaar Judgement Matters for Data Justice', Global Data Justice, 26 September 2018. https://globaldatajustice.org/gdj/1859/
6   Alistar Fraser, 'Land Grab/Data Grab: Precision agriculture and its new horizons', The Journal of Peasant Studies 46.5 (2019): 893–912.

Agriculture, which seeks 'to move from a narrow app-centric approach toward an ecosys-
tem model that accounts for a farmer-centric vision of value creation through digitalization'.[7]
Here, the goal is decentralization and ecosystem-thinking, rather than the monopolizing of
data colonialism by large corporations, including so-called humanitarian organizations, as
sponsored by ex-Microsoft CEO Bill Gates.[8]

Meanwhile health services promise perhaps the largest data grab of all, driven by genuine
concerns at the need for gathering more data about the spread of dangerous disease and
poor health habits. In a clear colonial echo, the Wall Street Journal had called the health
sector an 'open frontier' - not so much for scientific knowledge, as for the extraction of data
and profit.[9] Although this is now a reality in much of the Global North, with Amazon expanding
into healthcare and companies merging to monopolize the field, much of the Global South is
slowly creeping in the same direction.

Our cities aren't immune to the land grab of data colonialism. Supposedly 'smart cities' are
being rolled out across the world, developed by big companies such as IBM and Google.
Although they present themselves as cool solutions to real problems, the integration of
such digital gadgets furthers surveillance and data capture. For example, smart streetlights
deployed in San Diego were supposed to track traffic but were used instead to surveil citizens
and share data with law enforcement.[10] Meanwhile, corporations are seeking to fully control
a city's data flows, with promises of optimizing them with algorithms. The impacts of this for
urban infrastructure are many—including the way they can monopolize the future use of
data that was generated. Furthermore, questions regarding infrastructural power abound,
for example in the case of Chinese companies providing data infrastructure development in
South Africa and Kenya.

Perhaps unsurprisingly, data colonialism is often promoted by, or ends up supporting the goals
of, surveillance by law enforcement and the police. Though the police have historically sought
to surveil and control, the scale of such surveillance can be increased through continuous
data capture. In Rio de Janeiro (Brazil), for example, IBM has been tasked with building an
'Integrated Command and Control Centre', from which police and other services surveil and
act on the city. However, such data analysis of the city 'operate[s] without any consent and
awareness of the population', which also furthers future uses which may go against people's
privacy.[11] One particularly controversial use of big data gathered by law enforcement is for

7   Sakhi Shah and Ranjitha Kumar, 'The Digital Ecosystem Opportunity for Indian Agriculture: Making the
     Right Choice', IT for Change, 24 August 2022. https://itforchange.net/node/2196
8   Navdanya International, 'Gates Ag One: The Recolonisation Of Agriculture', 16 November 2020. https://
     navdanyainternational.org/publications/gates-ag-one-the-recolonisation-of-agriculture/
9   Sarah E. Needleman and Rob Copeland, 'Google's "Project Nightingale" Triggers Federal Inquiry', *Wall
     Street Journal,* 12 November 2019. https://www.wsj.com/articles/behind-googles-project-nightingale-a-
     health-data-gold-mine-of-50-million-patients-11573571867?reflink=desktopwebshare_permalink
10   Tekla S. Perry, 'Cops Tap Smart Streetlights Sparking Controversy and Legislation', *IEEE Spectrum,* 8
     August 2020. https://spectrum.ieee.org/cops-smart-street-lights
11   Lalita Kraus, Fabiola de Cássia Freitas Neves, and Aldenilson dos Santos Vitorino Costa, 'Unequal smart
     spaces: The Command and Control Centre of Rio de Janeiro', *Espaço e Economia. Revista Brasileira de
     Geografia Econômica* 23 (2022). https://doi.org/10.4000/espacoeconomia.21619

forecasting future crimes — also known as 'predictive policing'. Different places across the world, for example India and Rio de Janeiro, have been experimenting with these flawed technologies, which further discriminate against oppressed and over-surveilled communities. Another issue is the use of surveillance on criminalized people, particularly those incarcerated. In Brazil, for example, the use of monitoring through ankle bracelets has significantly grown during the pandemic, signifying 'a rite of passage to a "virtual prison", a process that has visible ethical issues with regards to privacy and surveillance that need to be further discussed.[12]

On the borders, data and algorithmic technology are a pressing concern for migrants, communities of people that are often already subject to multiple forms of oppression. The 'smart border' is becoming a reality, with Palantir among other companies seeking to datafy migrants and analyze "data from multiple databases run by DHS and law agencies, as well as from data streams linked to people's internet and social media activity".[13] The consequences of this are the continued arrests and killing of migrants, as well as their imprisonment by ICE and other law enforcement around the world —all while enriching companies with the public's money.

As all these different cases show, once data is collected, it can be used in many different ways —often in ways we don't expect or don't want. Data extracted by companies about our everyday lives may be used for their profit, rather than for the reason why we originally ceded the data. Without you even realizing it, the same information may be shared across companies to give you recommendations for new music albums, suggest what you should buy next, or even to increase the price of your health insurance. This is particularly problematic because mass data collection will always support surveillance from those with the most power in society. The Police or other agencies may, for instance, use data that was created with a different goal in mind for prosecuting people, a form of violence which disparately impacts those already marginalized and powerless.

At the same time, a lot of what we think about technology comes from the myths perpetuated by the companies that profit from them. For example, companies that want to surveil people will try to frame their technology as positive and efficient. In reality, however, data colonialism is currently a dominant form of operation, one that we must actively resist. There is nothing inevitable about the way things are right now, though they may want us to accept so.

It is tempting to believe that if only those bad cases can be corrected and principles learned from them, the role of data in decision-making can be improved. But to believe this is to ignore the wider game that is at work. In numerous areas of everyday life, large corporations plan to make money from rearranging them around the extraction and

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12   Maria Rita Pereira Xavier, Ana Paula Ferreira Felizardo, and Fábio Wellington Ataíde Alves, 'Smart Prisoners: Uses of Electronic Monitoring in Brazilian Prisons during the COVID-19 Pandemic', *Surveillance & Society* 19.2 (2021): 216–227. https://doi.org/10.24908/ss.v19i2.14303

13   Mizue Aizeki, Geoffrey Boyce, Todd Miller, Joseph Nevins, and Miriam Ticktin, 'Smart Borders or a Humane World? - Immigrant Defense Project*', Immigrant Defense Project's Surveillance, Tech & Immigration Policing Project, and the Transnational Institute* (2021). https://www.immigrantdefenseproject.org/smart-borders-or-a-humane-world/

management of data streams, processes that lie firmly under the control of those same corporations, rather than the professionals that previously had the leading expertise in those areas.

CHAPTER 5. COLONIALITY AS AN ATTEMPT TO ERASE OTHER WAYS OF LIVING AND FORMS OF RELATING TO OUR BODIES AND TERRITORIES

JOANA VARÓN

Summary

- Colonization sustained itself also as an epistemic order that defines what and who is valuable, what and who is disposable. Under the idea of racial, ethnical and gender superiority the colonizer had a mechanism to self-legitimize exploitation, domination and destruction. This is the same logic operating today in the practices of datafication described in chapter 4. The result is a continuous attempt to subjugate or eradicate those that do not comply with the dominant order. Masked under a supposed technological neutrality, data colonization is actually working towards the epistemic invisibility of alternative forms of existence. Colonization, in all its forms, either criminalizes or depreciates cultures and practices from those who are seen as 'the other'.

- Before colonization, matriarchal societies were not rare among indigenous people, or gender dimensions were not seen as a power differential. Likewise, to many indigenous peoples gender was perceived as non-binary and sexuality was also not limited by heteronormativity. That was all attemptively erased by the 'coloniality of gender', overriding the more complex understandings of gender and sexuality, a process that continues via data categorizations today.

- The proposal of a densely datafied future is actually the business model of a very limited group of companies, lead by a homogeneous demography with a reduced perception of what life on Earth can be, which are globally deploying technologies of control, intertwined with a few governments, to promote an universalizing view of what the future should look like.

- Coloniality also implies an attempt to control the production of subjectivities. Therefore, beyond the predatory extractivism and expropriation of territories, colonization is also focused on trying to dominate bodies and minds.

As we have seen in the previous chapter, coloniality implies an attempt to control resources, labor, bodies, knowledge production systems, institutions, norms, social relationships, forms of authority, but also the production of subjectivities.[1] Therefore, beyond the predatory extractivism and expropriation of territories, colonization is also focused on trying to dominate the bodies and minds of the people whose land is being expropriated. The colonizer burns or

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1   Quijano and Ennis, 'Coloniality of power, Eurocentrism, and Latin America'.

violates what is not valorized or understood by their world view and then criminalizes cultures and practices of what is seen as 'the other'.[2] It operates as a force that tries to erase what is different.

In the case of Abya Yala (a territory today known as Latin America) and several territories from the African continent, ways of living that were different from the white catholic heteropatriarchal european were meant to be destroyed by the colonizer. In other words, colonization has violence embedded in its epistemology. People were taken from their lands and enslaved; sacred objects were stolen (to later compose collections of fancy museums far away from the descendants of the cultures they represent); ancient rituals and practices were prohibited, in an attempt to destroy powerful bonding that keep communities together; religiosity and other social practices were imposed; those seen as 'the other' were objectified and dehumanized to be killed, raped and subjugated by the conquerors that actually had just one powerful advantage: the monopoly and control of firearms, a technology of war.

But in addition to gun power, the colonial order sustained itself also as an epistemic order that defines what and who is valuable, what and who is disposable. This order is a mechanism to self-legitimize exploitation and domination under the idea of racial, ethnic and gender superiority. The result of this order is the attempt to subjugate or eradicate those that do not comply with the dominant order, and the epistemic invisibility of alternative forms of existence. These asymmetric relations are sustained by the structures of power that remain until today.

Before colonization, matriarchal societies were not rare among indigenous people, or gender dimensions were not seen as a power differential. For instance, the Aymara are matriarchal societies in which women, among other things, are the ones managing trade and cash. Among the Quechua people, either women or men could become shamans, powerful healers respected by their communities, just as men and women were equally entitled to attend and participate in community assemblies. Even in the battlefield, some peoples would not differentiate into genders or sexes; the histories of the Iacamiabas, or of Clara Camarão, indigenous Potiguara from the Tupi people, also portray female-only groups of warriors resisting the invasion of Europeans. Going further, not even a binary perception of gender was perceived as universal. Some indigenous people in North America had five different genders: male, female, two-spirit male, two-spirit female, and what today we would call transgender, with transgender people seen as closer to Gods. Oyèrónké Oyêwùmí, a sociologist from Nigeria, goes further in the book *The invention of women*, to affirm that gender is a category imposed by western culture onto the Ioruba people, more specifically the Oyó-Iorubá people, who in the pre-colonial period did not have gender as the basis for social hierarchy. Studying the iorubá language she states that it is exempted from gender relations and argues that it did not have the category 'women' to differentiate political power before the contact with colonizers. Social relations were the determinant for hierarchies, with seniority as the most important category.[3]

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2   Frantz Fanon, The wretched of the earth, New York: Grove Press, 1968.
3   Oyèrónké Oyewùmí, The Invention of Women, Minneapolis: University of Minnesota Press, 1997.

That was all erased by the 'coloniality of gender'', a term used by Maria Lugones[4] to expand Quijano's coloniality of power to include gender and race dimensions. According to her, colonization lead to the de-humanization of women of color and definition of white women as the opposite of the white man seen as fragile, domestic, weak, this rationality enabled the colonizer to sexual violence as means for domination.

Just as gender was perceived as non-binary among many indigenous people, commonly sexuality was also not limited by heteronormativity, and restricted to oposite-sex attraction. Analyzing letters from colonizers in the book *Gay indians in Brazil, untold stories of the colonization of indigenous sexualities*, anthropologists Estevão Rafael Fernandes and Barbara Arisi, highlighted excerpts that describe indigenous women who took social positions of warriors and had another woman as a marital partner, stating that it was not an affront among their people: meaning that lesbian partners were common among Tupinambá people. But, paradoxically, while indigenous people were considered by the colonizers to be closer to nature, which pejoratively implied 'not civilized', their sexual practices would be judged as 'against nature', a narrative that would justify Jesuit control over their bodies.[5] Therefore, discourses of lust, blasphemy and sodomy were used for controlling the Indigenous sexualities as a process for establishing colonial hierarchy, subordination, and domination.[6]

While racism, misogyny, or misogynoir (misogyny and racism addressed to black women),[7] sexism and even compulsory heteronormativity[8] are violences that were amplified with colonization, now they are being reinforced by data colonization.

Technology has always been the power differential for the colonizer, originally, gun power, and now computational and market power, are used to oppress and impose one particular culture, very often the culture of a white hetero cis male from some start-up in the North, once again a monoculture. So, colonialism resonating in digital helms also results in search engines showing lower-paid jobs to women; ads about babies or beauty standards that are only shown to those identified by social media platforms as women, as if they were the only ones entitle of care; AI systems that compile sensitive data on young girls and sell themselves as if they were a viable tool to predict teenage pregnancy, while exposing poor vulnerable girls; job hiring algorithms that show unfavorable outcomes for female job applicants; automatic filters that censor LGBTQIA and feminist content while promoting hate with higher visibility in social media; facial recognition technologies that have higher error rate for faces of black women and transgender people, or even that are conceived to dangerously force LGBTQIA people 'out of the closet' in harmful contexts; or other surveillance technologies being deployed to specifically target black communities, indigenous lands and land defenders. The list is long and continues growing.

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4   María Lugones, 'The Coloniality of Gender', in: Wendy Harcourt (ed) The Palgrave Handbook of Gender and Development, London: Palgrave Macmillan, 2016. https://doi.org/10.1007/978-1-137-38273-3_2

5   Estevão Rafael Fernandes and Barbara M. Arisi, Gay Indians in Brazil: Untold Stories of the Colonization of Indigenous Sexualities, Springer Cham, 2017.

6   Fernandes and Arisi, Gay Indians in Brazil: Untold Stories of the Colonization of Indigenous Sexualities.

7   Moya Bailey, Misogynoir Transformed. Black Women's Digital Resistance, NYU Press, 2021.

8   Adrienne Rich, 'Compulsory Heterosexuality and Lesbian Existence', Signs: Journal of Women in Culture And Society 5.4 (1980): 631—660. https://doi.org/10.1086/493756

In a recent study entitled notmy.ai, about artificial intelligence systems being deployed by the public sector in Latin America, based on bibliographical review and also findings from the case-based analysis, Chilean thinker Paz Peña and I identified that some of these systems tend to be conceptualized under the following characteristics: surveillance of the poor; embedded racism; patriarchal by design; automation of neoliberal policies; lack of transparency; precarious labor and colonial extractivism.[9] A framework of analysis that goes beyond the discourses of fairness, ethical or human-centric A.I. and seeks a holistic structure that considers power relations to question the idea of deploying these data intensive A.I. systems.

For all these reasons, in datafied societies it is important to acknowledge the role of sociotechnical systems to continue to reproduce colonial epistemic violence and social control. Data cultures are systems of knowledge that are imposed from the epistemic order of the West[10] and contribute to reproducing racism, sexism, patriarchal heteronormativity and surveillance of communities vulnerabilized by the matrix of colonial domination through the production of data regimes. These data regimes constitute an epistemicide based on the annihilation of racial and linguistic diversity, imposition of heteronormative visions and reinforcement of a Western, patriarchal and capitalist world model. Data injustice is inextricably linked to systemic and epistemic violence resulting from the articulation between capitalism, colonialism and the patriarchal order.[11]

It is important to add that all these harmful results of data collection and data processing are not a matter of simply tuning databases against biases, or adding diversity policies to startups or Big tech companies. Though very important fights to have in the short term to mitigate harm, victories in these directions do not change the status quo of the overall picture: the existence of a very limited group of companies, lead by a homogeneous demography with a reduced perception of what life on Earth can be, which are globally deploying technologies of control, intertwined with a few governments. Both promote an universalizing view of what the future should look like: a very densely datafied future that continuously attempts to erase or subjugate 'the other' by automating oppression and maintaining an economic monopoly.

But the proposal of a densely datafied future is actually their business plan, so this monoculture of thought could continue to hold its global monopolies. After all, they are the ones with the biggest and most spread infrastructure capable of collecting and processing huge amounts of data. 'The others' are now, or continue to be seen as the low-tech, the ones who 'know nothing', while the ones with big data centers are those who can diagnose, predict and sell solutions. But the tragic periodicity of femicides, police violence against of black youth, assassination of indigenous leaders, violence against LGBTQIA people, deforestation and illegal mining, land grabbing of indigenous lands… These are all facts that society, and particularly affected communities, have a lot of data about. If public policies do not respond

9   Paz Peña and Joana Varon, Oppressive A.I.: Feminist Categories to Understand its Political Effects, notmy.ai, 2021.

10   Paola Ricaurte, 'Data epistemologies, The Coloniality of Power, and Resistance', Television and New Media, 20.4 (2019): 350−365.

11   Paola Ricaurte. 'Ethics for the Majority World: AI and the Question of Violence at Scale', Media, Culture & Society, 44.4 (2022): 726−45.

properly to it, it is because there is a lack of political will, it is because the mainstream vision of development and the path of technology do not include these concerns as central. It is not a matter of lack of data.

Likewise, the climate crisis has been diagnosed with alarming data for decades, with very little actual change on the part of those most responsible for causing the problem. Even tech companies, which promise tech solutions to climate change, continue to be part of the problem by developing devices with programmed obsolescence, by being part of production chains responsible for chemical pollution and land conflicts due to illegal mining and e-waste, by increasing the energy and water consumption of data centers which are draining poor municipalities that won't gain much with all that data processing. Actually, these territories are more likely to suffer from periods of drought, as such extensive water consumption affects riverbeds and groundwater.

It is never enough to remember that coloniality implies an attempt to control the production of subjectivities, which includes our notion of being, our hopes, visions and imaginaries of possible futures. Therefore, beyond the predatory extractivism and expropriation of territories, colonization is also focused on trying to dominate bodies and minds, so we ended up becoming part of their vision of the future. We need to be attentive, so we don't fall into the fallacy of intense datafication. What is at stake? Who is profiting? Whose ways of living are being erased? Indigenous leader, writer and activist, Ailton Krenak, whose work is constantly recalling that indigenous cosmologies departures from a vision of kinship among humans and other beings and elements of nature, in an attempt to reconnect us with that ancestral knowledge that was depreciated by colonization, remind us: 'The rivers, these beings that have always inhabited the worlds in different forms, are the ones who suggest to me that if there is a future to be considered, it is ancestral, because it was already here'.[12]

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12 Ailton Krenak, Futuro Ancestral, Companhia das Letras, 2022.

STORIES OF RESISTANCE

STORY 1. 'WE ARE STRUGGLING TO SURVIVE': RESISTANCE AGAINST MINING IN ACACOYAGUA, CHIAPAS

JES CIACCI (SURSIENDO)

We are not moving from here until the machines are gone. We are not afraid; we have the courage to be here even if they tell us we are being sued.

— Member of the Frente Popular en Defensa del Soconusco 20 de Junio (FPDS) during the 'José Luciano' roadblock set up to prevent access to the Casas Viejas mine in the municipality of Acacoyagua, in Chiapas, Mexico.

Extractivism and finite resources

Mining is often considered the 'mother' of all modern industries. If minerals are so essential, why do we see so many resistance hotspots in the countries where they are mined?

Minerals are part of our everyday lives. Without them, life as we know it would be impossible. They are also found in the technologies we use. A cell phone, for example, contains more than 200 minerals, 80 chemical elements and over 300 alloys and varieties of plastic.[1] Where do our devices come from? What do we know about their impacts?

We often hear news about the data extractivism that is inherent to the business model of the large digital platforms. But we know very little about the 'other' extractivisms found throughout their chain of production. The assumption behind the production of these technologies, from their very design, is that the world has infinite resources, when in truth we live in a world of finite resources.

When we look at the economy of materials we find a linear system. Raw materials are harvested and extracted, transformed, transported, assembled, transported again, consumed, transported yet again and finally disposed of as waste. And in each of these stages the variable of 'people' is not factored into the equations.

However, we live in a world of finite resources, of cycles and not linear systems, with people involved in every tiny aspect of these chains of production. Moreover, in these systems some people are heard more than others, while the web of public policies and economic diplomacy favors corporations over local populations.

1　Minería en tu Vida, Minerales en el celular. https://www.lamineriaentuvida.com.ar/minerales-en-el-celular/

A technological development model anchored in this extractivist conception entails strong negative impacts both on societies and on the environment.

Resistance against mining in El Soconusco, Chiapas

Mexico is one of the 17 megadiverse countries in the world and one of the leading in Latin America, home to a wide variety of native species.[2] Among the reasons that explain the existence of such a variety of plants, animals, fungi and microorganisms are the diversity of climates, the mix of biogeographic areas and a complex topography of mountain chains that includes the Sierra Madre de Chiapas, in southeast Mexico.

Our devices contain a large number of minerals that are extracted from that biodiversity for use in the production of casings, circuits, capacitors, screens and sensors. Some of those minerals are found in Chiapas, where nearly 20% of the territory is under mining concessions. As of September 2019, the Ministry of the Economy had 140 open-pit mines registered, with operating permits extending as late as 2060 and with a high consumption of water.[3] 'A small mine consumes around 250,000 litres per hour, while a large one consumes between one and three million litres in that same amount of time'.[4]

Concession documents deliberately omit information concerning impacts on natural diversity and human health. This was one of the reasons that led the people of the municipality of Acacoyagua[5] to organize against mining activities. Some 17,000 inhabitants live in that municipality under the protection of La Encrucijada and El Triunfo biosphere reserves, in a region known as El Soconusco, which has 13 active mining concessions for gold, silver, lead, zinc, iron and titanium extraction.

The leading mineral mined in the area is titanium.[6] It is most commonly transformed into titanium oxide for use as a whitening agent in cosmetics, toothpaste, paint and food products such as milk. Titanium is also found in surgical instruments, firearms and, of course, computers and other electronic devices.

On 20 June 2015, the local population, concerned over the impact they saw on their health and on the environment, formed the Frente Popular en Defensa del Soconusco (FPDS or the People's Front for the Defence of Soconusco), a peaceful citizens' movement. A little

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2   Comisión Nacional para el Conocimiento y Uso de la Biodiversidad, '¿Qué es la biodiversidad?', Biodiversidad mexicana, 31 Julio 2022. https://www.biodiversidad.gob.mx/biodiversidad/que_es.html

3   Andrés Domínguez, 'Los conflictos futuros de Chiapas por la defensa del territorio', Chiapas Paralelo, 1 Septiembre 2019. https://www.chiapasparalelo.com/noticias/chiapas/2019/09/los-conflictos-futuros-de-chiapas-por-la-defensa-del-territorio/

4   Marco Antonio Martínez García, 'Minería pone en riesgo a áreas naturales protegidas: Gustavo Castro', Programa de las Américas, 10 Febrero 2015. https://www.americas.org/es/mineria-pone-en-riesgo-a-areas-naturales-protegidas-gustavo-castro/

5   Instituto Nacional de Estadística y Geografía, Espacio y datos de México: Acacoyagua. https://www.inegi.org.mx/app/mapa/espacioydatos/default.aspx?ag=07001

6   Outlet Minero, Titanio, usos y propiedades. https://outletminero.org/titanio/

over a year later they set up two camps and, with just a rope, blocked any machinery from reaching the mines. Libertad Díaz Vera, who has been with the FPDS since its inception, recalls how as early as 2006, people in Acacoyagua started noticing the arrival of companies interested in mining. The first permits, however, date from 2012 and they were approved without any information or consultation processes that took into account the needs of the local population in terms of times and modalities.

By the year 2015 the first health impacts were evident, in particular skin conditions such as hives, white spots and dryness, but there was also a rise in the number of cancer patients. Juan Velázquez, a local doctor, estimates that between 2005 and 2015, the death rate for cancer increased from 7% to 22%. 'Cancer in general, but in particular liver cancer, became the leading cause of death in the area. We are struggling to survive', because mining activities release toxic and radioactive particles, such as thorium and silicon.[7]

The most evident change in the environment was the pollution of the waters of the Cacaluta, the region's main river, which runs from the reserve to the coast of Chiapas, supplying water to the Acacoyagua region. 'The municipality has a system of flowing water. What this means is that the river replenishes the groundwater and brings water to households. As there is no sewage system, everything that filters into the water goes directly into people's mouths', said Díaz Vera.

At the same time illnesses increased, the fish also started to die. The locals could no longer eat the mojarra fish, large river prawns, lobsters and sardines they had always fished. 'People started talking then, wondering what was happening.' That was the beginning of the efforts to defend the territory, which have led not only to declaring the municipality free from mining activities, but also to questioning other forms of overharvesting the land, including existing agribusinesses in the area.

An article published in Mongabay magazine notes that 'in the opinion of the Chiapas representative of the Ministry of the Environment (SEMARNAT), Amado Ríos, the prospecting and mining permits granted to El Puntal were for extracting raw material to be processed elsewhere to obtain titanium, so that the Ministry assumes the Casas Viejas mine does not contaminate'.[8] People are experiencing in their own bodies the effects of the rocks extracted from the mine.

Despite having grown strong as a social movement and having gained knowledge of mining activities throughout their organizational process, it is still difficult for them to track down the companies that invest in these activities. Neither the state nor the national government, at their various levels, accept responsibility for reporting, claiming it is up to the other. The

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7   Observatorio de Conflictos Mineros de América Latina, 'Habitantes del Soconusco, Chiapas, se organizan para detener la minería', Movimiento M4, 14 Octubre 2016. https://www.ocmal.org/habitantes-del-soconusco-chiapas-se-organizan-para-detener-la-mineria/
8   Rodrigo Soberanes, 'Comunidades se oponen a 21 proyectos mineros en la Sierra Madre de México', Mongabay, 20 Octubre 2017. https://es.mongabay.com/2017/10/no-la-mineria-la-lucha-conservar-la-sierra-madre-mexico/

result is that no data is available. There is no explanation either for the authorisation of mining projects in natural reserves. The article mentioned above indicates that according to the Mexican Competitiveness Institute, 'the files of each concession can only be accessed by those who can prove a legal interest in them or else through the General Transparency and Access to Public Information Act'.[9]

What they do know is that concessions have changed owners more than once. This is very common in the mining industry, where activities usually start with prospecting and exploration projects in the hands of small or medium-sized national companies, which are later sold to larger investors, either national or transnational, once it is determined that there are enough metal resources to warrant mining. With very large mining projects, tracing the path of concessions is, thus, complicated. In many cases this is because when the large mining companies set up in any given country they do so through subsidiaries with very complex legal ties that make it difficult to establish their legal relationship with their parent company.

The localities of Escuintla and Acacoyagua were the first to organize against mining activities. After the FPDS was formed, they joined the Red Mexicana de Afectados por la Minería (REMA or Mexican Network of People Affected by Mining) and since then they have deployed different strategies to defend their territory. These strategies range from direct actions, such as the roadblocks mentioned above, to information processes, assembly statements and media and legal actions. Their actions quickly met with retaliations. But as one of the participants in the roadblock said, 'We are defending our land so that our children can continue living here as happily as we have'.[10]

The communities lifted the roadblocks in 2018 but they maintain an active surveillance system, with individuals from the communities patrolling on their bicycles. If they spot a mining truck coming, they immediately alert the rest, who mobilize to block it.

This combination of strategies has in a certain way made it possible to stop the effects they were suffering. 'People are happy now because they have seen a dramatic change. We have a photograph from 2019 that shows river prawns being served at a lunch they organised in the mountains to welcome a journalist. People are starting to see more life in the river', Díaz Vera reported. As for the skin conditions, an improvement is already evident in both children and adults. However, the more serious liver and kidney diseases persist.

There are two dates that are key for the communities of the municipality, as they reaffirm their struggle. Every 20 June, which marks a new anniversary of the beginning of the process of organization, they gather by the river for regional singing and dancing, poetry reading and announcements. It is a significant cultural moment that alludes to the organizational process. In December, a festival is held in honor of the resistance, where the communities gather together to feast to the beat of marimbas and there are raffles and a piñata. Last year on 15

9   Soberanes, 'Comunidades se oponen a 21 proyectos mineros en la Sierra Madre de México'.
10   Observatorio de Conflictos Mineros de América Latina. 'Habitantes del Soconusco, Chiapas, se
      organizan para detener la minería'.

September there was also an 'anti-mining character' who marched in the national holiday parade, revealing that the resistance 'is now part of the identity of these communities even at the institutional level', said Díaz Vera.

Changing the model

Despite the negative impacts and the harmful effects on health and the environment, today's economies continue to be based on extractivism. They put the rules of exchange value above the rules of use value. The price of nature is more important than the value we place on its care to preserve it for current and future generations.

The system of economic domination is underpinned by an ideology that is completely removed from the earth and its living beings, including people. The system of technological development upholds those premises, causing a negative impact on bodies and territories.

Tracing the path of these technologies clearly is an enormously complex task mainly due to the lack of transparency and accountability mechanisms in each of the nodes involved in their production. The solutions offered by technological corporations are associated with 'green' capitalism, that is, a set of 'responses' to the climate crisis that do not question current consumption patterns, but rather propose 'clean' ways of continuing to consume eternally through energy produced by large hydroelectric dams, wind or solar farms, biofuels and geo-engineering. In a recent open letter, more than 230 civil society organizations from around the world called on the European Commission to reassess its raw material sourcing plans due to the many irregularities they present, their lack of transparency mechanisms and their failure to heed the growing resistance of local populations.[11] 'To display true leadership in climate matters', the letter states, 'the EC needs to establish and put in place policies for a low-energy, low-material transition in Europe, with a far greater focus on demand reduction, recycling, and contributing a fair share of support to Global South nations to redress the relentless centuries-long extraction of wealth from the South to Europe'.[12]

In Latin America, efforts to defend the region's territories have been underway for decades, with diverse strategies aimed at caring for people's lives and their environment. The struggles are waged at various levels, but, as the experience in Acacoyagua shows us, what has succeeded in stopping contamination has been a strong organizational process and non-violent direct actions.

In order to build future technologies that are sensitive to the call to protect life, it is necessary to reconnect with other local, nearby models of consumption that foster diversity and

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11   Civil society (234 organisations and academics and 110 individuals), 'Open letter: Concerns on EU critical raw materials plans', Friends of the Earth Europe, 28 September 2020. https://www.foeeurope. org/sites/default/files/resource_use/2020/civil_society_open_letter_-_concerns_on_eu_critical_raw_ material_plans.pdf

12   Civil society (234 organisations, community platforms and academics), 'Media Release: We can't mine our way out of the climate crisis', The Gaia Foundation, 28 September 2020. http://gaiafoundation.org/ ec-we-cant-mine-our-way-out-of-the-climate-crisis

a connection with the people who produce, models that take into account the cycles of life (it takes nature millions of years to produce minerals and oil), and designs that respond to these premises.

These other forms of development that respect the needs of local communities will also enable us to think of ways of to relocate technologies and their production and circulation, promote open models of software and hardware development, reduce and diversify consumption, respond to issues that are localized, and give rise to proposals based on caring for people, communities and environments. That may perhaps be the technological development that will enable us to see a desired impact on the worlds we inhabit.

Translation: *Laura Pérez Carrara*

We are struggling to survive. *https://www.apc.org/en/blog/we-are-struggling-survive-resistance-against-mining-acacoyagua-chiapas*

STORY 2. NO TO THE DATA CENTER! RESISTANCE AND ARTIVISM AGAINST GOOGLE IN CERRILLOS

PAMELA RAMÍREZ M.

In 2019, a group of neighbors organized themselves to fight against the construction of a Google data center in Cerrillos, a commune in Santiago, Chile. This project, driven by a powerful technology transnational, threatened to leave us without water. Our fight involved challenging support for Google from local authorities and President Sebastián Piñera.

Cerrillos and the Data Center

In 2019, Google submitted a project to build a data center to Chile's environmental evaluation system. This data center would be installed in Cerrillos, a working-class commune located in Santiago, the capital. Despite the lack of information, neighbors decided to investigate the characteristics of this project to better understand its potential impact. After trying to decipher the technical report, we realized that Data Luna, Google's legal representative, had purchased water rights to use 228 liters per second. This figure, stratospheric considering the drought in the area, threatened our ability to access water for our daily chores.

Our struggle against the Google project was marked by great inequalities of power and information. On the one hand, Google is a powerful multinational with professional communication and community relations teams. Both President Sebastián Piñera and his government officials in ministries and services proactively supported the construction of the data center. Our mayor in Cerrillos also approved the project, arguing that it would generate job opportunities for the commune. In fact, some of these actors maintained confidentiality in their dealings with Data Luna to prevent citizens from opposing its construction.

Supporters of the project used all kinds of subterfuge to ensure its construction. The country's deficient laws were key to this. In Chile, companies investing in the project must submit an environmental impact statement. Usually, in this document, companies declare their good intentions for local development and rarely make transparent the environmental impact their projects will have. To achieve this, they hire 'experts' from different areas to ensure that the project complies with current environmental regulations. The problem is that the current system allows atrocities such as, in the case of Google, cooling water servers using 169 liters per second in an area with mega drought. In fact, in 2020 the General Directorate of Water gave a yellow alert by declaring the Metropolitan Zone, where Cerrillos is located, saturated in water demand.

In Chile, water resources are in private hands. The human right to water is not guaranteed in our Constitution. It is considered a public good, but it is allowed to concession water in perpetuity to companies. The first conversations we had with the authorities were difficult. These authorities were elected to represent us, but they told us that there was simply nothing

to be done. However, as neighbors of Cerrillos, we decided to embark on a struggle for our good living despite having everything against us.

The Dangers of The Data Center

The Google project took place in a context of ecosystemic fragility in Chile. In the Metropolitan Region, where Cerrillos is located, there are cases such as Petorca. After twelve years of lack of rainfall, this area suffers desertification and its inhabitants receive water through water trucks. This occurs in parallel to the plundering of our rivers by mining companies, as well as the expansion of monoculture agribusiness. This type of abuse has meant that the aquifer of the Metropolitan Region does not provide enough water for more than six million inhabitants.

It is outrageous that, in this context, Google's data center project in Cerrillos declared that the cooling system for its servers would use 169 liters per second of water. The average water consumption per inhabitant in Cerrillos is 15 cubic meters, and we are around eighty-five thousand inhabitants in the commune. The data center intended to use twice as much water as the citizens! In addition, and as we denounced during the campaign, the 7,190,208,000 liters per year used by the data center would be equivalent to filling 2,130 Olympic swimming pools. That was the insulting water footprint of Google's project.

Another risk we identified was groundwater contamination. This is because the project would store more than 800,000 liters of diesel fuel to run backup electric generators.

How we Resisted

The scenario was not very encouraging. We took several actions to be heard, but one after another doors were closed to us. We visited Congress, where we talked to the Environmental Commission. We also sought signatures with the support of neighbors in free fairs. At that time everything seemed to conspire in support of the data center. Our phrase 'NO TO THE DATA CENTER' that we circulated in pamphlets, posters and social networks did not seem to work when associated with Google, the Goliath of history.

A requirement for our fight was self-education. We had to understand a technically written environmental impact statement, trying to translate it into simple words to explain to neighbors and local authorities our opposition to the project. Although Law 19,300 opens a window for citizen participation, the technocratic nature and a series of bureaucratic requirements made it difficult for us to take full advantage of it. To make matters worse, we did not have the financial resources to publicize our struggle. We wanted to produce graphic material, posters and badges.

Despite this, we managed to develop a campaign based on a few basic points. These points had to address key aspects of the project and be understood by the public.

Image 1. Danger

A key message we communicated was the danger of the Google project (Image 1). What did we mean by 'danger'? If the data center was built, it could mean that those of us who live in Cerrillos would have to receive water by water truck. In addition, we used the image of a skull to synthesize the plot behind the project: looting and piracy in the face of an imminent drought, corporate abuses and the voracious extractivism of water resources. We also appeal to other water struggles in Chile to raise awareness.

Image 2. The water should be protected.

We resorted to all forms of struggle. One format we used was the 'chaconeo', which consists of making posters with some available paper and paint or markers. This technique was used in Chile to fight against the civil-military dictatorship headed by Augusto Pinochet. Through the 'chacones' we communicated our messages and called the attention of the citizens. In addition to this, large-format canvases were crossed on highway walkways. This action was recorded and shared through our social media accounts.

We did not want to be alone in our struggle, so we established alliances with other causes and movements. We allied ourselves with Social Unity, a civil society group that was organizing territorially to make politics from the grassroots. Of great help was also the solidarity expressed by the Central Unica de Trabajadores (CUT) and the Coordinadora No+AFP (against the privatization of the health system), among other organizations.

In October 2019, when we were carrying out our campaign, an unprecedented social uprising occurred in Chile in which citizens took to the streets to protest against inequality and corruption. Thanks to this, several young people began to support us. This allowed us to generate a second moment of empowerment, as well as to organize marches and establish new alliances.

In December, as a result of the social uprising, Cerrillos called for a municipal citizen consultation. This mechanism represented a democratic way in the face of President Sebastián Piñera's proposal to increase repression. On that occasion, we demanded that our demand 'No to the Data Center' be placed on the ballot. We developed an intense communication strategy, sharing information around the polling places and papering the vicinity during the early hours of the previous day. As neighbors, something that helped us was getting to know the territory. Against all odds, and with only two weeks to carry out an informative and self-managed campaign, our option won with close to 50%. This consultation, however, was not binding, so it did not imply the cancellation of the project.

Socio-environmental Artivism

In our struggle we also resorted to artivism, a form of resistance with historical roots in Latin America that uses art to combat inequality. Our graphic actions worried Google representatives, who contacted us because they felt we were damaging their corporate image. By that time we already had followers on social networks. Besides, we had won the plebiscite. At that time we began to feel listened to. In addition to the skull, we developed other visual concepts. One of them appealed to a critique of water privatization in Chile.

Image 3. No to the data center! Resistance and artivism against Google in Cerrillos

We represented water in a female body, enclosed and chained (Image 3). Thus, we sought to present water as private and subject to abuses and violations despite being a natural resource. This image evoked the patriarchal extractivism from which water, which is a human right and the driving force of all Nature, must be freed. Thus, by appealing to gender we managed to connect with the feminist impulse that took place during and after the social outburst. As Lastesis expressed in their song 'Un violador en tu camino': 'An atavistic and rancid system that also attacks the body. Our bodies hurt us, immobilizes us and kills us', as well as 'The patriarchy is a judge that judges us for being born'.

The first awareness-raising product we developed, the badges, evolved in their designs. We also developed products to finance the costs of hiring a lawyer to take our cause to court. Taking advantage of the pandemic, we made masks (@pandemia.style) with our iconic images using silk screen printing techniques. We printed t-shirts, bags and had diaries made. In this identification process, we also came up with the name Mosacat (Movimiento Socio Ambiental Cerrillos por el Agua y el Territorio). Since we then wanted to go beyond the cause of the Google project, we expanded the territory and changed 'Cerrillos' to 'Ciudadano' (Citizen).

After 3 years of struggle, we signed a waiver of the case in court. We agreed with Google's representatives for Latin America that, if they changed the cooling system to a less water intensive one and took all precautions in the storage of diesel so as not to contaminate the groundwater, our quality of life would not be affected. It is important to emphasize that, for different reasons, there were aspects that we did not refer to, such as electromagnetic contamination in Chile or the content of the data that would be stored in our commune.
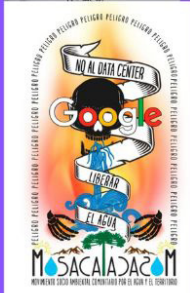
Image 4.

STORY 3. RESISTANCE STORYTELLING: ANTI-SURVEILLANCE CAMPAIGN IN RECIFE, BRAZIL

KAINEN BELL

In this essay, I will share recent examples of how Brazilian communities and activists have resisted digital surveillance, specifically Facial Recognition, and how these technologies embody data colonialism. Currently, I am a doctoral student in Information Sciences at the University of Illinois at Urbana Champaign, researching how Afro-Brazilian communities resist digital surveillance technologies, and how to use my identities as an African American and Researcher, to support their grassroots movements. My interest in this topic sparked from a personal experience traveling to Recife, Brazil (where I was living at the time) and being required to use facial recognition to confirm my identity before boarding the flight. It worried me due to seeing recent stories of Black individuals being misidentified, and I was concerned it could happen to me as well.
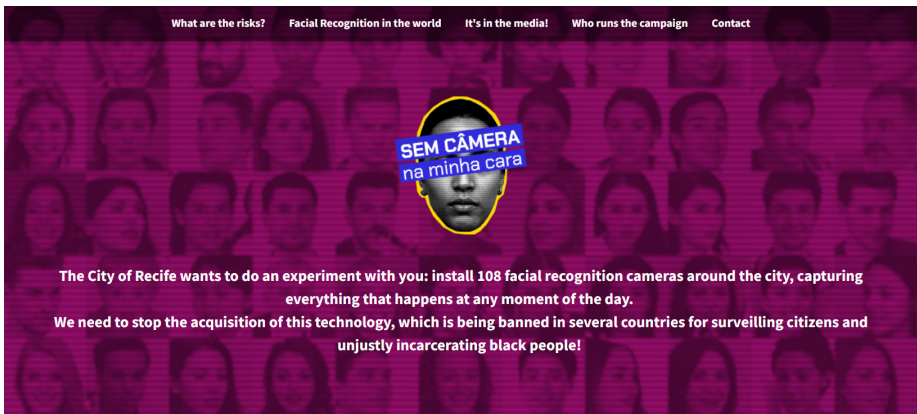
Image 1: "No Camera in my Face!" Campaign website, describing that the City of Recife wants to install 108 facial recognition cameras around the city and the need to prevent its acquisition, translated to English via google translate. (https://www.semcameranaminhacara.meurecife.org

Surprisingly, one year later while scrolling on Instagram, I learned about a local Brazilian anti-surveillance campaign titled 'No Camera in my Face!'.[1] The campaign was founded in 2021 by grassroots organizers and human rights groups, to prevent the initialization of over 100 facial recognition cameras throughout Recife. Their campaign included a website

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1   Sem Câmera na Minha Cara. https://www.semcameranaminhacara.meurecife.org.br

describing the facial recognition initiative and its potential to replicate racism, transphobia, target activists, and violate the personal privacy rights of citizens. In May 2021, Recife's Mayor, João Henrique Campos, proposed an initiative to install 108 digital clocks that would display the time, business advertisements, share free public Wi-Fi, but also include monitoring cameras with facial recognition capabilities.[2] Justifications for the cameras were to assist with traffic management and preserving the security of public property.[3] An open call was created to invite national and international technology companies to bid for the contract to install and maintain the system for 20 years. The contracted company would also be permitted to use the advertising services of the digital clocks and have access to all data collected. This project is the first of a series of public-private partnership infrastructure initiatives that the mayor intends to implement before his term ends. This initiative exemplifies data colonialism because of the unbalanced power of city municipalities to implement surveillance tools that have capabilities to monitor and track its citizens against their will, and because of the technology company's profit driven interests and ability to extract data from the population without their knowledge.

In response, twenty-five grassroots and human rights organizations signed an open letter to the mayor requesting the cameras be removed from the project.[4] Their concerns included poor data management protocols, a lack of transparency of the private company's access to or use of the data collected, and the possibility for racial and gender discrimination. The organizations soon after created the 'No Camera in my Face!' campaign. Campaign leaders raised awareness through public interviews critiquing the mayor's initiative. For example, Raquel Saraiva, President of the Research Institute on Law and Technology of Recife (IP. rec) warned of the low accuracies of the facial recognition systems created in the Global North but applied to Brazil. She says: 'The import would be from the Global North, which has a completely different social composition from ours. With the representativeness different from that of the databases, the algorithm becomes even more poorly trained'.[5] Her words also painted a picture of why this project represents data colonialism.

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2   Augusto Tenório, 'Organizações pedem que PCR abandone projeto de relógios com reconhecimento facial', Universo Online, 23 Novembro 2021. https://jc.ne10.uol.com.br/blogs/ jamildo/2021/11/14354363-organizacoes-pedem-que-pcr-abandone-projeto-de-relogios-com-reconhecimento-facial.html

3   Secretaria de Desenvolvimento Econômico, Ciência, Tecnologia e Inovação Institucional, 'Prefeitura recebe proposta de R$ 100 milhões para a concessão dos novos relógios eletrônicos digitais', Prefeitura Do Recife, 22 Junho 2022. https://www2.recife.pe.gov.br/noticias/22/06/2022/prefeitura-recebe-proposta-de-r-100-milhoes-para-concessao-dos-novos-relogios

4   Maria Carolina Santos, 'Os riscos das 108 câmeras de reconhecimento facial que a prefeitura quer espalhar pelo Recife', Marco Zero, 22 Novembro 2021. https://marcozero.org/os-riscos-das-108-cameras-de-reconhecimento-facial-que-a-prefeitura-quer-espalhar-pelo-recife/

5   Maria Lígia Barros, 'Câmeras com reconhecimento facial no Recife podem agravar racismo e ameaçar direitos', Brasil de Fato, 21 Março 2022. https://www.brasildefatope.com.br/2022/03/21/cameras-com-reconhecimento-facial-no-recife-podem-agravar-racismo-e-ameacar-direitos
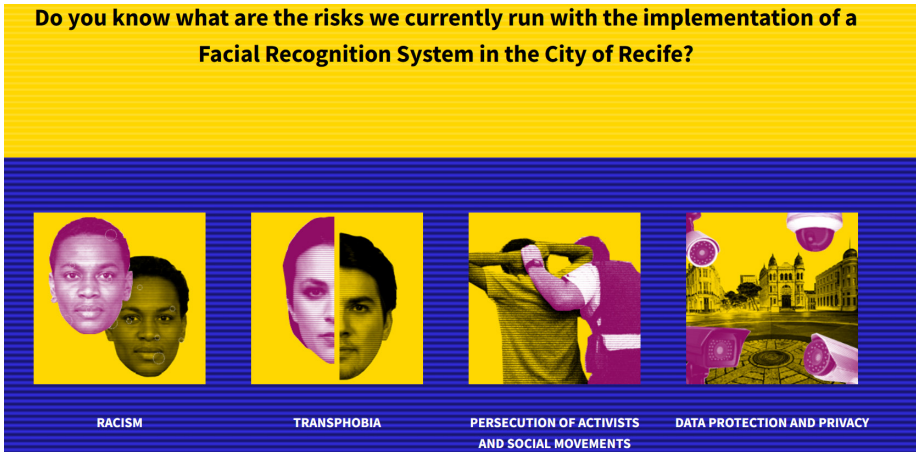
Do you know what are the risks we currently run with the implementation of a Facial Recognition System in the City of Recife?

RACISM   TRANSPHOBIA   PERSECUTION OF ACTIVISTS   DATA PROTECTION AND PRIVACY
                                                         AND SOCIAL MOVEMENTS

Image 2: "No Camera in my Face!" Campaign website, asks the question "Do you know what are the risks we currently take with the implementation of a Facial Recognition System in the City of Recife?" and lists risks of Racism, Transphobia, Persecution of activists and social movements, and Data Protections and Privacy, translated to English via google translate. (https://www.semcameranaminhacara.meurecife.org

A common narrative used to convince communities to buy into using facial recognition cameras are that they will reduce crimes, improve public safety, and because technology is more accurate and unbiased compared to humans. However, studies have proven that even the leading facial recognition systems created by global technology companies like Microsoft, Amazon, and IBM, have demonstrated high inaccuracies when used on racial minorities, especially women with darker skin tones.[6] Misidentifications often occur when the database of images used to test and create the systems are not diverse or inclusive of people with different gender identities or races. In addition, technologies often replicate discrimination and inequalities that already exist.[7] For example, when used by police, who historically have oppressed marginalized groups like black, low-income, and transgender populations, it creates huge risks. This is especially true in Brazil which has the third highest incarceration rate in the world (67% imprisoned are black or brown people), the most African Descendants outside the African continent, and research proving that police overuse these technologies on Black-Brazilians.[8] Black Brazilians are also 2.3 times more likely to be killed by police than white Brazilians[9] and it was reported that in 2019, 151 people were arrested in Rio de Janeiro and Bahia using Facial Recognition, and 90.5% were Afro-Brazilians.[10]

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6   Buolamwini and Gebru, 'Gender Shades: Intersectional Accuracy Disparities in Commercial Gender Classification'.
7   Simone, Dark Matters: On the Surveillance of Blackness.
8   Barros, 'Câmeras com reconhecimento facial no Recife podem agravar racismo e ameaçar direitos'.
9   David Nemer, Technology of the Oppressed : Inequity and the Digital Mundane in Favelas of Brazil, The MIT Press, 2022.
10   Pablo Nunes, 'Exclusivo: levantamento revela que 90,5% dos presos por monitoramento facial no Brasil são negros', Intercept Brasil, 21 Novembro 2019. https://www.intercept.com.br/2019/11/21/presos-

Misidentifications from police have already occurred in Brazil, including the 2019 Carnaval event in Rio de Janeiro, where a woman was falsely identified as a convicted murderer.[11] She was without documentation and unable to prove her identity, but fortunately the charges were dropped after being correctly identified at the police station. Recently, in Rio De Janeiro, it was also reported that a black educator man named Danilo Felix was misidentified and arrested on two separate occasions due to photographic recognition systems.[12] The first incident occurred in 2020 when he was mistakenly charged with theft due to a Facebook image used by a police database that identified him as a crime suspect. He was acquitted after the assault victim proved his innocence, however his image remained in the police database, and this year (April 2023) was falsely arrested for another crime.

Transgender communities are also at risk from these technologies. Coding Rights, a Feminist Digital Human Rights organization in Brazil, conducted a study on the impacts that facial recognition technologies have on transgender communities. They found that 90.5% of transgender individuals believed that facial recognition could operate from a transphobic perspective.[13] These findings resonate with the experiences of Sasha Costanza-Chock in her book, Justice Design, when describing her experiences as a transgender woman entering the full body scanners in airports and being exposed to vulnerable situations by the binary (male vs female) algorithms.[14] Transgender communities are already vulnerable to targeting and for 14 consecutive years Brazil has had the highest violence and murder rate of transgender populations in Latin America.[15] Similar to colonial power, surveillance technologies operate to make white cis-gender individuals the standard and invisible, while racial minorities and non-gender conforming individuals are hyper-visible and constantly surveilled.

Due to the demands of the campaign organizers, there were two public hearings with the city council to share concerns and in March 2022 the Public Ministry of Pernambuco opened a civil inquiry to investigate the possibility of racial discrimination.[16] However, despite the concerns raised, in June of 2022 the project was contracted to Eletromidia (Brazil's largest home media and advertising company) for $102 million Brazilian Reais ($19.3 Million USD).[17]

monitoramento-facial-brasil-negros/

11   Edmund Ruge, 'Brazil's Biggest Metro Could Get Facial Recognition Cameras That Reinforce Racist Policing', Vice, 2 March 2021. https://www.vice.com/en/article/5dp8wq/brazils-biggest-metro-could-get-facial-recognition-cameras-that-reinforce-racist-policing%E2%80%AF%E2%80%AF%E2%80%AF

12   NINJA, 'Pela segunda vez, jovem negro inocente vira réu após reconhecimento por foto', Mídia NINJA, 12 Abril 2023. https://midianinja.org/news/pela-segunda-vez-jovem-negro-inocente-vira-reu-por-causa-de-reconhecimento-por-foto/

13   Mariah Rafaela Silva and Joanna Varon, 'Threats in the Usage of Facial Recognition Technologies for Authenticating Transgender Identities', Privacy International, 30 March 2021. http://privacyinternational.org/news-analysis/4474/threats-usage-facial-recognition-technologies-authenticating-transgender

14   Sasha Costanza-Chock, Design Justice: Community-Led Practices to Build the Worlds We Need, MIT Press, 2020.

15   Ester Pinheiro, 'Brazil continues to be the country with the largest number of trans people killed', Brasil de Fato, 23 Janeiro 2022. https://www.brasildefato.com.br/2022/01/23/brazil-continues-to-be-the-country-with-the-largest-number-of-trans-people-killed

16   Barros, 'Câmeras com reconhecimento facial no Recife podem agravar racismo e ameaçar direitos'.

17   Secretaria de Desenvolvimento Econômico, Ciência, Tecnologia e Inovação Institucional, 'Prefeitura

The mayor said the company would only build and maintain the project, instead of having the power to initiate the cameras or collect the data. In addition, he said the cameras would not be activated until there was a regulation policy made.

Image 3: "No Camera in my Face!" Campaign website, Titled "Who makes the campaign happen" and lists the collaborating partners including IP.rec, ANEPE, LAVITS, CDPH, and Rede Justiça Criminal, NATRAPE, and AB Pernambuco, translated to English via google translate. (https://www.semcameranaminhacara. meurecife.org

This was difficult news for the campaign, but it has not stopped them. An organizer mentioned that their efforts slowed afterwards due to shifting attention on the 2022 Presidential elections in October. However, they are currently focused on increasing public awareness through community workshops in Recife. Digital rights campaigns have typically been led by middle class folks and academics, instead of the vulnerable communities that are directly impacted.[18] By grounding their work in the community, understanding their needs, and showing how these facial recognition projects can impact their lives, it can strengthen the resistance movement and create more impactful solutions moving forward.

Their resistance campaign relates to a national movement in Brazil to completely ban the use of Facial Recognition Technology for security in public spaces, 'Get my Face out of Your Sight!' (Tire Meu Rosto Da Sua Mira). It was launched in May 2022 by thirty civil society and digital rights organizations from an open letter calling for the banning of Facial Recognition

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recebe proposta de R$ 100 milhões para a concessão dos novos relógios eletrônicos digitais'.

18   Nemer, Technology of the Oppressed : Inequity and the Digital Mundane in Favelas of Brazil.

Technologies.[19] Their campaign includes a website and provides toolkits for community groups to create anti-surveillance campaigns in their areas, as well as maps of anti-surveillance legislation in Brazil. Horrara Silva, a consultant for the campaign, recently mentioned to me their efforts to stop a facial recognition initiative proposed by the city of São Paulo named Smart Sampa. The project intends to install 20,000 facial recognition cameras around schools, health institutions, parks, and other heavily populated areas.[20] In partnership with the Public Defender's Office, several human rights organizations have entered a lawsuit to sue the city and stop the bidding process.

As an ally to anti-surveillance projects in Brazil, I encourage everyone to read and sign their open letter to ban the use of these technologies.[21] I also encourage you to read the work of Coding Rights,[22] LAVITS,[23] and the organizations within the 'No Camera in my Face!' campaign. These resistance movements are instrumental to stopping data colonialism and preventing the installation of surveillance technologies that discriminate and criminalize minoritized populations such as Black, low-income, and transgender communities. We must continue to resist, protest, and never give up the fight!

19   Civil society (56 organisations and 419 individuals), 'Open Letter to Ban the Use of Digital Facial Recognition Technologies in Public Security', Tire Meu Rosto Da Sua Mira, 8 March 2022. https://tiremeurostodasuamira.org.br/en/open-letter/

20   Carlos Petrocilo, 'Defensoria Pública vai à Justiça contra programa de reconhecimento facial em SP', Folha de S. Paulo, 24 Maio 2023. https://www1.folha.uol.com.br/cotidiano/2023/05/defensoria-publica-vai-a-justica-contra-programa-de-reconhecimento-facial-em-sp.shtml

21   Tire Meu Rosto Da Sua Mira. https://tiremeurostodasuamira.org.br/en/home-eng/

22   Coding Rights. Hacking the Patriarchy. https://codingrights.org/en/

23   Lavits - Rede Latino-Americana de Estudos Sobre Vigilância, Tecnologia e Sociedade. https://lavits.org/en/lavits/

STORY 4. FUTURING DATA FOR ECO-SOCIAL HEALTH

COMMUNITY OCEANS FUTURES GROUP[1] AT SIMON FRASER UNIVERSITY IN VANCOUVER, CANADA

In North America, shoreline cleanups have become a popular community activity. The goal is to remove trash from creek beds, riverside parks, lakefronts and beaches so that it does not end up in open water ecosystems. These activities give participants a sense of accomplishment through getting outside, getting some exercise and spending time in nature.

A typical cleanup is about more than just picking up trash, however. Volunteers are also asked to count and categorize the items that they collect, and weigh the total volume of garbage collected. The data is then uploaded to a central 'citizen science' repository through an App called Ocean Swell.[2] This app uses standardized categories to tabulate the trash found in shoreline ecosystems.

The result is a longitudinal North American database of human-generated marine debris. This data has been successfully mobilized to advocate for new marine protected areas, bans on single-use plastics, and Extended Producer Responsibility policies.

Unfortunately, however, little to no reduction in the total amount of plastic pollution has been documented because of these activities or the resulting policy changes.[3] What is more, a 2022 meta-review of citizen science projects in the journal *Sustainability* found that volunteer data gathering had no clear link to behavior changes that could 'lead to cultural shifts' in plastics use and consumption.[4]

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1   The Community Oceans Futures Group at Simon Fraser University (SFU) is an interdisciplinary collaboration between scholars and community members studying the relationship between knowledge production, design and post-human ontologies. In practical terms, this means that we are rethinking what it means to 'know' or 'relate to' the world around us. Our current project focuses on reimagining how humans relate to human debris in marine ecosystems. The group consists of Rachel Horst, Jihyun Park, Dr. Katherine Reilly, Dr. Gillian Russell, Ryland Shaw and Melanie Vidakis. We are also working with Oscar Chu, Sunho Chung, Javier Fernandez, Maia Puyat, Jaddie Tan, and Xiao Wei from Vancouver's Centre for Digital Media (CDM).

2   Ocean Conservancy. https://oceanconservancy.org/trash-free-seas/international-coastal-cleanup/cleanswell/

3   Keisha Rukikaire, 'Comprehensive assessment on marine litter and plastic pollution confirms need for urgent global action', United Nations Environment Program, 21 October 2021. http://www.unep.org/news-and-stories/press-release/comprehensive-assessment-marine-litter-and-plastic-pollution

4   Cristina L. Popa, Simona I. Dontu, Dan Savastru, and Elfrida M. Carstea, 'Role of Citizen Scientists in Environmental Plastic Litter Research—A Systematic Review', Sustainability 14.20 (2022): 13265. https://doi.org/10.3390/su142013265

Given this state of affairs, our work tries to understand and rethink the link between citi-zen-generated insights and social change. We want to develop new tools to support citizen participation in knowledge building about issues like marine garbage.

To this end, in fall 2022 we did some background research by holding a shoreline cleanup at an oceanside park in Vancouver, Canada. Afterwards we held focus groups to better under-stand how participants experienced data gathering.

The first thing we noticed was that participants were deeply affected by what they witnessed during the cleanup. For example, several participants talked about finding a 'shocking' amount of styrofoam particles mixed into the sand on the shoreline, leading one participant to observe that it was like 'trying to count a liquid'.

However, the act of tallying quickly displaced people's sense of shock or outrage. Tallying became the focus of cleanup activities because participants needed to figure out how to fit trash into the categories provided. Groups spent a great deal of time discussing how to interpret and fill the tally sheet.

Overall, while participants reported feeling positive about contributing to a cleaner environ-ment they did not exhibit a deeper awareness or understanding of the scale of the trash problem, nor did they make the cultural connections between ocean plastics and consumerist behaviors. We found that the event didn't help them develop an understanding of their own relationship to the problem, or, indeed, their relationship to potential solutions.

In the face of these challenges, our goal is to design alternative ways of producing insights about marine health. In the months since our cleanup we've been working on design solutions to complement or replace tally sheets.

Our first step was to better articulate the problem.

Humans are fundamentally interconnected with marine ecosystems. But our entire system of knowledge production about marine health is based on the assumption that humans are separate from nature; that humans are autonomous, conscious and intentional in how we produce knowledge about nature. In this way of thinking, we humans should gather 'data' about 'trash' before processing it into information and eventually scientific knowledge about a topic like marine health.

This process of abstraction leads to a huge loss of situated knowledge, as is shown in Figure 1. The data that volunteers gather gets tabulated into information that is used to produce scientific insights as well as policy interventions. But people's connection to trash — their sense of shock or their creative observations — are lost in the process.
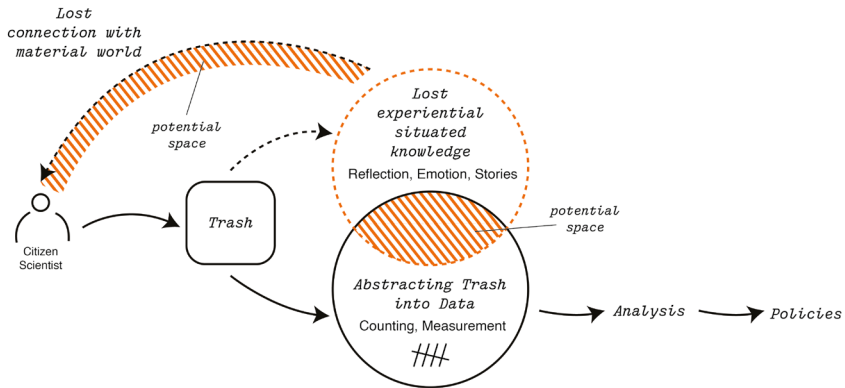
Figure 1. Data Activation Gaps (Concept Katherine Reilly and Melanie Vidakis, illustration Jihyun Park)

When we ask volunteers to do the work of collecting data about 'trash' - when we frame the problem as one in which the ocean and marine debris are discrete, separate and measurable via the objective apparatus of science - we are asking volunteers to pretend that garbage and oceans are separate from ourselves. In doing this, we are asking them to reproduce their hegemonic relationship with the ecosystems that they actually form a part of. So in producing knowledge about quantities of trash, citizen science initiatives are reproducing the assumptions that give humans permission to relate to the ocean in harmful ways. The work is counterproductive to the goal of producing healthy ecosystems that also include healthy humans.

As a possible solution, one of our team members suggested asking volunteers to imagine their bodies as the ocean, and put the garbage *in* their bodies. This would help them visualize how their health would be affected if they had garbage in their own personal ecosystem.
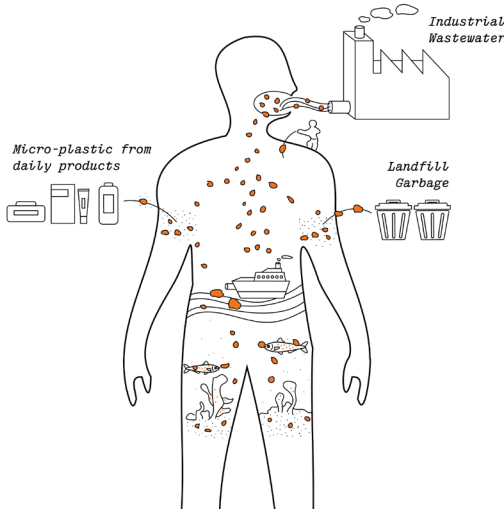
Figure 2. What if your body was the Ocean? (Concept Javier Fernandez, illustration Jihyun Park)

Ironically this is not a metaphor! Recent research has found microplastics in human *placentas*, and research has also shown that they are ingested by newborn babies.[5] Since microplastics carry substances that interfere with the human hormonal system, scientists hypothesize that the trash that floats in each of our personal 'oceans' is already having long term health effects.

But we ended up moving beyond a body-as-metaphor-approach because our human relationship to the ocean is not metaphorical.

Instead we decided to embrace a more-than-human approach to contemplating our relationship to ecosystems. More-than-human approaches seek to produce knowledge through exploring and experiencing the relationships between different parts of an ecosystem. In doing so they de-centre humans as the purpose for and source of all change in the world, and reposition them as but one factor enmeshed in complex relationships with both the natural and built environments.

Doing this work requires a fundamental rethink of the notion of 'data' as the driver of knowledge. Data is usually positioned as discoverable *facts*, *containers* of meaning, or solidified *agreements* about what we all assume to be true. These visions of data all suggest that the world has been stopped, like a butterfly specimen pinned to a board, ready for our inspection. And of course, we humans are the ones who have 'pinned down' these 'specimens'.

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5   Gwyn Wright, 'Microplastics can cross placenta into unborn babies, study shows', The Independent, 28 December 2022. https://www.independent.co.uk/news/health/microplastics-in-humans-baby-placenta-b2252375.html

In contrast, relational approaches to data-as-action, data-as-movement or data-as-mutual-becoming understand the world to be in constant motion, and given this, focus on the processes of meaning making that surround observations or experiences. They might ask us to explore how it feels to see tiny beads of styrofoam mixed into the sand on a beach; to imagine what our relationship to the ocean might be like under different 'truth' conditions; or, to explore the political representation of different species in struggles over how to 'know' the world. Relational approaches tell us that the truth of styrofoam on a beach is not in *its* existence, but in our mutual and collective *subsistence*. They understand that data isn't about plastic, but is itself plastic.

The approach represents a shift away from the DIKW model[6] in which **D**ata gets categorized into **I**nformation that can inform **K**nowledge and **W**isdom for use in, say, policy making. Instead, we want to develop an ERAC framework in which we center people's **E**xperiences and processes of **C**hange through continuous **R**eflection and **A**ction (see Figure 3). In our vision, an ERAC approach becomes the foundation for building meshworks of knowing how to rebuild direct ties between people and their environment.[7],[8]
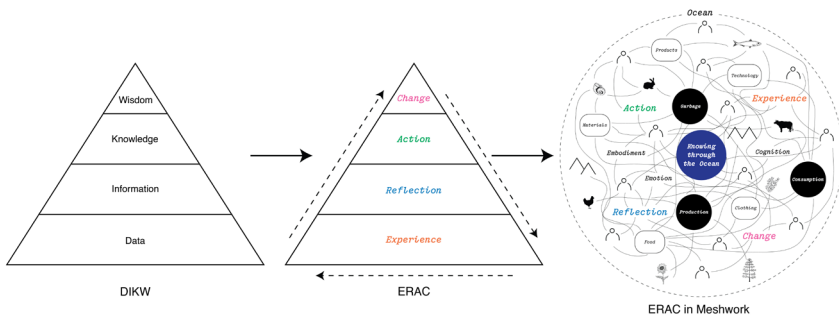
Figure 3. Meshworks as alternative forms of Ecosystem Knowledge (Concept and illustration Jihyun Park)

6   Jennifer Rowley, 'The wisdom hierarchy: Representations of the DIKW hierarchy', Journal of Information Science 33.2 (2007): 163–180. https://doi.org/10.1177/0165551506070706

7   Tim Ingold, Bringing Things to Life: Creative Entanglements in a World of Materials, ESRC National Centre for Research Methods, University of Aberdeen, Scotland, 2010. https://eprints.ncrm.ac.uk/id/eprint/1306/1/0510_creative_entanglements.pdf

8   Kari Martin, 'The Hope of Creation – a Conversation with Timothy Ingold', The Kenan Institute for Ethics, 26 January 2021. https://kenan.ethics.duke.edu/the-hope-of-creation-a-conversation-with-timothy-ingold/

Ultimately, in doing this work we hope to reposition data as a generative and liberating *action*, rather than as a *form* of capture and control. Our goal is for observations or experiences to be freed of the categories and parameters that prevent social change.

Our next steps will be to continue to develop new techniques or tools that complement or replace the tally sheet. Our group is exploring design and creativity as tools to help us think *impulsively* —that is with passion, desire, intuition and inclination— about our relationship to the health of the ocean. We plan to draw on futuring and speculative design to help partici-pants in shoreline cleanups imagine a world free of human-generated marine debris.

STORY 5. WHEN WORKERS EXPLOIT THE PLATFORMS

JULIAN POSADA

Eduardo[1,2,3,4,5] is a former employee of Venezuela's Ministry of the Environment who lives with his wife and elderly parents in the city of Coro near the country's Caribbean coast. The worsening economic situation and Eduardo's position as the family's sole breadwinner prompted him to change jobs. Initially, he worked as a schoolteacher, at first full-time and later more sporadically, after a friend showed him how to make money online using a data labeling platform.

The platform has had many names: CrowdFlower, FigureEight, and, finally, Appen, after an Australian company acquired it. Eduardo is a user of this platform (in reality, an independent contractor) and classifies the world from his home computer. Recent tasks have involved categorizing companies according to their core business and clothing according to the brand and type. He receives the instructions in English but reads them in Spanish using Google Translate.

Even the latest iteration of the large language model, GPT-4, which uses a technique called 'Reinforcement Learning with Human Feedback' requires human input —and labor— to operate. Platforms like the one Eduardo works for have enabled a system where workers' labor, knowledge, and cognition is extracted from territories that have the tools for online work and difficult economic situations as in the case of many in Venezuela and other places in the Philippines, India, Kenya, and other countries worldwide. Platform workers are required to generate, annotate, and verify data, tasks that are essential for artificial intelligence systems like GPT-4 to function.

When Eduardo started working for the platform, it was difficult to find tasks because they could appear at any time of the day, sometimes in the middle of the night and on any day of the week. However, the job provides more income than his regular teaching job, up to ten U.S.

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1   Eduardo is an anonymous worker who shared his experience with me during my journey as a researcher and educator. I want to use this venue to tell his story and share the projects of colleagues who are fighting against data extractivism and platform exploitation. Colleagues from the Fairwork project are ranking platforms based on five essential fair work principles—no single platform worldwide has had a minimum score. The Platform Cooperativism Consortium maintains a list of alternative platforms functioning as cooperatives, where workers have a voice in management and share ownership. Artist Mimi Onuoha and activist Mother Cyborg developed a pamphlet that explains artificial intelligence, its ethics, and societal implications. I included their project and other readings in a publication for the Mayworks Festival of Working People and the Arts. I want to thank the many workers like Eduardo who took the time to share their stories and believe that a better future of work is possible.

2   Fairwork. https://fair.work/en/fw/homepage/

3   Platform Cooperativism Consortium. https://platform.coop/

4   Mimi Onuoha and Diana Nucera, A People's Guide To AI, Michigan: Allied Media, 2020.

5   Julian Posada, 'Controller of the Universe? A Reading List on Labour and Technology', Mayworks Festival Of Working People & The Arts, 5 May 2022. https://mayworks.ca/2022-festival/2022/readinglist

dollars per task, vastly exceeding the local minimum wage. As a result, Eduardo decided to exploit the platform as much as possible.

Of course, he realized that he could not make more money alone, so he created a group with other workers in Venezuela, using Telegram to communicate. At first, the group only included people Eduardo knew from his neighborhood, but the group rapidly grew, accepting numerous people from across the country. Eduardo pooled the membership fees to hire a coder in Spain to develop a bot that alerts members when a task becomes available, allowing them to work on it before it disappears. This tool allows Eduardo and other members to focus on tasks and increase their earnings. Their pooled fees also serve as a form of insurance, enabling the group to help when something happens to a member, such as becoming the victim of an online scam or facing some other emergency.

Workers also share insights about tasks and how to understand English-language instructions, as well as tips for maximizing earnings on the platform. These strategies can include using different accounts simultaneously, despite the platform's prohibition, which expects obedient and autonomous workers. However, users with numerous accounts and extensive networks of cooperation, motivated by resistance to precarity, are the ones labeling their data. This may not be the high-quality data the platforms' clients desire, but it doesn't even matter for people like Eduardo. For him, defending his family, neighborhood, and colleagues—his community—is a priority. He is unconcerned about some data that is used to train machines for some unknown companies.

Consequently, the platform profits but also falls victim to its design, losing clients because cheap, controlled, and distributed labor does not yield a superior product. This realization is not universal, enabling Eduardo and his colleagues to resist and engage in myriad ways in the ongoing fight against those who view labor is a mere commodity.

STORY 6. BECOMING A LOSS: ON THE RESOLUTION (OR NOT) OF CONFLICTS IN AUTONOMOUS COMMUNITIES

STEFANIA ACEVEDO

One of the strongest experiences I have gone through in the last two years has been to face my process of leaving one of the spaces where I had found the most vitality and political power since 2014. A combination of rage, affection, disappointment, joy, confusion, doubts, the feeling of missing those I felt close to, melancholy and (im)potency, to mention perhaps the registers where I locate how I have felt my passage through the *hackerspace* Rancho Electrónico.

This *hackerspace* located in Mexico City has a long history as a self-managed space. Before being founded as such, the Rancho Electronico lived as a HackLab in the squat Zona Autónoma Makhnovtchina (ZAM).[1] Eventually, the people who met there to experiment with free *software* in its intersection with Zapatismo, *hacker* culture, free media creation and computer security, decided, in 2013, to join with other collectives such as the Inverted Crater Cooperative and the anarchist collective Fury in the Streets to pay together the rent for a warehouse. Afterwards, they continued to move into different buildings in the Colonia Obrera.

The story I am going to tell is a partial version, yes, because it is mine. It is precisely where it finds its value, because it implies giving place to just a little piece of the experiences of those of us who have gone through the Electronic Ranch. In the narration there are affections that do not fail to show themselves and play a fundamental role in the way we face an event. To recognize a value in this is important because, on the contrary, the bet for conceiving life only through data implies a neutrality or objectivity that is impossible, no matter how much information one has.

Until a few years ago I felt that what I had experienced at Rancho Electrónico was guided by joyful militancy. I saw us full of life and impulse to sustain this space, to find the resources to pay the rent, electricity, water, to have chips, bread and coffee to share with those who attended a workshop, to organize a *hackmitin* or other events. This took place, but unfortunately it was also accompanied by profound machismo, transphobia, violence and exercises of power. Sometimes we are ashamed to recognize that we have inhabited spaces like this, but telling this story is also a bet to resonate in others how we can lose those patriarchal skins that surround us, those skins that smell of transphobia, of exclusion of dissidence; those rigid skins that do not allow themselves to be permeated.

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1   Dicidente Radio, 'La Zona Autónoma Makhnovtchina (ZAM)', Indy Media, 3 Diciembre 2010. http://mexico.indymedia.org/spip.php?article1783

The first time I went to an assembly of the Electronic Ranch[2] I witnessed a very strong and explicit discussion, where there was anger, frustration and I don't remember if there was shouting. There was also a lot of silence from everyone there. Nobody wanted to take sides. It gave me that anxious feeling of not knowing what to do and seeing that no one was doing anything. To date, that discussion has not been resolved, there were no ways to mediate the conflict. After that one, there were others and we did not manage to resolve them either. I can take responsibility for having tried unsuccessfully with the Working Group on Violence that after a few months we decided to close because we were unable to do anything between our limited energy and lack of tools.[3] I remember that I decided to leave the Rancho Electrónico because in an assembly, which had the purpose of delivering the results of a survey conduct-ed by the Working Group on Violence, one of the participants said that free *software* was the important thing and that he was not interested in 'ideologies' such as feminism. Although this had been evidenced multiple times before, it finally dawned on me that I had to stop insisting on a space where people who decided to continue with the *hackerspace* did not see a problem with this statement nor could they see that this, as well as most tech spaces, is a hostile space for trans and cis women. One has to learn to stop insisting and recognize that the fascination of tech for tech's sake, even if it is open source, wins out even in these places.

I'm always late for everything, I join collectivities when they are already crumbling, when they are past their best years. This makes me feel like a loser but I'm glad because I don't like to hang out with winners. Besides, I perceive that this fiction of the golden years of a collectivity, about which only the elders can speak, that is, those who have been there the longest, is also a cover-up of the abuses and conflicts that were lived inside. Who can tell the stories to the new generations? This is experienced in the self-managed collectives, because those who are still there are the ones who tell the history of the spaces, explain the absences and the presences. Before me, a lot of other women had left, and when I was arriving, driven by fascination, I could not see that as a problem, nor did I question it. All this happens through a narrative that is always partial. That is why it is important that there is a diversity of stories, that they are contradictory, that they offer other versions, and that they are not closed under the logic of data, where there is a fantasy of processing as much information as necessary to offer only one type of reading of an event. When I recognize the partiality of my narration, I know that it is an ethical-political act insofar as I am taking a position on how to narrate it, in the data that position is obturated, it seems that one can be neutral and that there is a separation from any bias.

When data is collected on self-managing collectives in these territories, categories are often created that homologize the practices and *ethos* of those who participate in it. Certain key-words can make a semantic universe of #tags that make up what *should be*, in this case, a hackerspace: technology, free software, autonomy, commons, hacking, mutual support, etc. What is almost always expected is to respond to certain already known cases, this raises expectations about what to find when lifting those data. Perhaps in hackerspaces elsewhere,

2   Rancho Electrónico. https://ranchoelectronico.org
3   Anamhoo, Hacklib, Steffff, and Boox, 'Carta del Grupo de trabajo sobre violencias en el RE', 10 Enero 2023. https://transitional.anarchaserver.org/jirafeau/f.php?h=2btzr20Z&d=1

where there are certain assurances and material conditions, people can deal with innovative issues around technology and free software. While, as far as collective projects in this territory are concerned, the priority is to self-manage a space-home-shelter, in addition to having to face the emotional work involved in the conflict in a collective walk. It seems to me that these differential conditions may lead us to wonder if, in fact, a space where technology is not so present, understood from a hegemonic conception where only certain practices would be validated and others not, continues to be a hackerspace. We can see how a certain classification begins to be exercised from a certain reference to a mold/data in which perhaps we do not fit.

That is why I distrust the logic of data, I see it as petrified, I feel that it encloses in a generalization the pretension of making us transparent, and of exhausting all our complexity. The nuances are what a datum cannot contain. I trust that asking ourselves how to narrate ourselves also implies other aesthetic forms that go beyond data. We will have to invite ourselves, then, to the contamination of the hegemonic way of understanding data, where transparency is demanded and a calculation is made that only serves the machinery of death. This will imply changing the known interfaces and producing other *common notions* that do not remain only in the digital. Trying to tell our stories beyond the numbers, beyond the *accounting* as that which refers to what can be divided and made into a figure; and move, instead, to the *narratable*, with all those contradictions and complications that cannot be fully trapped or synthesized.

I know that in this territory called Mexico, where loss is painfully predominant, it seems absurd to bet on it, but I would like to emphasize that the losses we live with here on a daily basis are violently imposed on us, making us believe that it is the only condition of existence. But there is another type of loss that we can choose and that can help us to transform ourselves, especially those of us who bet on collective work.

I do not want to lose the spaces that have been won and for which so many people have fought, leaving energy, affection and scratches. But I do want to lose the ways in which we have learned to silence discomfort in order to privilege the appearance of the radical, the contentious, and being indifferent to painful experiences because it seems that maintaining a self-managed space itself is more important than the people who sustain it.

Not only Rancho Electrónico, but also many collectives that bet on self-organization, have faced in the last years the difficulty of knowing how to deal with conflicts, mainly gender conflicts that evidence the patriarchal forms that permeate the organizations; and, even more, with ways to solve them in a communitarian way. Once a friend of mine told me that we do not even have to solve them, but to accept the power to act politically from these internal difficulties. I do not know if we are going to achieve it, but we continue, from different fronts, to work for it.

This narration is the way in which I try to give place to a loss, yes of collectivity, but not of horizon, that I carry with me and share it with others because where we learn to lose there is also resistance.

Figure 1. Rancho Electrónico's first venue in the warehouse it shared with Cráter Invertido and Furia en las Calles, 2013.

STORY 7. RESISTING DATA COLONIALISM AND DIGITAL SURVEILLANCE IN A MIDWESTERN CLASSROOM: EXPLORING COMMUNITY-DRIVEN ALTERNATIVES TO AUTOMATED LICENSE PLATE READERS

CHAMEE YANG, GOWRI BALASUBRAMANIAM, CLARA BELITZ AND ANITA SAY CHAN

'Everyday lived experience is the richest form of data', James Kilgore, the Urbana, Illinois, USA-based educator and activist said in critiquing the persistent growth of electronic monitoring technologies and law enforcement tools across small towns and large cities alike in 2022.[1] The observation underscores the alarming breadth and scale of data capture that social justice advocates in diverse geographic contexts have had to contend with as the processes of data colonialism accelerate around the world, particularly through the expansion of security technologies. This essay explores the growing drive to automate security from the geographic and economic 'periphery' of high-tech and finance capitals[2] on the U.S. east and west coasts. This essay's deliberate focus on micro-urban contexts and 'flyover country' of Central Illinois explores the range of efforts —and the use of class-based engagements specifically— to resist the growth of data-driven surveillance systems outside of large urban metropolises. We further problematize framings of 'the North' as a monolithic construct, and instead acknowledge the long-standing dynamics of value extraction from diverse global peripheries (even within 'the North' itself) to feed the growth of centers[3],[4] that extends into contemporary datafication regimes. While the data politics of 'flyover country' have been largely overlooked in comparison to the nation's coasts and larger Midwestern cities like Chicago or Detroit, we argue that such oversights miss opportunities to attend to the specific dynamics of data colonialism and their resistances as they evolve in diverse geographic zones and local 'peripheries' within the North itself. As critical data scholars Nick Couldry and Ulises Mejias posit,[5] today's emerging state of data-driven capitalism has expanded by enabling Northern corporations to profit from data gathered from diverse regions around the world, while undermining the data sovereignty of political bodies and actors in the periphery. This applies not only to national interests in the Global South but also, as we point to here, to the circumvention of democratic oversight in local regions even in 'the North' itself.

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1   Haymarket Books, Understanding E-Carceration: A Book Launch with James Kilgore and Ruth Wilson Gilmore, 18 January 2022, video. https://www.youtube.com/live/fc2JaRJWcFM?feature=share

2   The use of the term "flyover" in the US context also highlights the notion that these regions are frequently disregarded and bypassed in favor of these centers.

3   Anita Chan, Networking Peripheries: Technological Futures and the Myth of Digital Universalism, MIT Press, 2014.

4   William Cronon, Nature's Metropolis: Chicago and the Great West, United States: W. W. Norton, 2009.

5   Couldry and Mejias, The Costs of Connection: How Data Is Colonizing Human Life and Appropriating It for Capitalism.

This essay thus underscores the localizing processes of data colonialism through tracking the growth of data-driven security industries —and their resistances— from Urbana, IL —a micro-urban context in the Midwestern U.S. Attention to such contexts demonstrates how marginalized populations, communities of color, and 'peripheral' geographies have been increasingly targeted by data-driven security companies as strategic assets for data exploitation and local market opportunities. This parallels the growth of surveillance technologies in 'smart city' initiatives, where increasingly spatialized and automated forms of management strategies seek to render the population more 'knowable and governable' through data.[6] We also provide a snapshot of our use of a Midwestern university classroom and a Community Data graduate seminar —one of two classes seeded at the University of Illinois in the Spring 2022—[7] that were developed to document and critically refuse such expansions. Our local resistance to data colonialism 'at the periphery' invests in community infrastructures and alternative pedagogies through the use of classrooms as critical technologies that contrast with data-driven security systems. The Community Data class drew attention to varied civic organizations' critique of police and municipal contracts for Automated Licence Plate Readers (ALPRs) as an alleged deterrent to violent crime across the nation, while highlighting groups' work to develop alternatives to commercial surveillance systems in local communities.[8]

While ALPR architectures have been roundly critiqued over the last decade for subjecting minority populations to heightened forms of criminalizing surveillance and for lack of proven efficacy in reducing violent crime, new ALPR vendors like Flock Safety[9] stress their use of predictive and AI-based technologies and expanded data pools to promise enhanced efficacy to local municipalities, despite the lack of empirical evidence on ALPRs' impacts on violent crime.[10] Due to heightened concerns raised by citizens over the lack of evidence-based efficacy surrounding the technology, and reports presented —including by the authors— on the efficacy of alternative community-based approaches, the city of Urbana declined the use of ALPR in 2022.[11] Flock epitomizes the recent explosion of public-private surveillance models, where government and public entities rely on the private sector to produce surveillance information.[12] While Flock pushes their product to local police departments and municipalities, they also sell to large national private groups, enabling the company's extractions to feed into

6   Chamee Yang, 'Smart Stadium as a Laboratory of Innovation: Technology, Sport, and Datafied Normalization of the Fans', Communication & Sports, 10.2 (2022): 374–389.

7   Chamee Yang, 'IS 594 Community Data Spring 2022', Illinois School of Information Sciences, 15 February 2022. IS594 SP22 Yang Syllabus (revised).pdf

8   Christopher S. Koper and Cynthia Lum, 'The Impacts of Large-Scale License Plate Reader Deployment on Criminal Investigations', Police Quarterly 22.3 (2019): 305–329. https://doi.org/10.1177/1098611119828039

9   Flock Safety. https://www.flocksafety.com/

10   Research on the efficacy of ALPRs is very limited and has mainly focused on non-violent crimes, showing a statistically insignificant reduction in case clearance and investigation time.

11   Rachel Gardner, 'Urbana says "no" to license plate readers, but Champaign says "yes" in effort to reduce gun violence', CU-CitizenAccess, 19 January 2022. https://cu-citizenaccess.org/2022/01/urbana-says-no-to-license-plate-readers-but-champaign-says-yes-in-effort-to-reduce-gun-violence/

12   Jay Stanley, The Surveillance- Industrial Complex: How the American Government Is Conscripting Businesses and Individuals in the Construction of a Surveillance Society, New York: American Civil Liberties Union, 2004. https://www.aclu.org/sites/default/files/FilesPDFs/surveillance_report.pdf.

a large, centralized public-private surveillance network.[13] These surveillance models rely on, and recreate, colonial visions of technological determinism and social control. As Dujuan 'Zoe' Kennedy, a community organizer and violence interrupter with Force Detroit, put it in an interview with students in the course, 'We are targets. Not just as people, but as a social construct'.[14] For these reasons, the American Civil Liberties Union joined local community groups in early 2023, calling for people to oppose Flock in their communities.[15]

In a national context where rising rates of violent crime were coupled with growing challenges for resource provision for public services during the COVID-19 pandemic, the hyped 'techno-logical solutionism' of Flock could gain fast traction in local municipalities.[16],[17] Problematically, the growth of such commercial surveillance architectures not only normalizes the monitoring of citizens' everyday activities but further monopolizes data about minority communities in ways that undermine, silence, and deprive community-led and driven solution-making as alternative responses to local problems.

Following heated public debates in the Fall of 2021 after citizens were notified of the Urbana Police Department's consideration of an ALPR contract with Flock, faculty, post-docs, and students at the University of Illinois' Community Data Clinic[18] came together with Urbana City Council members concerned over the persistent focus on surveillance tech as the 'only pos-sible solution' to crime. Together, we planned to dedicate the Spring 2022 graduate seminar of the Community Data Clinic to the topic of ALPRs. Using the classroom as a participatory infrastructure and transformational technology, we recentered debates around ALPRs to draw focus to the forms of justice-driven alternatives led by community-based initiatives. It should also be noted that our class was part of a broader set of cross-campus consensus and research initiatives around community violence, such as Tariq Khan's Spring 2022 class on Public History: Policing in the United States.[19],[20] Throughout the semester, we zoomed out to focus on violence reduction as a holistic problem and dove instead into enmeshed resistances in local communities across various U.S. contexts. By doing so, we drew from the work of other

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13   Jay Stanley, 'Fast-Growing Company Flock is Building a New AI-Driven Mass-Surveillance System', American Civil Liberties Union, 3 March 2022. https://www.aclu.org/report/fast-growing-company-flock-building-new-ai-driven-mass-surveillance-system

14   Jack Brighton, Jana Perkins, and Sarah Unruh, 'More Investing, Less Arresting: A Public Health Model for Reducing Gun Violence in Detroit', White Paper for Spring 2022 Community Data 594 (2022).

15   Chad Marlow and Jay Stanley, 'How to Pump the Brakes on Your Police Department's Use of Flock's Mass Surveillance License Plate Readers', American Civil Liberties Union, 13 February 2023. https://www.aclu.org/news/privacy-technology/how-to-pump-the-brakes-on-your-police-departments-use-of-flocks-mass-surveillance-license-plate-readers

16   Techno-solutionism, a concept by Evgeny Morozov, refers to an extreme belief that all social problems can be solved through technological means, which ignores the complex socio-political factors that contribute to the problems.

17   Evgeny Morozov, To Save Everything, Click Here: The Folly of Technological Solutionism. United States: PublicAffairs, 2013.

18   Community Data Clinic. https://communitydata.illinois.edu

19   Our work also aligns more broadly with recent critical pedagogic interventions that aim to teach data science differently, such as those outlined in the book, "Data Feminism", which emphasizes the need to incorporate intersectional feminist principles into data education.

20   D'ignazio and Klein, Data feminism.

community-partnered researchers who describe their work as 'centered on understanding and prioritizing how information and information technologies can empower communities, support their development, resilience, health, and well-being, promote self-determination, social inclusion, and social justice, and bridge divides'.[21] One of the crucial premises underlying our efforts has been recognizing community partners as experiential experts whose years of lived experience and knowledge must be centered as pathways toward transformative justice. By centering experiential expertise that is based on lived experiences of community experts rather than just data and statistics, we hoped to challenge the simplified and racialized narratives about gun violence and promote more inclusive and holistic approaches to addressing the issue.

Our class-based research thus explored cases of community work dedicated to resisting data colonialism and the expansion of securitization architectures in a range of U.S. contexts. Using qualitative research methods, we opened up our classroom space to engage community organizations nationwide that have played active roles in advocating for non-surveillance approaches to gun violence. During the course of the semester, we dedicated course time to collecting narratives, conducting interviews, inviting community and Urbana City Council feedback, and building relationships with key actors in a range of justice-based initiatives recognized for deterring gun violence through community-based programs - from Pittsburgh, PA's Mad Dads,[22] to Oakland, CA's Youth ALIVE!,[23] and from West Palm Beach, FL's Inner City Innovators,[24] to Detroit, MI's Force Detroit.[25] Our efforts highlighted the strength of social infrastructures designed by community leaders, and amplified their efficacy in a May 2022 Urbana City Council Meeting where ALPRs were debated.

Among the findings we stressed were that community leaders' long record of work to build public understanding around gun violence as a leading cause of death in communities of color preceded COVID-19's deadly impacts.[26],[27] As these community leaders emphasized, gun-violence deaths in communities of color in Urbana and nationwide are primarily driven by factors such as income inequality, poverty, under-resourced public services, and easy access to firearms. This was so much the case that in 1979 the Center for Disease Control and Prevention declared gun violence a public health crisis. Like COVID-19, gun violence is

21   Sue McKemmish, Frada Burstein, Shannon Faulkhead, Julie Fisher, Anne Gilliland, Ian J. McLoughlin, and Rob Wilson, 'Working with communities: Community partnership research in information technology, management and systems', Information, Communication & Society 15.7 (2012): 985–990.

22   Mad Dads of Greater Pittsburgh. https://www.pittsburghmaddads.org

23   Youth Alive! https://www.youthalive.org

24   Inner City Innovators. https://innercityinnovators.org/

25   Force Detroit, 'Building peace: A vision for a freer, safer Detroit', December 2021. http://forcedetroit. org/build-peace-report-2/

26   For instance, Black men make up 6% of the total US population but over 50% of gun homicide victims.

27   The White House, 'More Details on the Biden- Harris Administration's Investments in Community Violence Interventions', 7 April 2021. https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/07/fact-sheet-more-details-on-the-biden-harris-administrations-investments-in-community-violence-interventions/

contagious and affects distinct populations differently.[28],[29] Our findings further credited the dedication of justice-based advocates who had long worked to build public literacies around public health approaches to gun violence reduction that stressed holistic and integrated solutions to address the root causes of violence and reduce the precarity of people's access to food, shelter, and safety, particularly since these challenges are often result of systemic inequality and the city's historical neglect in poor and Black neighborhoods.[30] Such work highlighted how solutions can thus take many forms, from housing assistance to after-school programs to the distribution of free gun safes. Finally, we stressed how national justice-based organizations' investments around public health models echoed the data politics of local organizers from citizen groups like Urbana's First Followers,[31] and CU Fresh Start.[32] Such groups have maintained that a technology-centered punitive approach is an obstacle to building trust and community-centered forms of safety.

In January 2022, the Urbana City Council voted down the proposal for ALPRs in the city. Given the continued marketing of ALPRs to Central Illinois cities like Urbana, the adoption of ALPRs by Urbana's adjacent twin city Champaign, and the success of Flock in selling its devices in surrounding areas (from Peoria to Quincy and Gurnee, IL - and from Comanche, IA to Wichita, KS in the Midwest alone),[33],[34] local organizers expect new proposals to come. Our work thus continues a second phase of this project to amplify the work of advocates for public health and care-based approaches to addressing gun violence[35],[36] and to resist the pressure to expand surveillance-based solutions. In Urbana, the resistance continues as ALPRs are adopted in surrounding towns and existing installations nearby are lauded as 'successes'. We note the efforts too of other Illinois-based data activists like the Invisible Institute of Chicago,[37] who have likewise begun to recognize the importance of addressing data colonialism outside of large cities Chicago, and who recently launched new civic tools to monitor police abuses (to complement Chicago-based tools they previously developed). Our local resistance to data

28   Brighton, Perkins, and Unruh, 'More Investing, Less Arresting: A Public Health Model for Reducing Gun Violence in Detroit'.
29   Force Detroit, 'Building peace: A vision for a freer, safer Detroit'.
30   For more information on the history of community violence in Chapampaign-Urbana (CU), see Tariq Khan's Spring 2022 website for his class on Public History: Policing in the United States: A Safe CU. https://asafecu.com/?page_id=21
31   First Followers. https://www.firstfollowersreentry.com
32   A Safe CU, Exploring the root causes of gun violence in Champaign-Urbana, both historical and present-day. https://asafecu.com/
33   Enumerating every city that employs Flock would be intractable. That being said, their ALPRs are currently in use in communities near Urbana, including the adjacent city of Champaign, IL; Peoria, IL; and Gurnee, IL. In the midwest United States, they can be found in Comanche, Iowa and Wichita Kansas. Nationally, they can be found in states from California to Florida to Michigan. The Electronic Frontier Foundation maintains an (incomplete) list of contracts in the United States.
34   The Electronic Frontier Foundation. Atlas of Surveillance. https://atlasofsurveillance.org/search?vendor=Flock+Safety
35   Brighton, Perkins, and Unruh, 'More Investing, Less Arresting: A Public Health Model for Reducing Gun Violence in Detroit'.
36   Chinyere E. Oteh and Clara Belitz, 'Care Works: An Analysis of Community Based Gun Violence Prevention in Pittsburgh, PA', White Paper for Spring 2022 Community Data 594 (2022).
37   Invisible Institute. Champaign-Urbana Civic Police Data Project. https://champaign.cpdp.co/

colonialism 'at the periphery' offers a distinct if complementary approach to such tool-based developments around counter data by investing in community infrastructures, alternative pedagogies, and just and equitable approaches to fostering safety communities outside of large cities – where surveillance technologies like ALPRs present growing obstacles rather than solutions.

STORY 8. RESISTING PLATFORM SCAMS IN BRAZIL

ABEL GUERRA, GABRIEL PEREIRA, RAFAEL GROHMANN, LUDMILA COS-THEK ABÍLIO, BRUNO MORESCHI, AND AMANDA JURNO[1,2,3]

Imagine you are in an underpaid job trying to make ends meet. The money you make depends on the tasks you receive and complete. You work hard, but as costs keep rising, it feels nearly impossible to make it work — uncertainty is not a luxury you can afford at the moment. Yet, every day you are greeted by your "employer" with a promise: if you just perform well, if you just complete a certain number of tasks, then you could get a lot of money. They say success is around the corner as long as you're resilient enough to pursue it. The promise is hardly fulfilled and all the effort and stress put into the job often turn into frustration.

You may start to feel you are being deceived by this job. An opportunity to make quick money? Sounds more like a scam. Add some mobile apps, continuously generated data, algorithmic governance, and a lot of hype to the description above, and you end up with a somewhat 'fair' description of the very unfair platform economy.

Platforms have become a crucial part of our everyday lives and habits: we can use apps to get rides or shop for same-day groceries. What makes this economy tick is a set of algorithms used to organize and assign labor to workers, whether locally or around the globe. In recent years, it has become increasingly evident that these platform workers are not being paid enough, do not have their labor rights respected, and often are made to do illegal or dangerous things to comply with platforms' demands.

It is not rare to see platform companies calling workers who learn to work around the apps to improve their earning 'scammers'. But if we shift this perspective, it turns out that scam is actually a core feature of this platform economy itself, just as much as the algorithms and data that run it. The dishonesties and uncertainties inscribed in platforms' algorithmic management are a part of workers' (often labeled 'partners' or 'contractors') daily journeys as they go about their work. In that sense, platform companies are powerful and often legitimized scammers that make use of lobbies, misinformation, and infrastructural asymmetries to foreground injustice and uncertainty as labor models.

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1   This story draws on Grohmann, Pereira, Guerra, Abílio, Moreschi, and Jurno. A version of this story was also published as a blog post on the London School of Economics and Political Science.

2   Rafael Grohmann, Gabriel Pereira, Abel Guerra, Ludmila Costhek Abilio, Bruno Moreschi, and Amanda Jurno, 'Platform scams: Brazilian workers' experiences of dishonest and uncertain algorithmic management', New Media & Society 24.7 (2022): 1611−1631. https://doi.org/10.1177/14614448221099225

3   Abel Guerra and Gabriel Pereira, 'Are scams a core feature of the platform economy?', London School of Economics and Political Science, 1 August 2022. https://blogs.lse.ac.uk/medialse/2022/08/01/are-scams-a-core-feature-of-the-platform-economy/

So what do workers do in this scenario? They don't sit idly waiting for change to happen as mere pawns in the 'platform's game'... Instead, they resist and subvert platform scams through different tactics and strategies.

Take the example of Uber, a popular platform for ride-hailing. One of Uber's features is surge pricing, an algorithmically-induced raise in fares to make drivers' supply meet occasional high demand levels. In his earlier days as an Uber driver in São Paulo (Brazil), Felipe[4], associated surge pricing with a feeling of excitement and the opportunity to earn more money. However, just like other drivers, he came to understand that this was 'more of an illusion than reality', as he often receives regular fare rides despite being in a surge area. In other cases, Felipe has noticed surge pricing disappear as soon as he arrives at a surge zone. One might say Uber is not directly pocketing Felipe and other drivers' money. However, it is constantly playing an illusion game in which drivers are scammed by an eternal promise of financial gain, spending time and fuel to keep Uber's wheel rolling. Just like other facets of uncertain and dishonest algorithmic management, this is not an error: surge pricing is, in fact, operating as intended. It keeps workers hooked and Uber's finances going. Drivers' needs, however, are nowhere in sight.

Felipe does not just accept being scammed by Uber. In fact, workers like him find ways to resist, responding to platform scams through different tactics and strategies. A case in point is Uber drivers' appropriation of surge pricing as a protest instrument that grants visibility to their demands. During the 2019 global Uber drivers strike, Brazilian driver's WhatsApp (a messaging app) groups were filled with screenshots showing the surge's reddish shade taking over the map of different cities. While some of these groups were created with the purpose of organizing demonstrations for the strike, WhatsApp groups are a well-established communication infrastructure for drivers to speak also in their day-to-day work. As drivers went offline, surge pricing kicked in and made the strike visible to drivers, riders and Uber itself. The 'bleeding screen' resulting from the increase of surge pricing areas, as one driver put it, was proof that the strike was, in fact, working and disrupting Uber's revenue and rider's experiences.

Another example of resistance is the so-called 'click farm' platforms in Brazil, which are self-described Public Relations agencies focused on social media. One of them claims to have the mission to overcome the 'pain' of people who need more followers while at the same time helping others generate extra income. Thus, they promise real followers to their customers and easy money to workers. How do they do it? Through scam!

Maria, a worker in a click farm, needs to follow, comment and like social media accounts for a very small sum, often US$0.0001 (yes, you read that right). The platform has told her that it's an easy task that can be done in seconds. But even many US$0.0001 don't build up to much at the end of the day. Maria worked for years in the informal market and was even a waste picker. She has no choice in terms of deciding on more 'ethical' or 'moral' labor. Every

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4   Felipe and Maria are fictional characters based on the accounts and experiences of workers we have
     interviewed.

day, since before the emergence of digital platforms, she fights for her own survival, from gig to gig. Since Maria started working for click farms, some of them have even changed their name a few times, or were sued by social media platforms and no longer exist. When that happens, Maria asks for help to find the next 'hot' platform to work on.

Tired of doing so much for so little, Maria and other workers resort to their own tactics. One of them is to create several fake accounts in order to do more tasks and earn more money. The problem is: the fake accounts they create need to be 'convincing' in order not to be banned by Instagram and TikTok (social media platforms) for being a 'scam'. After all, if Maria ends up being blocked by the platforms, she will receive nothing for her work —not even US$0.0001!

But imagine how many clicks it takes to take care of 100 fake accounts. All this while caring for one's children, family, and home. As click farms mobilize a predominantly gendered work force, platform labor is intimately articulated to domestic work. Faced with similar overwhelming demands, she soon discovered how to use bots to automate their tasks. She joined the parallel markets for bots, where workers buy and sell tools to automate their labor —at least to some extent. For US$3, Maria buys a robot that can run up to 300 accounts at the same time. Life gets easier, and her pay is boosted —at least until the platform changes or disappears again!

The experience of Felipe and Maria, as well as many others, shows how platform workers are not mere pawns in the platforms' game. Although the platforms are the ones who define what is (il)legal, (ir)regular, and (un)desirable in their systems, workers find ways to fight back and demand justice in a system that doesn't care about them, with their own tools. Workers' tactics of resistance, these and other stories, should help us to reimagine platform labor: To create a world in which platforms don't scam, and workers are not forced to resist.

STORY 9. BETWEEN CLEANING APPS AND THE BORDER: ROXY'S STORY FOR DOMESTIC CODE IN THE FLESH

KRUSKAYA HIDALGO CORDERO[1]

It has been 22 years since Roxy left Mexico City with a suitcase and crossed the border into the United States.[2] She escaped the structural violence, the narco, the bad governments. She decided to leave with her then boyfriend —who is now her husband— after he was kidnapped in Mexico. They migrated out of fear that something like that would happen again. They came to California and stayed in Los Angeles, where they made their new home. Roxy is 41 years old, has a 21-year-old daughter and 18-year-old twins. She has worked in cleaning and property maintenance since she arrived in California, through word-of-mouth recruitment, various agencies, web advertising sites and different *apps*. Her two decades of work anecdotes show the changes in the U.S. care labor market and, above all, the technification and capitalist competition against paid work in the home.

One of the first experiences she recounts in the cleaning field was between 2004 and 2007, when she worked for a beach house cleaning agency in Venice Beach. One day she arrived with another colleague to clean a house and while dusting the kitchen shelves, she found a gun. They were both scared out of their wits. 'I opened the spoon drawer and found a gun. So, I grab it and go and lock the door. There was only one door to get in and out. I told my partner, "we have to lock it because they are going to come for it" and we got scared', she says.

Roxy then called the agency supervisor and tried to explain the situation: 'I spoke little English and she spoke little Spanish, so I told her that there was a *gun*[3] in an *apartment*'. The supervisor told her to leave the gun in the drawer and to leave the place immediately. 'That's when

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2   Roxy's story told here is part of a long term project called Domestic Code in the flesh. A militant research proposal that questions the hegemonic reading inscribed in the skin of which are the bodies that perform domestic work and under what parameters of performance and efficiency this work is organized. A space to imagine how we would like these apps to be and at the same time a counter-territory where paid domestic workers and those who work on this project connect outside the algorithmic mechanism of the apps.
3   Please note that my conversations with Roxy have been in Spanish. However, when she speaks, she uses certain words and phrases in English. In the words of Gloria Anzaldúa (1987), this reveals the language of the borderlands, a working-class English, a slang English, a Mexican Spanish, a Chicano Spanish, a Tex-Mex. In short, the complexity of migrant communities and the myriad of languages they speak. For this reason, I italicize all the words he says in English in his original account.

I said "no more, I don't want this job anymore, I don't want to put my life at risk, and for so little money"'. So she stopped working with the cleaning agency and soon after, she joined Craigslist – a classified ads website. She worked with Craigslist for more than eight years.

Moving into Roxy's experiences in the platform economy, she has worked with several different cleaning *apps*, including Jan-Pro and Care. In none of the *apps* Roxy has worked with can the paid domestic workers rate the clients, nor can they leave feedback for them. However, clients do rate them and do leave comments on their profiles, which are public. For Roxy, this way of rating *apps* is unfair. In addition, clients often rate them poorly for subjective reasons and prejudices, such as their nationality, and not because of the work they do.

'I would like to rate the clients. One would also put little stars on them and say "watch out for this person because this happened to me with her"'. Roxy insists on this because the *apps* do not allow paid domestic workers to be in contact with each other. So they have no way of alerting others if a client is harassing, discriminating, racist, and so on. Therefore, Roxy demands that they, as workers, should also be able to leave comments and rate them.

This reveals the unethical practices of these platforms, where control and inequality are found in the very design of the application. But, moreover, where the personal information of workers such as their age, their photograph and their name are datafied, extracted and commercialized. An economy based on the extraction of data where —it is redundant— the data flows of workers, in particular of migrant and irregularized women, end up in the hands of certain countries and certain companies.

Since the beginning of the 21st century, the crisis of social reproduction has triggered a gigantic demand from the Global North for care workers from the Global South, mainly women. According to the U.S. Bureau of Labor Statistics, 88% of domestic workers, caregivers and nannies are women. Of these, 49% are Latinas. In other words, 1 out of every 2 domestic workers in the U.S. are Latinas. In cleaning apps this trend continues, however, this does not mean that Spanish-speaking paid domestic workers have the language barriers solved by their overrepresentation in the sector.

In fact, one of the most common barriers faced by Roxy and many migrant workers is language. Their command of English is sometimes beginner or intermediate and this creates tensions with clients.

> They see us as ignorant because of the accent, because you don't speak English very well. Sometimes they [the clients] don't speak Spanish and they get frustrated because they think you don't understand them or something... I understand a little bit of English, but my sister didn't go to school here or anything, and she doesn't understand anything. With her it's more of a problem, so I tell her to take a picture if there's something wrong and I send a message to the client and tell her what's wrong and so on.

These barriers are often also discrimination, racism, xenophobia. They are not only difficulties, they are pains. It is the encounter and disagreement between various forms of oppression; it is the incarnation of *border subjectivities in the* words of the Chicana Gloria Anzaldúa.[4]

On the other hand, some cleaning *apps* in the U.S. require workers to be citizens. Others ask for residency and others for a social security number. But the control is not very strict, the need to work is pressing and there are many irregular workers working with the *apps*. As the slogan says, 'we are everywhere' and *migrant women* are in the *apps* as well.

The Jan-Pro platform functions as a digital job marketplace where cleaning service providers and seekers meet. In other words, Roxy is considered a cleaning service provider who has her own business. She has a profile on the app where she promotes her business. To open it, she had to make a one-time payment. 'In Jan-Pro you start with $900, it's like a down payment. They say it's not a franchise, it's 900 dollars as a down payment according to, but they keep that, they don't give it back. It's a, oh, I don't know how they said, the word… a deposit'.

In addition to the non-refundable deposit, Roxy tells us that in Jan-Pro one can invest money to get better houses or offices to clean. A sort of auction to compete for a place to be cleaned on a monthly basis, on a 'permanent' basis.

That is, many of these platform companies offer places with large cleaning areas, such as offices and houses of more than 300m^2. Then, if the workers 'win' that offer, they must hire more people. In other words, the *apps* do not assign them cleaning shifts, but they must compete to win a job. In most cases, they subcontract to people in the process of regular- ization or irregularized in order to have competitive prices and win the bids. In addition, the compañeras hire their relatives, people from their community, and other migrant people to lend them a hand. 'The *app* says that if you need to hire people to help you, they have to be legal in this country, so you get into trouble because it is not true. I, for example, am just in the process of arranging it'.

Roxy's dream is to have her own *app* business. An *app* that pays a fair price, provides accident insurance for workers, cares about the well-being of co-workers and thinks about the cleaning products used at work. 'I would like to have my own *app* and help maids to get *insured* and get jobs. Make nice *flyers*, nice *business cards* and have letters of recommendation. Everything so they don't struggle like I struggled, so they don't suffer so much!'

Roxy mentions that the products that clients have for cleaning offices and homes, most of the time, are very toxic. The use of these products affects the health of the workers and also the environment. 'I want to use liquids that don't harm us or the customer. What I always tell them when I go to an office and I see commercial liquids is "*oh, to be honest*, to be honest, *I don't like this kind*"*. Sometimes I ask for *baking soda* and vinegar'.

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4   Gloria Anzaldúa, Borderlands/La Frontera: The New Mestiza. San Francisco: Aunt Lute Book Company, 1987.

Unlike the other apps in the region, Roxy faces a much more tech-driven platform economy in the United States. Where the idea of 'be your own boss' is stretched to the point of 'have your own business within the app' or 'be your own sole proprietorship'. Despite this, Roxy dreams of having her own app, an app that helps paid domestic workers to get decent jobs, accompany them in their regularization processes, have labor contracts, social security, and also have cleaning implements that do not harm the health of workers and nature.

Paid domestic workers within these apps dare to imagine other possible ways of working with these platforms. They generate ingenious tactics to resist the datafication of care work and algorithmic control: taking pictures before cleaning to demonstrate their work, using their migrant network to translate into English, relying on the community to hire irregularized people. Roxy dreams, imagines, envisions other possible technologies for paid housework. It is there, in 'the app we dream of'[5] that she enunciates her resistance to datafication. It is a latent desire to deactivate the hegemonic and dehumanizing algorithms from the migrant collective body itself.

5   "The one we dreamed of" was an exercise in imagining and drawing that Roxy did as part of a workshop at the Institute for Popular Education of Southern California (IDEPSCA).

A CALL TO ACTION

RESISTING DATA COLONIALISM: WHAT LIES AHEAD

PAOLA RICAURTE QUIJANO

Given what we have learned about how data colonialism works, there is no reason we have to accept the *status quo*. We need, collectively and individually, to be disobedient and work towards a different, more just world.

The peoples of the majority of the world have always developed strategies and created spaces of resistance in spite of the will of extermination and dispossession of the systems of violence. These strategies of resistance can be considered as epistemic disobedience:[1] a resistance that struggles to break away from the coloniality of power, which is exercised through the coloniality of knowledge, being and feeling.[2] The value of resistance lies in the possibility of producing fissures in the systems of violence that make existence possible. The native peoples of the world and many other groups around the globe in search of autonomy, dignity and their right to the future, have traced a trajectory of practices that have not succumbed to the annihilating logic of the capitalist/colonial/patriarchal model of the world.

This discussion raises important questions for thinking about what potential alternatives or modes of resistance we can develop. That is, if these values and ways of operation of data colonialism do not do us much good, how can we go against them? In what way do subjects *resist* the coloniality of power that materializes through datafication, algorithmic mediation and automation? What does resistance mean in conditions of extreme inequality, in contexts where the worst expressions of capitalism, colonialism and patriarchy are manifested?What are the consequences of the colonial mode in which data operates in our life today?

Indeed, we have to ask: *Why* resist? What is the *meaning* of resistance? The social order constructed through datafication is rooted in historical and emergent forms of violence. Data extraction as a form of dispossession generates economic, racial, gender, epistemic, environmental, and other forms of injustice. There's little care for the social consequences of data systems, or the social worlds that they directly impact. Our freedom, autonomy, other ways of knowing, and our democracies are eroded. Realizing this is a departing-point for action.

What is the meaning of resistance?

Resistance is a way of remaking the world. In this way, resisting is re-existing. Albán refers to resistance as practices through which communities recreate their material and symbolic worlds, and from there confront inequalities, marginalization, discrimination and racialization. Re-existence, then, is understood as 'the redefinition and resignification of life in conditions

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1   Walter Mignolo, 'Epistemic disobedience, independent thought and decolonial freedom', Theory, culture & society 26.7 and 26.8 (2009): 159–181.
2   Quijano, 'Coloniality and modernity/rationality'

of dignity'.[3] To resist is to re-exist, to explore alternatives for a dignified life and to delink ourselves from that which subtracts humanity from us. Datafication, if instituted as a dominant rationality governed by the market, becomes a process that reduces us, quantifies our lives, redefines social orders of classification and creates new knowledge orders. It also reinforces social asymmetries. Datafication takes away our autonomy and our capacity to make decisions, prefigurating our future. For this reason, resisting in the context of datafied societies implies recovering autonomy, sovereignty, communality, conviviality, but above all, recovering our right to the future, and our forms of collective agency despite actors who seek to appropriate our ways of sustaining life.

How to resist?

Decoloniality as a political praxis, is a roadmap to imagine various actions against data colonialism. Coloniality is multidimensional and we need to understand it in order to imagine ways to resist data colonialism. The repertoires of resistance might take the form of material and immaterial alternatives that take into account the plurality of forms of being, knowing, feeling, doing, and living in the world. An act of resistance entails imagining tactics for disengagement on various spheres of life in which oppressive datafication systems are embedded: our social interactions, epistemic frameworks, bodies, and territories. Thus, we can undertake legal, pedagogical, organizational, communicative, technical, infrastructural, and creative actions of resistance that allow the construction of a common sense of struggle.

We can speak of forms of resistance to socio-technical violence on multiple levels: on the one hand, resistance to the processes of datafication, algorithmization and automation. On the other, resistance on the continuum from the macro to the micro-political levels. Finally, agency and resistance take place at various domains from the material to the immaterial: infrastructures, practices, imaginaries or even the unconscious.[4] Decolonial praxis takes different forms.

What can I do? How can I get involved? How could things be different?

Some people think that resisting datafication means passing legislation or making technical adjustments. What we propose here is that resistance does not mean that we can resist data coloniality only by changing the technology behind it. We must also change the relationships that govern the social and economic systems that support it. This book offers some practical take-away resources for starting to do just this!

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3   Adolfo A. Albán, '¿Interculturalidad sin decolonialidad?: colonialidades circulantes y prácticas de re-existencia' in Wilmer Villa and Arturo Grueso Bonilla (comps), Diversidad, interculturalidad y construcción de ciudad, Bogotá: Alcaldía Mayor de Bogotá y Universidad Pedagógica Nacional, 2008
4   Suely Rolnik, Esferas de la insurrección. Apuntes para descolonizar el inconsciente, Buenos Aires: Tinta Limón, 2019.

10 WAYS TO RESIST DATA COLONIALISM

1. Identify the ways in which datafication is operating in your daily life.

2. Embrace digital communality and data stewardship (common good).

3. Prevent and diminish varying forms of structural oppression that gets embedded in data and digital architectures, which includes the duty to demand reparations from data harms.

4. Organize your community and support communities most affected by data colonialism while enhancing your data protection to the extent that you can.

5. Support strong legislation and policy frameworks to promote data justice and limit platform abuse and market concentration, especially in the "Global South."

6. Promote alternative forms of data governance. Communities can develop data models, but also countries.

7. Promote a permacultural approach to data and technologies (promote policies that take responsibility for the environmental impact of the digital economy.).

8. Develop other tools and models of knowing/doing data through alternative values for data justice.

9. Fight for justice for the workers whose labor is exploited within the data economy.

10. Add your own actions!

LEXICON OF RESISTANCE

Justice

There are numerous definitions within justice theory that situate it within the fields of philosophy, law, ethics, among others. Miranda Fricker proposed in her 2007 monograph, an approach that moves beyond the established frames of distributive accounts of economic disparities or political accounts of proceduralism at institutional level. Instead, she criticizes the way justice creates an impression that it is the norm and injustice the unfortunate aberration. She coined the term 'epistemic injustice' in order to talk about the level of representation and participation in knowledge production. Epistemic injustice occurs when dominant structures in knowledge production result in; exclusion and silencing, invisibility, inaudibility and having one's contributions distorted, misheard and/or having diminished status in communicative practices.[1],[2],[3] Thus, epistemic justice implies the right of every person to their own knowledge and ways of generating, legitimizing and valuing it.[4]

Moreover, the concept of social justice may be understood as the continuing efforts to create and sustain a fair and equal society in which all people and groups are valued and affirmed. It is defined by an openness to change, seeking to end the systems that devalue the dignity of individuals. It recognizes that the legacy of the past remains and people continue to struggle for justice in their contemporary contexts. Therefore, social justice is not considered to be a goal to be achieved, but rather an ongoing process that promotes action in support of restoration and implementation of human and civil rights.[5],[6]

Communality

Communality is the thought and action of community life.[7] It expresses universal principles and truths with regard to indigenous societies, which should be understood from the outset not as something opposed to, but as different from Western societies.[8] From a philosophical

1   Franziska Dübgen, 'Epistemic Injustice in Practice', *Wagadu: A Journal of Transnational Women's and Gender Studies,* 15 (2016).
2   Miranda Fricker, *Epistemic Injustice Power and the Ethics of Knowing,* New York: Oxford University Press, 2007.
3   Martina Hutton and Benedetta Cappellini, 'Epistemic in/justice: Towards 'Other' ways of knowing', *Marketing Theory* 22.2 (2022), 155—174. https://doi.org/10.1177/14705931221076563
4   Syvlia Schmelkes, 'Epistemic justice and the knowledge commons for lifelong and lifewide learning*', UNESCO,* 9 January 2023. https://www.unesco.org/en/articles/epistemic-justice-and-knowledge-commons-lifelong-and-lifewide-learning
5   John Lewis Institute for Social Justice, 'Our Definition of Social Justice*', Central Connecticut State University,* (n.d.). https://www.ccsu.edu/john-lewis-institute-social-justice/our-definition-social-justice
6   Donna Riley, *Engineering and Social Justice.* Springer International Publishing, 2008. https://doi.org/10.1007/978-3-031-79940-2
7   Jaime Martínez Luna, 'Conocimiento y comunalidad', *Bajo el Volcán* 15.23 (2015): 99—112. https://www.redalyc.org/articulo.oa?id=28643473006
8   Sofía Robles Hernández y Rafael Cardoso Jiménez, 'Comunidad y comunalidad' en Universidad

approach, it is an experiential concept that allows the integral, total, natural and common understanding of life based on the interdependence of its elements, temporal and spatial, as well as the capacity of the living beings that conform it.[9]

The elements that define communality can be understood as:

- The Earth, as Mother and as territory.
- Consensus in Assembly for decision making.
- Free service as an exercise of authority.
- Collective work as an act of recreation.
- Rites and ceremonies as an expression of the communal gift.[10]

In sum, communality is based on respect for diversity and the principles of respect, reciprocity and a work that allows the survival of the world as a whole, as well as that of each of its instances and elements, which achieves well-being and enjoyment.[11]

Autonomy

Autonomy is a feature of the decision-making process or the formation of normative judgments.[12] The modern-day concept addresses personal autonomy insofar as the agent may elect to act, or not to act, according to specified prescribed standards, norms or rules. It is generally accepted that autonomy is that condition when an agent may determine the conception, articulation and execution of concepts, ideas and actions for themself.[13] According to Álvarez, autonomy is opposed to models of domination and oppression; rejects dependency resulting from the denial of moral recognition of people, thus rejecting discrimination and marginalization; and it condemns authoritarianism insofar as it represents the denial of the denial of the capacity for political choice.[14] When it comes to societies, Cornelius Castoriadis affirmed in 2006 that they are autonomous only when they are lucid with respect to the artificial character of their institutions. From this perspective, the autonomy of each subject is articulated with a collective dimension and is composed together with others.[15]

Nacional Autónoma de México (ed.), *Floriberto Díaz . Escrito. Comunalidad, energía viva del pensamiento mixe Ayuujktsënää'yën - ayuujkwënmää'ny – ayuujk mëk'äjtën,* México: Voces Indígenas, 2014, (31–46).

9   Martínez Luna, 'Conocimiento y comunalidad'.

10   Robles Hernández y Cardoso Jiménez, 'Comunidad y comunalidad'.

11   Martínez Luna, 'Conocimiento y comunalidad'.

12   Jan-Reinard Sieckmann, 'El Concepto de Autonomía' *DOXA, Cuadernos de Filosofía del Derecho* 31 (2008): 465–484.

13   Pagollang David Motloba, 'Understanding of the principle of Autonomy (Part 1)', *South African Dental Journal* 73.6 (2018) 418–420. http://dx.doi.org/10.17159/2519-0105/2018/v73no5a7

14   Silvina Álvarez, 'La autonomía personal y la autonomía relacional', *Análisis Filosófico* 35.1 (2015): 13–26. http://www.redalyc.org/articulo.oa?id=340042261002

15   Diego Carmona Gallego, 'Autonomía e interdependencia. La ética del cuidado en la discapacidad', *Revista Humanidades,* 10.2 (2020). https://doi.org/10.15517/h.v10i2.41154

Sovereignty

Sovereignty is the exclusive right to exercise supreme political authority (legislative, judicial, executive) over a geographical region, over a group of people, or over themselves. Deleanu states that it 'is not a magic word, an occult and miraculous force; it expresses the right of the state to decide for itself. However, sovereignty cannot be any pretext for arbitrariness, voluntarism, arrogance or self-consolation'.[16]

Disobedience

Disobedience has to do with proposing new and provocative paths, new and disturbing questions, and to dream of daring alternatives through which the image of another possible reality is filtered.[17] In such a way, to think disobedience is in the first instance an exercise of thinking order, structure, norms and, strictly speaking, power relations.[18] One of the most widespread forms of disobedience is civil disobedience, a mechanism of participation and political protest used by minorities in the process of shaping public opinion. It's a form of political dissidence that's highly valuable in order to revitalize the participatory fundamentals of representative democracy.[19]

Care

According to Colliére, care is 'everything that helps to live and makes it possible to exist'. It is both a relationship and a process, a social capacity and an activity, and it's directed to everything that nurtures and stimulates life. It is a kind of relationship constituted by a genuine disposition towards the other, reciprocity and the commitment to promote their well-being and flourishing. That is, prioritizing care means recognising and embracing our interdependencies.[20,21] Care policies encompass public measures concerning the social and economic organization of work to ensure the day-to-day physical and emotional well-being of people. They concern both the recipients and providers of care, and include measures to ensure access to the services, time and resources needed for giving and receiving care, as well as regulations and oversight to safeguard its quality.[22]

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16   Ramona Gabriela Tătar and Adela Moişi, 'The Concept of Sovereignty', *Journal of Public Administration, Finance and Law* 24 (2022): 292–303*.* https://doi.org/10.47743/jopafl-2022-24-27

17   Liliana Colanzi, *La Desobediencia. Antología de Ensayo Feminista,* Bolivia: Dum Dum Editorial, 2019.

18   Maurizia D 'Antoni, Juan Gómez Torres, Luis Gómez Ordoñez y José Fabio Soto Arguedas, 'La desobediencia como forma de resistencia: jóvenes que se hacen sujetos en contextos de "declive" institucional. Al respecto de la enseñanza colegial costarricense', *Revista Ensayos Pedagógicos* 1.1 (2011), 37–54*.*

19   Juan Carlos Velasco, 'Revitalizing democracy through civil disobedience', *Unisinos Journal of Philosophy* 17.2 (2016): 111–120. doi:10.4013/fsu.2016.172.04

20   Carmen de la Cuesta Benjumea, 'El cuidado del otro: Desafíos y posibilidades', *Investigación y Educación en Enfermería* 25.1 (2007): 106–112. https://www.redalyc.org/pdf/1052/105215404012. pdf

21   Andreas Chatzidakis, Jamie Hakim, Jo Littler, Catherine Rottenberg, and Lynne Segal, *The Care Manifesto. The Politics of Interdependence,* London: Verso Books, 2020.

22   Comisión Económica para América Latina y el Caribe, 'Sobre el cuidado y las políticas de cuidado*',* *Naciones Unidas,* (s.f.). https://www.cepal.org/es/sobre-el-cuidado-y-las-politicas-de-cuidado

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10 ways to resist data colonialism

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Resisting Data Colonialism: A Practical Intervention
By members and allies of the Tierra Común Network

Some people think that colonialism is long over, while others are sure it has never stopped. This book explores a third possibility: that not only is colonialism still continuing, but right now it is morphing into possibly its most powerful version yet. This is data colonialism. In 2020 Tierra Común was formed: a network of activists and scholars, mainly from Latin America, to resist colonialism that operates through data and digital technologies. This book was written collaboratively by members of Tierra Común. It is intended as a toolkit for understanding what data colonialism is, who it harms, and how it can be resisted.

The book's theoretical framework explores the historical roots of today's data practices in colonialism and racism, and the colonial entanglements that shape data extraction and AI like all forms of modern science. It examines key examples of how data practices today operate in colonial ways, and their implications for identity, life and being at the most fundamental level.

Nine case studies written by members of Tierra Común show how data colonialism is being resisted practically in many diverse communities across the Americas.

The books ends with some reflections on pathways for resistance, a ten-point resistance toolkit, and a lexicon of key terms.

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