A Digital New Deal

Visions of Justice in a Post-Covid World

Just Net Coalition and IT for Change

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The Digital New Deal is a collaborative project of the Just Net Coalition and IT for Change with contributions from academics and activists envisioning progressive ways to engage with the digital in a post-Covid landscape by reclaiming its original promise and building a digitally just world.

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Table of Contents

Foreword: A Digital New Deal as if People and Planet Matter

One of the first undertakings in what one might call 'Big Data' in fact began with a progressive political agenda far removed from the proverbial garages of Silicon Valley. In Chile, in the early 1970s, Salvador Allende, the first Marxist leader to be democratically elected as head of state, assembled a motley crew of economists, cyberneticians, and engineers to embark on Project Cybersyn, an ambitious attempt to build a center of intelligence for the national economy. Equipped with hundreds of telex machines that would feed in data in real time from factories and other productive outlets, the project was envisioned to maximize efficiency, cut out waste, and respond dynamically to various crises. It was an attempt to harness technology towards a socialist mode of governance.

But Allende was violently ousted from power through a military coup in 1973, ushering in the brutal, 17-year dictatorship of General Augusto Pinochet. Under Pinochet, Chile would go on to become the first laboratory of neoliberal reforms that supplanted the Keynesian/New Deal consensus of the post-war years.

Looking back today, it is striking to note the prescience of Project Cybersyn. Much of what it boldly imagined has come to pass, albeit in a form and with a political content diametrically opposed to its original vision. We cannot deny the central role that data and digital technology play in our everyday lives and the manner in which our societies and economies are increasingly being restructured. At the same time, however, the levers of these technologies have almost entirely been usurped by large transnational corporations and the profit imperative.

Over the past decade, digital enclosures and data greed have consistently blunted the power of the internet and data-based intelligence as an emancipatory force. The platform economy is dismantling and reorganizing systems in their entirety — from communication, media, and transportation to commerce, agriculture, finance, and governance — hollowing out social and public value and ushering in a marketization of everything.

The Covid-19 pandemic has further accelerated the tendencies of digital capitalism to swallow whole the resources of this planet and its people, starkly visibilizing the underlying inequality and injustice of the global economic paradigm. Big Tech giants have resorted to unabashed opportunism during the pandemic, consolidating their market dominance, placing themselves at the center of trade and logistics, and moving swiftly to displace public interventions in the provisioning of key social services. They have not been alone in leveraging digital technologies towards greater power and influence. Nation states have used sanction-by-pandemic as a way to expand authoritarian power, adopting more and more measures to track and surveil populations — measures that without safeguards and sunset clauses could easily weave into the governmentality of statecraft, shrinking room for dissent.

We should not make the mistake of interpreting the fallouts of the Covid crisis

as exceptions to an otherwise robust system. The digital opportunism that has nimbly followed the crisis is not a signifier of positive disruption. Rather, it is a sign that the techno-economic paradigm rooted in a neoliberal trajectory is deepening the system's exclusionary, extractive, and exploitative outcomes.

Social actors concerned with a just and equitable society have called attention to the urgency confronting us at this moment to reshape the global economic and development order. A digital paradigm — one that unleashes equality, solidarity, sustainability, and justice — is only possible through an overhaul of existing institutions. The digital needs to be reclaimed, and towards this, the purpose and meaning of the internet, and data-based intelligence, must be rearticulated. The institutional frames and global-to-local governance mechanisms of data and digital infrastructures (including platforms and standards) comprise the lynchpin in the battleground between democratic futures for all and private profits for the few. These frames need to be clearly spelled out so that the forces of transformative change can evolve a concerted critique and coordinated action.

As a step towards this, the Digital New Deal compendium brings together leading thinkers, activists, and practitioners from across the globe. The contributions offer an incisive diagnostics of our current predicament, outlining the new challenges for food sovereignty, labor rights, climate justice, and equitable development. They critique the discursive and institutional underpinnings of the internet, data, and AI technologies that have disenfranchised communities and people. Beyond calling out what ails the world, our authors also set for themselves the challenge of imagining new possibilities to reclaim the digital for justice. The essays in this collection are thus bold leaps of imagination with intimations from an alternative present — all relating to a digital world that is still within reach, and which, we believe, is worth fighting for.

We discuss below the various threads emerging from the essays, pulling together the elements of a digital new deal.

Taking back power from Big Tech

Several essays track and problematize the growing ways in which digital technology has, in essence, become a part of our social and public infrastructures. In their essay, Gianluca Iazzolino, Marion Ouma, and Laura Mann invoke the concept of 'functional sovereignty' to denote the way platform firms are able to dictate the terms and conditions of the market, siphoning off value from the activity of others. Going forward, the massive data resources that they control will make it possible for these tech giants to shape scientific evidence, thereby granting them the power to influence the trajectory of our collective knowledge production.

In the aftermath of the pandemic, we already see an acceleration of Big Tech's presence in key sectors of the economy. As the ETC Group argues, food production and distribution are becoming an important sector for huge investments from large tech firms like Amazon and Alibaba as well as traditional firms like Bayer-Monsanto. Concepts like 'precision agriculture' that are rapidly gaining currency denote business models where huge swathes of data are collated from across the production process, and used to reorganize the manner in which

food production happens. These disruptions are likely to place huge burdens on farmers, peasants, and those in allied industries, especially in the Global South, threatening their livelihoods and the food sovereignty of nations.

The autonomy and wellbeing of all communities and nations therefore urgently require new norms and rules for the platform economy, including a commons-based data governance framework that puts the control over their data back in the hands of communities.

Democratic governance of the internet and digital technologies

A common refrain across the essays is the urgent need to end the neoliberal consensus that has legitimized an ever-expanding role for the private sector in digital governance and policy processes. The Digital New Deal advocates for democratic governance and effective regulatory mechanisms across the digital domain, placing people-centered development at the core.

To this end, the compendium offers both principles as well as concrete proposals in the domains of data governance and sovereignty (Roberto Bissio and Richard Hill), public sphere and social media (Amber Sinha), AI governance and systems design (Jun-E Tan and Amba Kak), digital labor (Christina Colclough, Kate Lappin and Sofía Scasserra), data justice (Maui Hudson, Mariana Valente and Nathalie Fragoso, Emiliano Treré and Stefania Milan) and international e-commerce (Richard Kozul-Wright). In each case, there is an emphasis on creating mechanisms that will monitor the development trajectory of digital technologies across all sectors of the economy, and mitigate the monopolistic concentration of power that Big Tech currently enjoys.

Many essays underline the role of state policy as a crucial instrument for breaking the data enclosures of large transnational companies. Governments must be able to harness data as an economic resource in order to facilitate an inclusive development strategy in their respective nations and claim a public role for technology. Here, the authors of the Digital New Deal do accede that the nation state is often captured by private interests and is capable of the worst abuses of citizen data. Therefore, as Roberto Bissio and Richard Hill argue in their essays, democratic digital futures hinge on a global effort to negotiate a new digital paradigm through new global norms and institutional arrangements. Also, genuine progress towards global economic justice is not possible unless the de facto dogma of 'free data flows' can be countered with an international normative framework that recognizes the rights of all nations and peoples to the data they need for charting their development pathways.

Rebuilding the public sphere

The compendium touches on issues related to the legal quagmire within which social media regulation currently rests — specifically, the challenges around creating effective mechanisms to curb the misinformation, hate speech, and growing polarization resulting from algorithmically generated echo-chambers.

As Amber Sinha argues in his essay, while free speech is important to safeguard, it is

increasingly clear that analog imaginations to regulate platforms are inadequate for appropriate regulatory scaffolding. Similarly, Anita Gurumurthy and Nandini Chami point out a glaring normalization of sexism and misogyny in design architectures of the online publics, which calls for a new theoretical basis for progressive action.

New political frameworks and actions

Alongside efforts advocating for a more just local-to-global governance regime in the digital domain, essays in the compendium also stress other key initiatives — building novel institutions and new alliances, as well as rethinking some of our key concepts and theoretical frameworks.

Christina Colclough, in her essay, puts forth the idea of 'workers' data collectives' that can function as a representative body in negotiating and managing the interests and data of workers in a particular sector. Other pieces also talk about alternative, bottom-up practices that attempt to use digital technology in innovative ways — from apps using co-operative business models to open-source communities and digital toolkits that have enabled workers from different parts of the world to come together and collaborate.

Through theories of post-humanism as well as indigenous epistemologies, contributions by François Soulard, Maui Hudson, Azar Causevic and Anasuya Sengupta, Anita Gurumurthy and Nandini Chami persuade a rethinking of the relationships between the digital paradigm and the increasing precarity of our natural environment, arguing for a transformed subjectivity, new vocabulary, and radically different approaches to make sense of and reclaim the digital phenomenon.

Pandemic as a turning point

Capturing the discontinuities in a post-Covid global order, the essays in this compendium stress the urgency for new thinking and action. The hope, as always, lies in the power and energy that social movements bring, dismantling the status quo, paving the way for equity and justice, and offering the power to dream.

The Digital New Deal Team
January 2021

Elements of the Digital New Deal as if People and Planet Matter

Pillar 1. Re-imagining the Relationship between Digital Technology, Society, and Nature

- Southern epistemic traditions and feminist ethics rooted in socio-ecological wellbeing as the core of digital social organization.
- A post-individualist framework for data claims that recognizes collective needs and rights.
- Data sovereignty of peasant farmers and small economic actors for community control over food and local livelihoods.
- A commons-based framework to govern environmental, genetic, weather, agronomic, and other publicly-generated community data.
- Collective legal protection against damages caused by unfair, discriminatory, and/or exploitative processing of data.
- Participation of indigenous peoples, local communities, farmers, fisherfolk, and social movements in global-to-local digital policy processes.

Pillar 2. Decolonizing the Digital Paradigm

- A pluralistic internet grounded in a constellation of translocal connections, open-source innovation, and diverse knowledges, countering the homogenizing Silicon Valley narrative.
- A fair digital economic order that creates the enabling conditions for digital industrialization of the Global South.
- Collective control for workers over their laboring data.
- Institutionalized norms and principles for evaluating and determining the limits of data extractivism.
- Transnational alliances of practitioners engaged in collaborative and cooperative platform models.
- Public funding for digital innovation.

Pillar 3. Restoring People's Control over Digital Technologies

- Open, inclusive, and participatory policy-making processes from global-to-local levels that center digital justice.
- An independent, representative multilateral mechanism for governing the internet as a global public good, backed by an international treaty.
- A Global Convention for Data and Cyberspace to dismantle the power of the Big Tech oligarchy and to promote peace, security, human rights, and global justice.
- Regulation to rein in the runaway power of transnational digital corporations.
- AI policies that extend beyond the axes of accountability, non-discrimination, and privacy, ensuring equitable redistribution of the gains of data and digital intelligence.
- Global digital taxation rules to prevent regime shopping by technology companies.
- A framework for social media governance based on clearly-defined public interest objectives and a regulatory approach adequate to a platformized public sphere.
- Sovereignty and public interest based governance of digitalized infrastructures in food, health, finance, welfare, and other socio-economic sectors.


POLICE
Microsoft

Gianluca Iazzolino, Marion Ouma & Laura Mann

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A Digital New Deal Against Corporate Hijack of the Post-Covid 19 Future

Our essay focuses on the political context in which the consolidation of the dominant digital paradigm takes place. It is structured into three parts: we first describe the role of technology companies in restructuring the global economy and creating the economic and social vulnerabilities that have been exposed by the current global health crisis. We then identify some trends that are likely to be exacerbated by the pandemic, specifically the growing public reliance on tech firms for basic services, the influence of tech firms on public debates, and the attempts by tech firms to capture civil society organizations and social movements through their philanthrocapitalism. We eventually sketch a policy framework to help address these dangers and to avoid a corporate hijack of the post-Covid 19 future, arguing that state regulatory and fiscal capacities must be strengthened and that independent research must be funded by the tax revenues extracted from tech giants. Civil society organizations could contribute by forming transnational alliances to keep tech giants in check and help engage citizens in public debate.

Introduction

It is hard to fathom what kind of social and economic future lies on the other side of Covid-19. In the early days of the pandemic, some were hopeful that the crisis might usher in a new economic order. Others cautioned that the long-term economic and social impacts would be grave. One group, however, seems to be having an unambiguously 'good crisis'. Amidst dismal GDP figures, mass layoffs, hiring freezes, and bankruptcies, the world's top six tech giants — Amazon, Microsoft, Apple, Tencent, Facebook, Alphabet (Google), and PayPal — added an overall market capitalization of $1.2 trillion during the first six months of 2020. Amazon alone, despite spending $4 billion on logistical upgrading, saw its value climb by $401.1 billion, boosted by the expansion in online shopping and cloud computing. The second biggest winner, Microsoft, has likewise benefited from the mass shift of work from office to home, and the growing reliance of workers and households on its cloud services.[1]

helping support CommCare, a mobile data collection platform developed by Dimagi, a for-profit social enterprise, which initially sought to provide e-health solutions in Africa and Asia, but has since branched out to the US and Ireland. And Facebook CEO Mark Zuckerberg published[2] an op-ed in *The Washington Post* to burnish his company's public utility credentials.

This moment of potential consolidation risks unsettling the precarious balance between tech giants on the one hand, and the public sector, labor organizations, independent research, and civil society, on the other. Yet, the current crisis is not a watershed; for these tendencies have been long in the making: the platformization of public services, the creation of corporate-led economic ecosystems, the restructuring of production, and the datafication of workers and customers. While most governments were caught by surprise, tech giants were ready, and are now poaching smaller firms on the verge of collapse — a trend that is likely to accelerate after the pandemic.

While most governments were caught by surprise by the current crisis, tech giants were ready, and are now poaching smaller firms on the verge of collapse — a trend that is likely to accelerate after the pandemic.

In addition to hefty market capitalizations, these tech Leviathans have also used the Covid moment to strengthen their political capital, positioning themselves as reliable actors in the face of government shortcomings. In several US states, health departments are leveraging the data power of Google, Facebook, and Apple for contact tracing. Amazon Web Services (AWS) is

The world that lies on the other side may, therefore, be a world in which a handful of large companies can move capital, produce knowledge, and shape the political and public conversation in their favor.

This series has asked contributors to imagine a 'Digital New Deal' akin to Roosevelt's Keynesian revolution. Our contribution

draws attention to the varied political context of this paradigm contestation and the political strategies deployed by tech firms to thwart wholesale paradigm shifts. Section 1 describes the role of tech companies in restructuring the global economy and creating the economic and social vulnerabilities that have been exposed by the current global health crisis. Section 2 identifies some trends that are likely to be exacerbated by the pandemic, focusing on growing public reliance on tech firms for basic services, the growing influence of tech firms on public debates, and attempts by tech firms to capture civil society organizations and social movements through their philanthrocapitalism. The final section sketches a policy framework to help address these dangers and to avoid a corporate hijack of the post-Covid 19 future. In particular, it argues that state regulatory and fiscal capacities must be strengthened in order to tackle the opacity of their business operations and to extract tax revenue to fund more independent research. In pursuit of these policies, activists can help by forming transnational alliances to keep tech giants in check and help engage citizens in public debate.

1. An overview of the dominant digital paradigm

In explaining the role of intellectuals in driving long-term policy change, Milton Friedman[3] once remarked, "Only a crisis — actual or perceived — produces real change. When that crisis occurs, the actions that are taken depend on the ideas that are lying around. That, I believe, is our basic function: to develop alternatives to existing policies, to keep them alive and available until the politically impossible becomes the politically inevitable."

In the spring of 2020, many hoped that the Covid-19 crisis might precipitate a rupture in the fortress of free-market economics. Even the right-leaning *Economist* magazine asked if a new paradigm was at the gates.[4] Pressure had been building for some time. Piketty's book, *Capital in the Twenty-First Century*[5] had laid bare growing economic inequalities that have been accelerating in high-income countries since the 1970s, when free-market policies were embraced as the dominant growth model.

After 1975, technology firms were at the forefront of this growing consolidation of wealth. The shareholder value business revolution put pressure on managers to lower their production costs,[6] and so they introduced productivity-enhancing technology to rationalize production, increase worker surveillance, and restructure production beyond the boundaries of the firm. This restructuring gradually eroded the skill intensity of production and allowed managers to restructure production and redistribute tasks to cheaper workforces.[7] In many cases, this unbundling of production resulted in offshoring, allowing firms and workforces in low- and middle-income countries to gain footholds in global production networks.[8] Yet, for those services that required proximity to markets, employment was retained onshore, but with skills and wages restructured downward through digitization and platformization.

During the pandemic, the social vulnerabilities of this restructuring have been laid bare. In cities like London, where workers are concentrated in the service sector, the 'lockdown' and removal of high earners from city centers devastated the local low-skilled labor market. Meanwhile, other low-skilled 'essential' workers in

food and healthcare provision were forced to work through the pandemic, exposing themselves and their families to higher rates of infection. In low-income countries like Kenya, lockdown measures devastated the livelihoods of urban residents working in the informal sector. For close to 80 percent of the world's working population dependent on day-to-day earnings, staying at home is hardly an option, given that government assistance would be insufficient to cushion their livelihoods. While some may have hoped that the pandemic would reset the economic paradigm by revealing its structural vulnerabilities, politicians have, instead, turned to tech firms to help keep the existing economic paradigm afloat.

By and large, neo-classical economists have understood the role of tech companies as generating efficiency and productivity gains for individuals and markets as a whole.[9] By lowering transaction costs, tech firms promise to lower entry barriers and forge more inclusive markets and financial systems. Furthermore, by facilitating the compulsion of market actors to make 'better' decisions through nudging and coded incentives, behavioral economists hope that digital technology will help enhance worker productivity and improve transparency in the overall investment climate. However, as many political economists have highlighted, these platforms have also reshaped the knowledge economy and altered the careful balance between public and private governance.[10]

First, these platforms aim to transfer knowledge requirements away from workers and onto the platforms themselves, thereby altering both the relative bargaining power of capital and labor within economies as well as the technological advantages of high-income economies relative to others within global production networks. Second, by virtue of their network effects and ability to facilitate "interoperability"[11] — the ability of systems to share data and interact — these firms are slowly embedding themselves at the heart of both market structures and interfaces between public and private service provision. The legal scholar Frank Pasquale has developed the concept of "functional sovereignty"[12] to describe the power that a private firm acquires when it rises above all other market participants to become the force shaping and organizing the market as a whole. Over the past decade, tech behemoths like Google and Amazon have accrued this power. They have nipped potential competitors in the bud and gained leverage vis-à-vis the state to become de facto alternative regulators, able to police disputes and interactions among the other market participants.

> **Tech behemoths like Google and Amazon have become powerful enough to shape and organize the market as a whole.**

A growing community of intellectuals, activists, and politicians have pressed for greater scrutiny of these firms. In response, policymakers have begun to introduce digital taxes, basic income grants, and new kinds of antitrust regulation.[13] Outside of the US, policymakers are additionally concerned by the dominance of US-based firms in new areas of economic development. For example, African trade negotiators have

strongly pushed back against attempts by US trade negotiators to introduce binding regulation covering e-commerce into World Trade Organization (WTO) rules.[14] Likewise, European economies have sought to develop a common digital market in an effort to create opportunities for European firms to compete. However, the relative power of policymakers varies enormously across the world, and African countries, by virtue of their legacies of structural adjustment and continued dependence on aid and foreign direct investment, enjoy much narrower policy space than their European counterparts. These differences in the policy environment will no doubt shape the likelihood of countervailing policy responses in the form of Digital New Deals. In the next section, we examine how technology firms have tried to reshape the policy environment in both high- and low-middle income countries, positioning themselves at the center of government and donor-led attempts to restructure the economy and public services during the pandemic.

2. Fault lines of the dominant digital paradigm

As we have highlighted in the previous section, technology corporations are currently leveraging their logistics power to uphold the existing economic paradigm. Within the specific context of the Global South, the functional sovereignty of tech giants is further enhanced by the asymmetrical relationship between donors and governments. This context narrows the space for alternative models to emerge by allowing these firms to deepen public reliance on digital platforms for governmentality[15,16], to reshape the research agenda of domestic institutions and tech communities, and to alter the strategic focus of civil society organizations and social movements.

State over-reliance on corporate services

The myth of a dynamic private sector vis-à-vis the sluggish state continues to garner appeal despite concerted attempts by scholars such as Mariana Mazzucato to debunk it.[17] In fact, the current pandemic has injected fresh lifeblood into its veins. Before 2020, public anger over austerity and the outsourcing of public services was gaining momentum, but the public health emergency triggered by Covid-19 has largely neutralized this conversation. The current pandemic provides a sort of Rorschach test for advocates of private sector efficiency, on the one hand, and those who blame austerity for undermining state capacity, on the other. Both sides see in this a confirmation of their belief system. Yet, free-market proponents appear to be prevailing, as several governments have awarded test-and-trace contracts to corporate giants. For instance, the UK government has signed deals with, among others, Google, AWS, and the controversial data analytics company Palantir to store NHS (National Health Service) patient data on their clouds.[18] Such deals have sparked fears among data justice activists who worry that such data may be used for totally different purposes. This fear is particularly heightened in cases when firms such as AWS and Palantir remain active in sensitive fields such as border and immigration services. As Busemeyer and Thelen[19] have theorized through the concept of 'institutional source of business power', the over-reliance of the public sector on "these arrangements foster(s) asymmetric dependencies of the state on the continued contribution of business actors in ways that, over time, tilt the public-private balance

increasingly in favor of business interests".

In low-income countries, the legacies of structural adjustment and aid dependence have further strengthened the dependence of the state on private, mostly foreign, firms. As Thandika Mkandawire[20] has argued, aid dependence can make governments and civil society more accountable to donors than to their own citizens. Structural adjustment also results in the outsourcing of public services to non-governmental organizations and private actors. In recent years, international organizations like the World Bank and corporate-philanthropic actors like the Gates Foundation have argued that digital technologies can help bring about greater efficiency and accountability within social service provision, and have framed private companies as the repositories of sufficient technical and managerial capabilities to deliver donor-led programs more cheaply, effectively, and transparently.

In low-income countries, the legacies of structural adjustment and aid dependence have further strengthened the dependence of the state on private, mostly foreign, firms.

For instance, in rural Kenya, over the past years, a whole host of agricultural tech firms has emerged to fill the void left by the retreat of public extension services to smallholder farmers, offering private services ranging from advice to credit to market access. One is Safaricom, a mobile network operator, which has been able to capture a large share of the market for financial and data services through its control over M-Pesa, its flagship mobile money platform. Its management has pursued a shrewd strategy to consolidate control over the market by exploiting regulatory loopholes and forging a privileged alliance with the country's elite across the political spectrum.[21] In the words of a Safaricom executive, its digital platform for farmers, Digifarm, and its network of agents, the Digifarm Village advisors, represent 'an extension service that people can actually see'. Yet, this network also allows it to collect valuable and strategic agricultural knowledge, and demographic and value chain data for the Kenyan state and private companies. In social policy too, a growing number of banks and mobile network operators have positioned themselves as conduits for the delivery of social grants to citizens across Sub-Saharan Africa. The logic underlying these arrangements is steeped not only in ideas of efficiency and accountability but also in the financial inclusion agenda.

As scholars working on financialization have warned,[22] this convergence of social policy and financialization increases the vulnerability of public finance to the volatility of financial markets.

Shaping the research agenda and the public conversation

The awarding of contracts for test-and-tracing to tech firms represents not only a partial abdication of state responsibilities but

also a further expansion of corporate players into the production of social knowledge. By hoarding large and diverse digital data, tech giants will no doubt play a critical role in the organization of scientific evidence.[23] Tech giants have been particularly proactive in reshaping the research agenda and public conversation about how to regulate them. They have exerted influence through a myriad of ways. For example, large tech firms can soften or deflect criticism that may influence the attitudes of the general public, and eventually, the regulators. Particularly telling is the case of the Open Markets Foundation (OMF), a think tank at the forefront of the regulatory battle with large tech conglomerates. In 2017, it came into conflict with its then parent organization, New American Foundation, after it took a strong stance in favor of fining Google and breaking up Facebook and Amazon. The episode is recounted in an influential paper by Lina Khan, one of the most prominent OMF members.[24]

> Large tech firms can soften or deflect criticism that may influence the attitudes of the general public, and eventually, the regulators.

Such companies also use selective access to their data as a means to influence research agendas. For example, the ride-hailing firm Uber granted access to several high-profile economists including Steven Levitt and Peter Cohen, who collaborated with the company on a series of papers that depicted the company in a favorable light.[25] African countries are even more vulnerable to these attempts by technology firms to shape the public conversation in their favor, due to the impact that structural adjustment had on research and higher education institutions.[26] Recent initiatives such as Digital Earth Africa (DE Africa) illustrate the influence of cloud service providers in extracting and organizing scientific evidence through datafication. Supported by AWS, the platform uses Earth observation data from space agencies and the Open Data Cube technology to share insights on environmental changes and transformations of human settlements with policymakers. This initiative has the potential to contribute to policymaking and research. Nevertheless, we should be cautious about the long-term consequences of a private firm storing, analyzing, and commercializing Earth Observation data. This privatization of knowledge risks reinforcing AWS functional sovereignty vis-à-vis other sources of knowledge and the asymmetric dependency of local and international research institutions on the platform's data power. Eventually, this company may acquire a monopoly of knowledge.

The corporate capture of civil society

The growing philanthropic engagement of tech giants adds a new layer to the so-called 'NGO-ization of the civil society',[27] through funding and the provision of technological capabilities. Behemoths like AWS and Google are offering support to non-profit organizations in order to create a favorable 'ecosystem' for their business models. For example, Amazon's Sustainability Data Initiative (ASDI) claims "to accelerate sustainability research and innovation by minimizing the cost and time required to acquire and analyze large sustainability datasets."[28] Likewise, Google has offered direct financial support to

NGOs and community organizations during the pandemic, in addition to the package of services specifically designed for non-profit organizations through its Google for Nonprofits initiative, ranging from support to enhance visibility to data analytics tools. The writer Arundhati Roy[29] points out that the NGO boom in countries like India (and Kenya) in the 1980s and 1990s coincided with the opening of the country to the market economy. According to her, this proliferation of NGOs led to a professionalization of resistance, depoliticizing social movements and locking them up into partnerships with market actors. In a recent article, the sociologist Ashok Kumbamu[30] discusses how philanthropic giants such as the Rockefeller Foundation, the Ford Foundation, and the Gates Foundation are deploying dispossessing strategies to establish what he calls the "philanthropic-corporate-state complex". His primary focus is on agricultural producers and their genetic varieties, but his analysis is also relevant to the field of digital humanitarianism and civil society where the philanthropic-corporate-state complex may become "an agency for the spread of neoliberalism in a 'humane' form across the globe". This dependency of NGOs and humanitarian organizations on the technical and financial support of corporate players might inhibit criticism against them.

3. Fixing the fault lines

Addressing these fault lines as the world reels from the worst pandemic in a century presents additional challenges. With resources and efforts devoted to checking the spread of the virus and reversing its economic impacts, most states, research institutions, and civil society organizations are hesitant to scrutinize their relationship with corporate partners. And yet, this moment of reckoning is long overdue and has never been more urgent as the pandemic looks set to crystallize the dominance of a few tech giants.

> **The recipe for a Digital New Deal must not aim at a return to the pre-Covid-19 era, but fix the socio-economic rifts that have been laid bare and widened by the pandemic.**

The pillars of the original Keynesian New Deal were the so-called three 'Rs': Relief for the unemployed and the poor; Recovery of the American economy; and Reform of the existing regulatory framework to avoid a repetition of the crisis. This time, however, the context is different: the challenge is not one of recovering an overheated domestic economy and reinstating it to its pre-crisis state, but one of fundamentally addressing the new international context of production. The recipe for a Digital New Deal must not aim at a return to the pre-Covid-19 era, but fix the socio-economic rifts that have been laid bare and widened by the pandemic. We suggest three critical steps to achieve this goal.

Strengthening the regulatory capacity of the state

Over the past years, big tech firms have formally become more accommodating to the idea of regulation. In reality, they have sought to water down any attempts to tackle their market power, holding on to the view that too-strict rules might curtail

individual freedom, stifle innovation, and inhibit the benefits of digitization. As Big Tech firms gather more and more data, they must become transparent about their data points and their purpose. And yet, as these companies move into areas previously controlled by the state, it will become harder to enforce such accountability.

in the same commercial activities". The proposed regulation aims to tackle functional sovereignty by designating and targeting gatekeepers, that "shall not use data received from business users for advertising services for any other purpose other than advertising services".[32] If approved by the EU Parliament, this regulation would force digital platforms

> **New regulatory frameworks will need to tighten the privacy rules of already vulnerable individuals, particularly as public health has been used to justify a rollback of existing legislation.**

To address this power asymmetry, new regulatory frameworks will need to tighten the privacy rules of already vulnerable individuals, particularly as public health has been used to justify a rollback of existing legislation. As noted by Privacy international,[31] regulators must track measures adopted during the pandemic including high levels of surveillance, data exploitation, and misinformation. Big Tech companies are likely to resist these demands when they see them as posing an existential threat to their business models. On the other hand, supranational entities might leverage access to the markets of their members to force tech firms to comply with such regulations.

A possible blueprint of this approach may be the draft of the EU Digital Services Act regulation — currently under discussion — which proposes that large tech companies like Amazon and Google "shall not use data collected on the platform...for [their] own commercial activities...unless they [make it] accessible to business users active

acting as gatekeepers in the single market to share the customer data they collect with smaller rivals and to stop giving preference to their services. Moreover, it will make tech giants liable for the products and services they market or embed in their platforms.

Taxing Big Tech to fund public research

Over the past few decades, education and research organizations have been starved of public funding, and become increasingly reliant on private companies for access to funding and data. We suggest an increase in public research funding, financed by a tax on tech firms, to counteract this reliance.

The idea of a digital tax is, of course, not new. In 2012, a series of tax scandals involving Apple, Google, and Amazon forced G20 leaders to launch the Base Erosion and Profit Shifting Project (BEPS), which was eventually extended to low- and middle-income countries.[33] Nevertheless, BEPS has proven to be somewhat of a fig leaf; its financial reports are not publicly available

and, therefore, not subject to the scrutiny of independent organizations. Moreover, the provision is toothless against 'corporate regime shopping', through which tech giants strategically structure their operations and shell companies so as to benefit from the most friendly and low-tax jurisdictions. More recently, supranational bodies such as the EU and national governments have taken a more aggressive stance. Since 2018, nine Asian countries, including India and South Korea, as well as Latin American countries like Mexico and Chile have been in discussions on how to tax revenues, rather than profits, of tech companies.[34] In 2019, for instance, France had approved a 3 percent tax on revenues generated in its territory by digital corporations.[35]

The Independent Commission for the Reform of International Corporate Taxation (ICRICT), a think tank that includes among its members economists Jayati Ghosh, Thomas Piketty, and Joseph Stieglitz and the lawyer Irene Ovonji-Odida, suggests a BEPS 2.0, which will address regime shopping, the geographic allocation of global profits and associated taxes according to the business of the tech giants in each country, and the introduction of a 20-25 percent global minimum effective corporate tax rate on all profits earned by multinationals.[36] These levies on services provided on national territories, and separate from corporate income taxes, may be used by national governments or supranational entities to increase public spending on research, improve publicly-owned data infrastructures, and minimize the reliance on corporate support.

Creating space for new forms of action

Beyond governments, activists must play a role in keeping tech giants in check and engaging with the public. We suggest that organizations such as consumer pressure groups and tech-savvy civil society organizations need to form a transnational alliance to help grassroots movements gain visibility.

Vigilant civil society organizations and advocates have a responsibility to ensure that regulators do not roll back regulations that were in place before the pandemic, and that the current emergency measures do not become permanent. Civil society organizations already participating in digital spaces must reach out to new partners including social movements involved in public services to help rethink their strategies, languages, and ways of engaging with the general public and policymakers. Meaningful collaboration requires the inclusion of consumer associations which can exert commercial pressure on digital platforms, and social movements which have a better grasp of grassroots' calls for social change. For example, citizen-led organizations can help policymakers make a stronger case for BEPS and put pressure on corporations to make their financial and tax reports public. Not-for-profit organizations also have a critical role to play in backing up policymakers by offering feedback on and flagging off loopholes in draft regulations. This was the case in the above mentioned EU Digital Services Act, which was subjected to open consultation throughout the development process.

4. End reflections

The current pandemic is throwing into sharp relief and exacerbating structural inequalities that are steeped in past political choices. The risk is that the players that have benefited most from these choices, and are consolidating their dominance in the

present, will eventually hijack the post-Covid 19 future. Avoiding a corporate capture of this moment of transformation requires a rethinking of the public-private relationship on the one hand, and the state-citizen relationship on the other.

By being more responsive to the needs of their citizens, governments can mend the fractures and faults related to digital tech and those brought about by Covid-19. Success will include shifting digitech power from extractivism to a place where this power is used for societal good.

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Anita Gurumurthy & Nandini Chami

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Feminist Frames for a Brave New Digitality

The excesses of intelligence capitalism present an unprecedented urgency to reimagine sociality and reinvent the institutional architectures for a new world. We need to revitalize our theories of agency, social subjectivity, and planetary wellbeing; revamp the norms and rules that determine rights; and revisit the political practice of feminist solidarity. Our sense-making frames cannot afford a nostalgia about human supremacy. They must recognize non-human materialities, putting an environment in which all matter share existence, front and centre. This will allow us to revisualize personhood and social subjectivity through a relatedness with natural ecosystems and technological artefacts. Current institutional norms are woefully inadequate, unable as they are to tackle a totalizing intelligence capitalism. The digital paradigm must be (re)claimed through a post-individualist, anti-patriarchal, decentralized and anti-imperialist institutional framework. What we need are norms for a collective claim to data and a political commitment to systematically scrutinize the social identity of AI systems. Feminist efforts to build community and forge publics are entrapped in the dominant communicative arenas of the digital that instrumentalize and co-opt political subjectivity. Through a self-reflexive place-making that visibilizes the often-illegible practices of community and solidarity and embraces cross-fertilizations, feminism can lead the way for emancipatory posthuman futures.

Crisis at the digital turn

As feminism and its radical propensity confronts the digital epoch, the Covid conjuncture provides a stocktaking moment for revisiting the human condition. It allows us to contemplate the meta frames that must guide us into a just and egalitarian future, providing an occasion to sharpen our epistemic toolkit and explore what a transformative being and becoming in digitality — the condition of human-digital hybridity — means.

The story of connectivity and access seems to have lost its once-impassioned urgency and emancipatory potential. The market for gadgets has reached an equilibrium adequate for capital's continuing conquest through datafication of human sociality. The gadgetless or unconnected, such as indigenous people, are perhaps not as important for the corporate data machine as the ecosystems they inhabit. As for the dispossessed others like wage workers, their lives are anyway being captured by cameras, internet of things (IoT), and automated decision-making technologies generating the data to categorize and convert them into 'bottom-of-the-pyramid' markets for ever-expanding product 'innovations'.

The production of capital in the digital epoch may be seen as the stage of 'intelligence capitalism'. Enclosing the data it ceaselessly collects and accumulates, and deploying its data enclosure for honing an 'intelligence advantage', digital age capitalism ruthlessly eliminates competition to aggrandize value on the network. The capitalist data machine commoditizes information not only to produce economic value, but also to control 'bios' or life to a more intensified degree than before. In the current form of capitalism, therefore, "life itself is the main capital".[1] The data gold rush is the new imperialist frontier — a Leninist territorial capture by force for capitalist interests. Only that, coercion today is achieved by stealth, as the self and society are folded into intelligence capitalism through digitally-surveilled motions of the everyday.

The digital's inherent propensity for deterritorial communications has worked well for the new global feudals — big platform companies — and their business models. Erasing the materiality of embodied labor and eradicating the relationality of care, intelligence capitalism decouples social reproduction from production. A regime of despotic control reigns over digital production chains, atomizing labor power and normalizing precarity. A pronounced asymmetry is evident in the neo-colonial division of labor within which gendered and racialized categorizations determine the very promise of freedom.

> The digital turn signals an urgency to reimagine sociality and invent the institutional architectures of a new world.

The economy of "life as surplus",[2] feeding on incessant profiling, displaces critical agency and radical subjectivity, cannibalizing diversity. The 'data subject' is but a proxy for the proliferation of differences as the engine of commodification in our quantified environments.

In the wild west of intelligence capitalism, rule-making is privatized and legitimized through platform as protocol and AI as law. Institutions of norms-setting and rule-making have been rendered ineffectual, and even irrelevant, with the data lords determining visions and meanings of development, democracy, human rights, trade, and peace and security.

So goes the digital tale. A compelling contemporary myth that is a far cry from Haraway's cyborgian vision for a feminist future that can vanquish "an informatics of domination".[3]

From a feminist standpoint, this reality is untenable. The digital turn signals an urgency to reimagine sociality and invent the institutional architectures of a new world. We need to revitalize our theories of agency, social subjectivity, and planetary wellbeing; revamp the norms and rules that determine rights; and revisit the political practice of feminist solidarity.

Towards this, our essay proposes an epistemic triumvirate of sense-making, claims-making and place-making as the basis of such renewal.

Sense-making — Embracing the posthuman condition

> *There are no essential differences or absolute demarcations, between bodily existence and computer simulation, cybernetic mechanism and biological organism, robot technology and human goals.*
> — N. Katherine Hayles[4]

The binaries of data and body, human and technology, often lead us to essentialisms — a dystopic bemoaning of datafied destiny in intelligence capitalism or utopic readings of AI as the magic wand for 'human' advancement. Moving away from such dead ends, feminist political action must find a theoretical portal for liberation that allows for greater complexity.

Feminist theorists like Donna Haraway, Rosi Braidotti, and Katherine Hayles reject these tight boundaries and dualisms. They question the category of the autonomous, liberal, human subject who stands apart from non-human others.[5] Asserting the inseparability of mind and matter, they propose a 'posthuman' systems framing. Posthumanism contends that with digital technologies, the embodied mind becomes distributed across multiple terrains of hyperconnection and hyperpersonalization. The posthuman person is hence a complex, material-informational entity, constantly being (re)constructed.[6]

This is not to suggest a loss of humanity, but a shift in the way we understand nature and the hybrid lives we lead. In the continuous interaction with electronic devices, the human person does indeed embody agency; however, agency is now reconfigured. It is distributed and interactive. Human agency correlates with the distributed cognitive system as a whole, in which 'thinking' is done by human and non-human actors.[7]

As an eco-philosophical approach, feminist posthumanism also theorizes a seamlessness between subject and object, subjectivity and ecology — an inter-connectedness between all matter — "that locates the subject in the flow of relations with multiple others".[8] Feminist posthuman theorists thus underline a post-anthropocentric perspective on the

environment. The 'environment' is not only the context for human agency, but the arena for the production of the entirety of both 'natural' and 'social' worlds. There is nothing beyond environment, and nothing (for instance, humans and their diverse cultures) is excluded from it.[9]

Why is the posthuman frame important to our actions?

To marshal the vision and action adequate to a sustainable future that is cognizant of the limits of anthropocentricism and the false idea of a singular, undifferentiated humanity, the conceptual frames we deploy must explain the structures of power and domination. In posthumanism, things and persons, nature and technology, virtual and real are entangled in a complex whole. Our evolution towards the posthuman condition, as Braidotti reflects, is a stage of crisis under the 'capitalocene' — how capitalism in the digital technological conjuncture informs and subordinates the possibility of thinking about what a human is to an excessive extent.[10] Arranging and ordering human beings as risky/non-risky, deserving/undeserving, valued/disposable and so on, capitalist data regimes construct and reconstruct the materiality of bodies through control, colonization, and exploitation. They hold subjectivity hostage.

But nostalgic assertions harking back at human supremacy and a disavowal of AI may end up denying "social ontology" at the digital turn.[11] Such nostalgia will prevent the crystallization of institutional ethics appropriate and adequate to the posthuman condition. Non-human materialities are bona fide participants within events and interactions, rather than recalcitrant objects, social constructs, or instrumentalities.[12]

Our task, therefore, is to dismantle disempowering relationalities, revisualizing personhood through an ethics of connection — with natural ecosystems, robots, AI, and the material others that make the whole of our existence. Displacing the oppressive regimes of data governmentality in dominant computational systems, our action must situate itself in the quest for a new sensibility, mobilizing new modes of social subjectivity.

Claims-making — Defining network-data freedoms

> *The overlap in the sociopolitical circumstances of human and artificial agents is not predicated on some shared biological or ecological background, nor on shared experiences or conscious states, but more concretely on the material and institutional realities within which human and nonhuman agents "share existence".*
> — Bruno Latour[13]

Articulating how rights arise in the relationality of matter — human and nonhuman — in shared digital destiny is a vital feminist task. Indeed, time-space contingencies or 'the contextual' must occupy a salient place, but it must be colinear with a common baseline, that is, 'a shared vision', for emancipatory personhood. A shift from liberal constructs of the human in human rights is urgently needed to reimagine the idea of rights through a posthuman institutional ethics.

What this entails — stepping beyond human-centric ideas of solidarity, social justice, and equality — is a planetary ecosystem focus.[14] The ways in which capitalism, state, patriarchy, imperialism, and white supremacy

have historically required control over bodies and nature, need to be the starting point in this quest for new rights.

How do we then begin to articulate the substance of digital rights, or more broadly, network-data freedoms for an expanded personhood?

institutions, while the global multilateral system is occupied by imaginations of 'sustainable development' that valorize a capitalist future through the tropes of equality, inclusion, opportunity, innovation, and progress. Humanist ideals in global justice have been used to defend the very practices that subvert it.

> **A post-individualist framework is needed for claims about data that will account for how embodification online and the processes through which data becomes intelligence are evaluated for physical, material, and non-material implications.**

Intelligence capitalism is a totalizing, imperialist force. People and planet, machines and code, are subordinated in digital value chains, their agentic propensities exploited and extracted for profit. From rare-earth mining in Congo, chip production in Asia, affective and intellectual labor in the digital economy, mass deployment of surveillance paraphernalia by states to bio-piracy and bio-prospecting through digital gene sequencing, and AI modelling meant to discriminate and destroy, the pan-global digital ecosystem emboldened by finance capital has unleashed a disciplinary regime that has seen an erosion of personhood and the evisceration of planetary wellbeing.

Institutional norms are at a crossroads. Not unlike the post-war crisis that birthed the human rights regime, the world polity today is at a hairpin bend. A post-democratic complacence is sweeping across state

The digital needs to be reconceived in post-individualist, anti-imperialist, anti-patriarchal terms. The myth of data as a disembedded, non-rivalrous, ever-flowing resource obfuscates the systemic relationalities of the network-data-nature-culture assemblage in intelligence capitalism. Not only must these relationalities be opened up in order to question what data may be "dematerialized"[15] from human and non-human matter, under what conditions, towards what gains, and for whom, data materiality itself must also be continuously examined in relation to historical markers — race, gender, class, caste, geography, and more.

A post-individualist framework is needed for claims about data that will account for how embodification online and the processes through which data becomes intelligence are evaluated for physical, material, and non-material implications.[16]

This does not mean a negation of personal rights, but rather, an attempt to inscribe the social with the possibilities for an authentic posthuman personhood. Privacy rights based on individual consent have proven to be ineffectual at best and harmful at worst, with corporations acting as de facto mediators of informational claims in which the body is embedded. The structural implications of loss of privacy for minority communities in derived datasets (when identities reappear) have been the subject of much study.[17] A reification of personhood in the form of, for example, privacy rights as a boundary against things or abuse of commoditized data is unlikely to solve the social or collective crisis of corporatized data control.[18]

The corollary of this is that extractive regimes of data as private enclosures will need to make way for a different institutional framework for data's "rematerialization"[19] so that datafied relationalities can (re)produce critical, agentic personhoods for thriving nature-culture-techno ecosystems.

> Claims need to be reimagined as potential posthumanist rights.

Non-Western ontologies provide important points of departure — locating humans as integral to 'environment',[20] and underscoring new visions for conceptualizing human-digital assemblages. They suggest alternative ideas of data materiality where relationality and "belonging" (of part with the whole) rather than "exclusionary rights" (between subject and object)[21] can become the basis of claims. The notion of the data commons — increasingly gaining ground in digital rights theory and activism — has the radical potential for an ecosystem approach to data resources. By situating data within the very same natural-social environment in which humans share space, this approach allows for explorations of collective claims that adhere to shared ethics and norms. It alerts us to the possibilities for posthuman personhood that can bring forth post-anthropocentric, legal-institutional framings of the digital.

As Sarah Keenen observes, "property's governmental power reaches beyond the subject, determining not only what belongs to who, but also who belongs where, and how spaces of belonging will be shaped in the future".[22] Left to itself, data's commoditization is bound to (re) create a disciplinary order that is brutal in its alienation and destruction. In elaborating the ideas of the data subject, therefore, legal-institutional visions must legitimize the claims of marginal subjects, ensuring a place for them in the future. Claims need to be reimagined as potential posthumanist rights.[23]

The institutional aspects of data also need to consider personhood as is constituted in the interplay between human and non-human parts of global intelligent ecosystems. Whether AI, for instance, has consciousness or sentience is the wrong question here. The fact is that, in the digital moment, thinking and embodiment are distributed. They are entangled in structures of power that need to be made known. Daniel Estrada points to how Kiwibots, a start-up offering food delivery through robots — rather than using AI software to control its bots — farms out the control task to low-paid operators in Colombia who use GPS to direct the bot to its destination. Kiwibots provides

an interesting case at the intersection of automation, teleoperation, and the global labor market that challenges the strict dichotomy between humans and machines. In this digital ecosystem, instrumentalizing the robot as 'the slave' would amount to "indirectly treating another human as a slave, with many of the same structures of exploitation and oppression the term invites".[24] The right question for ethical policy, therefore, is — how should robotic/AI agency co-construct social subjectivities?

An institutional framework for AI must recognize overlapping structures of oppression that situate digital things — data pools, databases, networks, AI systems, cameras, internet of things, robots, cloud architectures — as agents of power. Feminist data and AI scholarship is replete with analyses of the subordination and violence implicit in the gendering and racialization of bots.[25] Scholarship also points to the denial of personhood through state control of marginal citizens through real time surveillance.[26] The "social identity" of robots and AI must therefore be available for public inspection.[27] Put differently, posthumanist frames of justice include a morality for the non-human world, opening up intelligence and bodies cohering in the form of automated code to political scrutiny and renewed imaginings.

The claims of local actors resisting the multiple tyrannies of oppression cannot materialize unless the international political economy of development discourse and rule-making are challenged fundamentally. The right to participate as full persons in network-data assemblages is for all individuals and collectivities. It cannot fructify in the current trajectories of corporate-led, imperialist, undemocratic global systems that co-opt and control the digital. Quite ironically, the institutions of international human rights law had discovered the posthuman category when, from the beginning, capitalist interests were combined with human rights, and the corporation deemed a person.[28] The future of rights and justice depends on destabilizing these realities for a transformative "ecological potential".[29] We need collective, decentralized and anti-imperialist imaginaries to govern the network and data that can enable a thriving of diverse posthumanist assemblages.

Place-making — Constructing feminist publics

> *We need to understand the body not as bound to the private or to the self — the western idea of the autonomous individual — but as being linked integrally to material expressions of community and public space. In this sense there is no neat divide between the corporeal and the social; there is instead what has been called a 'social flesh.'*
> — Wendy Harcourt and Arturo Escobar[30]

At the heart of intelligence capitalism is the impulse that produces ever-multiplying differences. A post-feminist valorization of narcissistic individuality feeds the network-data complex with likes, forwards, retweets, and more, individualizing feminism and flattening it into a proliferating, universal hashtag culture of performativity. To be in the network is to model the self on its logic. The feminist subject in the current conjuncture, therefore, emerges as an active, freely choosing, and self-reinventing persona, unaffected by structural constraints.[31]

While the internet revolutionized the creation and construction of community and solidarity, changing the very scale and space of feminist politics, its evolution in intelligence capitalism complicates feminist place-making. It draws the self and subjectivity into a depoliticized space, obliterating socio-structural hierarchies. Algorithmic cultures of platform publics accommodate radical identity-based politics, cannibalizing them into "a market-driven and state-sanctioned governmentality of diversity" that Chandra Talpade Mohanty critiques in her reflections of minority struggles in current neoliberal times.[32] She points to how questions of oppression and exploitation, as systematic, institutionalized processes, have difficulty being heard when neoliberal narratives disallow the salience of collective experience or redefine this experience as a commodity to be consumed.[33]

Tragically, the embodied experience of digitality is as much an embedded product of the structures of oppression and exploitation, including, race, caste, disability/ability, age, gender, sexuality, geography etc., as in previous epochs. Activists and feminist rights organizations have documented the extreme violence that women and people of non-normative gender identities and sexualities face in the design architectures of online publics, geared to encash viral outrage, literally.[34]

The online space of flows privileges certain bodies and narratives, even as it eclipses and sidesteps others incongruous with the demands of its political economy. Attempts to perforate pop culture with feminist strategies are rewarded,[35] and publics adopting playful modes of resistance or meme cultures encouraged. The bodies of women of color — even if legible — are often "relegated to metaphors",[36] while locations of race, gender, class, nation, empire, sexuality acquire a post-intersectional grammar that is unified in various combinations for the market. The contradictions in feminist ontological assumptions are rendered irrelevant.

> How do we call out and resist oppression when its experience is coded into the self-propelling logic of the network space?

For feminist action then, the current posthuman condition presents a persistent tension between critical, radical subjectivity and online communicative publics. How do we call out and resist oppression when its experience is coded into the self-propelling logic of the network space? How can feminist publics, implicated as they are in the material architectures of intelligence capitalism, rescue themselves?

Feminist practice needs a reflexivity that can account for the legibilities coming from the interpretative power of certain types of politics, and the erasures of certain others, both tied to the logics of the network-data complex. This will allow us to discern and politicize less visible feminist practices that are resisting the ravages of capital, demonstrating how community and solidarity in the transnational moment are conceived and enacted in a global frame for a global citizenship.[37] The radical politics of such place-making — embedded (locally/in the

particular) yet connected (translocally/through human-digital assemblages) — share a vision for an alternative democratic global order. These visions seek to make public the systemic basis of oppression, and the multifarious sites of resistance from where women farmers, indigenous women protesting the brutal exploitation of their ecological resources, persecuted women from minority religions laying claims to citizenship, trans and queer women, disabled women, and the new precariat on digital value chains — are collectively asserting their right to be heard.

Therefore, in the context of intelligence capitalism, our interest lies in continuously unpacking how the institutional context of the online communicative arena functions; how communicative publics are reproduced through dominant relationalities (including platform ownership, design, protocols, and governance); how 'individual experiences' may be traced back to the systems that (re)produce them (and vice versa); and how communicative arenas of the digital are themselves in constant interaction with dominant ideologies, and historical structures of oppression, exploitation,

Feminist place-making is not merely about creating the site/s for free play of multiple subjectivities. It is about deploying the public arena in the digital moment as a constitutive element in subjective identification itself.

These resistance narratives tell us what it means to create a place, or indeed, a tapestry of places, that can be part of multiscalar frames of feminist action. The notion and practice of solidarity needs to be recovered from assumptions of universal, templatized, global publics that dilute, discipline, and disarticulate counter-hegemonic knowledges. However, as Mohanty points out, this cannot be to the neglect of the structural.[38] Questions of imperialism and capitalism resurgent in the political economy of the digital are central to how political feminisms of today carve out the material spaces of resistance — online and offline — and can provide a global frame for building solidarity.

cultural norms, legal rules and ruling institutions, all (re)producing one another.

Feminist place-making is not merely about creating the site/s for free play of multiple subjectivities. It is about deploying the public arena in the digital moment as a constitutive element in subjective identification itself.[39]

Emerging through new alliances to decolonize, detabilize, and discover, feminist actions for a new digitality must forge cross-fertilizations that include indigenous and First Nation peoples, environmental and digital rights activists, technologists, anti-globalization forces, and several others.

A brave new feminist digitality

> *The posthuman is not postpolitical. The posthuman condition does not mark the end of political agency, but a recasting of it in the direction of relational ontology.*
> Rosi Braidotti[40]

An emboldened capitalism riding on digital highways and data power confronts twenty-first century feminism. Its instinct for survival and intuition for opportunism have been laid bare in these surreal times of the global Covid pandemic. The personal wealth of the Big Tech monarchs has gone up even as the world registered heightened inequality and hunger.

A recalibration of our politics is not a matter of choice. A new deal must be clinched and the 'informatics of domination' overthrown. Digital and data technologies are not extraneous objects. They are agentic entities in the ecosystems we inhabit — of centralized power, imperialist control, and patriarchal superiority. But they need not be. Revisualizing personhood and reimagining an ethics and politics of connection, community and care, feminism must mobilize action appropriate to emancipatory posthuman futures on an array of fronts.

Who the future of promise belongs to depends on the political-institutional design possibilities that realign the nature-culture-techno present. This task is simultaneously about seeking transformative global norm-making for data and AI, as it is about a (re) socialization of subjectivity. New actions and coalitions will need to be forged along with unlike others not easily legible in the coercive politics of likeness we navigate in our techno-structures.

There is no room for nostalgic humanism. Our sense-making, claims-making and place-making strategies must account for an emergent reflexivity — 'a becoming social' — that can confront the digital devil in the detail.

It is time to ready the feminist arsenal for a humane and just digital epoch.

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ABOUT THE AUTHORS

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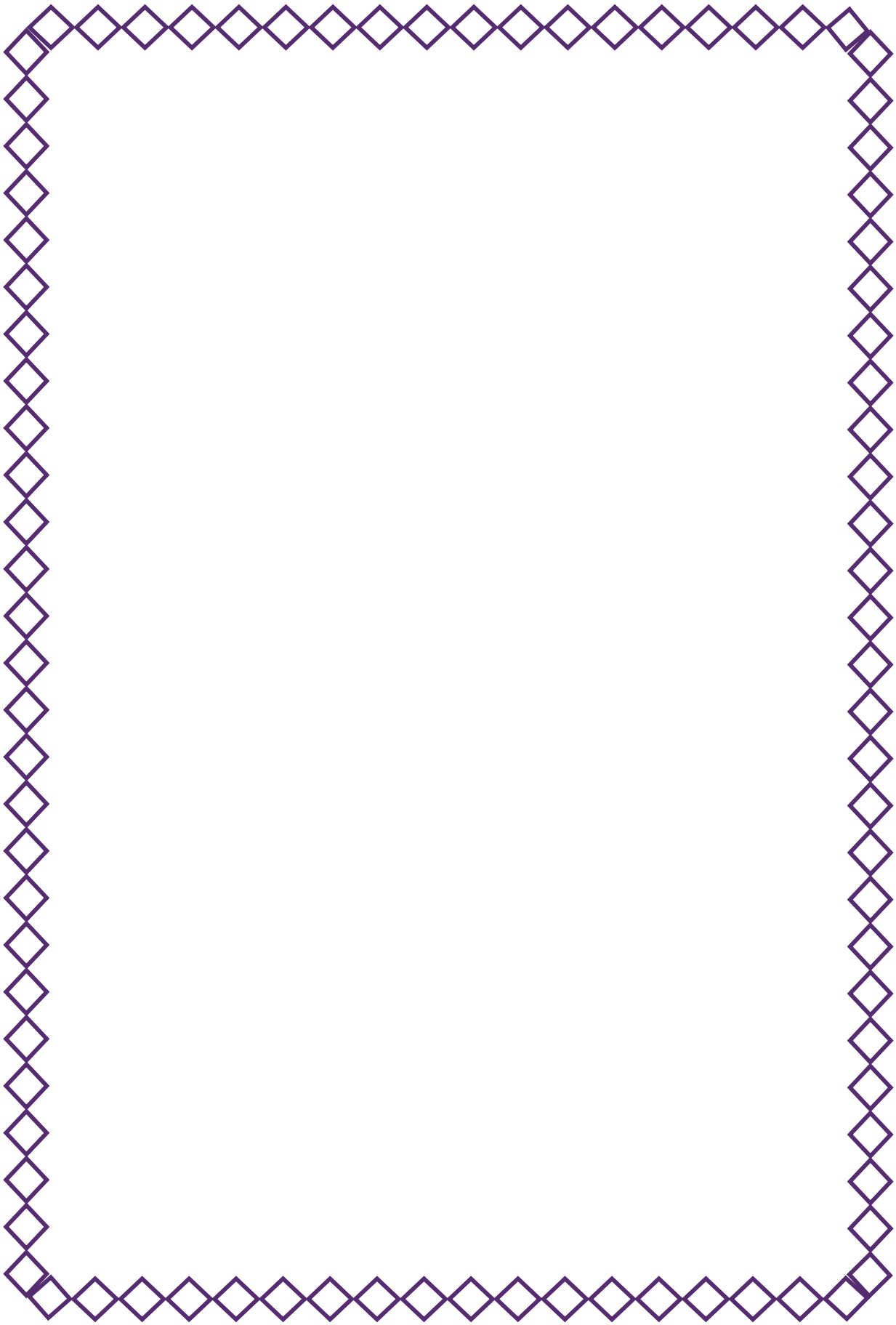
ILLUSTRATION BY MANSI THAKKAR



Conversation with

Maui Hudson

Indigenous Data Sovereignty: Towards an Equitable and Inclusive Digital Future

In the face of a rapidly proliferating digital economy, indigenous communities across the world have for long pointed at the many ramifications that the incursions of the digital have had on their economic and cultural lives. This is best illustrated by the ongoing negotiations between the Māori community and the New Zealand crown, intended to secure rights of sovereignty over data produced by and about the community. Maui Hudson, associate professor at the University of Waikato, is leading the Tikanga in Technology[1] project aimed at exploring Māori approaches to collective privacy, benefit, and governance in a digital environment, with a view to increasing the benefits to the community and reducing data harm.

We spoke to Hudson on the unique problems and challenges that indigenous communities are tackling in the emerging techno-economic landscape and fruitful ways in which indigenous perspectives can be employed to confront the technological transformations of the day. The interview covered a range of crucial subjects — from the inadequacy of current intellectual property regimes, and growing tendencies towards data colonization; to the kind of principles that would constitute an ethical approach to data use, and how indigenous concerns and knowledge systems can be integrated into the vision of a Digital New Deal.

Edited Excerpts

IT for Change (ITfC): Concerns around data colonialism have been front and centre in the digital economy as Big Tech encloses and expropriates value from data resources of individuals and communities. From your work, could you share your thoughts on the new threats that data colonialism poses to the political and economic sovereignty of indigenous communities?

Maui Hudson (MH): The work I have been doing has been grounded in the language of indigenous data sovereignty. The reference to sovereignty is intentional and speaks back to the assumption that open data is the best way to generate value. In reality, open data facilitates the appropriation of data resources, just as physical resources were extracted from indigenous lands by colonial powers. First-world nations have a disproportionate technological capacity to generate value from data. Therefore, the advocacy for open data supports the consolidation of data power and value in large businesses and conglomerates, leading to further marginalization of local communities and exacerbating societal inequities.

> Creating transparency about what data is indigenous data and where it resides is the first step towards supporting greater indigenous participation in the governance of data.

The data that is collected by these conglomerates, in turn, influences the narratives that research creates and has a direct effect on how resources get allocated. Many indigenous communities find themselves in a position where the data collected about them either reflects a deficit mentality that blames communities for the situation in which they find themselves, or they get invisibilized through aggregation into larger groups.

ITfC: How do existing intellectual property regimes (IPRs) impact the claims of indigenous communities over their data resources?

MH: IPRs treat data as property which can be owned by individuals or entities. It creates rights which allow the owners to determine who can and who can't use that property. The ability to apply the rights is time limited and once expired allows that property to become part of the public domain. A number of indigenous knowledge resources don't meet the criteria for IPRs and communities are caught between keeping that knowledge secret or sharing it with community members, thereby exposing it to the public domain. Traditional knowledge, songs, and medicinal techniques cannot be protected using IPRs. But people can use them as source material for the development of products which can attract an IPR.

Similarly, genomic data about indigenous flora and fauna cannot be patented, yet products derived from both traditional knowledge and genomic data can be protected by IPRs.

ITfC: What is the conception of data sovereignty as articulated from the Māori perspective?

MH: Data sovereignty is a cloud computing term which states that data should be subject to the laws of the nation within which it is stored. Indigenous data sovereignty takes an alternative position — It states that data should be subject to the laws of the nation from which it is collected. This is oriented towards increasing indigenous control of indigenous data which can be scaled down to Māori control of Māori data or Tribal control of Tribal data.

In Aotearoa, New Zealand, Māori signed the Treaty of Waitangi with the Crown in 1840. One of the clauses in the Treaty guaranteed Māori "full exclusive and undisturbed possession of their Lands and Estates Forests Fisheries and other properties which they may collectively or individually possess, so long as it is their wish and desire to retain the same in their possession…". The word used to describe other properties in the Māori language is 'taonga' and in recent times Māori and the Crown have begun to talk about data as a taonga. While Māori and the Crown are talking about their relative rights and interests in data, there are definitely different expectations and ideas about where they sit.

ITfC: Some scholars have begun to point to the collective claims of communities over their data, proposing the idea of "community data". Can we imagine data as a common pool resource? Given the de facto control of Big Tech over data resources, how do we move towards this possibility?

MH: Indigenous data sovereignty recognises the collective interests of communities in data as a common resource. Food gathering places and environmental resources are managed as shared resources with protocols in place to ensure their sustainability. Similarly, traditional knowledge is shared within the community for the benefit of the community and represents another common resource.

> **The development of the CARE principles for Indigenous Data Governance provide an avenue for system change.**

The idea of individual ownership, whether that be for land or data, is anathema to indigenous sensibilities. The ethic of individual consent alongside the ethic of open data inevitably leads to the de facto control of Big Tech over data resources. These companies may or may not claim to own the data but, through possession and controlling access to it, exert greater levels of control over data that exists within the community.

The notion that indigenous communities should retain rights in relation to accessing data for governance of their communities, or participating in the governance of data when others access data about their communities, expands the set of interests that have a say over what appropriate use of data resources looks like. This is what indigenous data sovereignty expects of data aggregators.

Creating transparency about what data is indigenous data and where indigenous data resides is the first step towards supporting

greater indigenous participation in the governance of data. This creates more collaborative and participatory forms of governance which brings a diversity of values into deliberations about appropriate data use and equitable approaches to benefit sharing.

ITfC: Given the emphasis of community over individual ownership within Māori community, does the experience with land or natural resources offer historical lessons regarding the legal formulation and institutionalization of the category of community ownership?

MH: One of the challenges with using land and natural resources is that they have all become subject to legal formulation even if ownership is shared across the group. In most cases, it is shared with a subset of the whole and this creates different kinds of tensions. However, data trusts, data commons, and data cooperatives are really examples drawn from other lands or natural resource environments.

generated across the globe, it is apparent that the benefits of these activities have been unfairly distributed. Inequities between the Global North and South and disparities between high-income and low- and middle-income countries have been exacerbated through the protocols and rules established through global frameworks. Changes to existing frameworks are unlikely given the vested interests developed countries have in maintaining their advantage, as well as the level of consensus building required to ratify changes.

Creating transparency at a digital infrastructure level may be the path of least resistance and the recent development of the CARE principles for Indigenous Data Governance provide an avenue for system change. The CARE Principles, which have been endorsed by the Global Indigenous Data Alliance (GIDA), are being promoted by the Research Data Alliance as complementary to the FAIR principles for Scientific Data Management.

> **As digital futures become a part of indigenous realities, there is a greater focus on how data, digital platforms, and cyber infrastructures enhance, rather than diminish, diversity, inclusion, and equity.**

ITfC: What reforms are needed to existing global frameworks (trade, IP, knowledge) so that the sovereign claim of indigenous communities to their data can be protected?

MH: Global frameworks supporting IP and trade have been developed to enhance economic activity. While it may have been successful in terms of overall economic value

The idea that data should be FAIR and CARE, giving equal attention to the characteristics of the data as well as the purposes of its use, is resonating with the socially responsible segments of the data science community.

There are a number of examples where multinational corporations have misappropriated cultural knowledge, icons,

and material to develop or promote products, and they have been called out for doing that. This wasn't on the basis of data sovereignty but an assertion of cultural intellectual property rights (which are captured within the spirit of indigenous data sovereignty). Indigenous data sovereignty is also being used in discussions with the Crown about the appropriateness of offshoring data (using cloud-based services for data storage).

their culture in traditional environments and digital ones too.

Much of the additional value that is being generated in the digital economy arises from aggregation and scale. Aggregation through centralization is one avenue, but structurally this creates an inherent inequity. We have to work out how to allow aggregation without centralization.

> **Indigenous data sovereignty asserts indigenous rights over indigenous data with the aim of bringing indigenous values into digital platforms, indigenous worldviews into digital infrastructures, and indigenous voices into digital economies.**

ITfC: With the vision of inclusion, equity and prosperity for all, what is your vision for a Digital New Deal?

MH: As digital futures become a part of indigenous realities, there is a greater focus on how data, digital platforms, and cyber infrastructures enhance, rather than diminish, diversity, inclusion, and equity. How can digital ecosystems facilitate indigenous cultures and languages to flourish? How should the value generated through digital economies contribute to the wellbeing and prosperity of all communities? How might indigenous artificial intelligence inform decision-making? My vision for a Digital New Deal would see a more equitable and inclusive society that embraces diversity and builds capacity in indigenous communities which allows them to maintain

Infrastructure that supports federalization and provides nested polycentric governance approaches will ensure value can be negotiated and distributed more fairly.

ITfC: How do you envisage the fault lines and the unifying points for the Global South as we enter the next decade?

MH: There are natural boundaries that exist between different communities, whether those be physical, cultural or linguistic. This is an inherent part of diversity, but can create challenges for building consensus and creating unity, especially when there is a need to mobilise against multinational corporations operating in global digital environments. The appropriation of data and concentration of wealth is the obvious outcome of the global system that has been

created. It is also clear that nation states and the international community are not active enough in redistributing wealth to address global inequalities. Indigenous data sovereignty asserts indigenous rights over indigenous data with the aim of bringing indigenous values into digital platforms, indigenous worldviews into digital infrastructures, and indigenous voices into digital economies.

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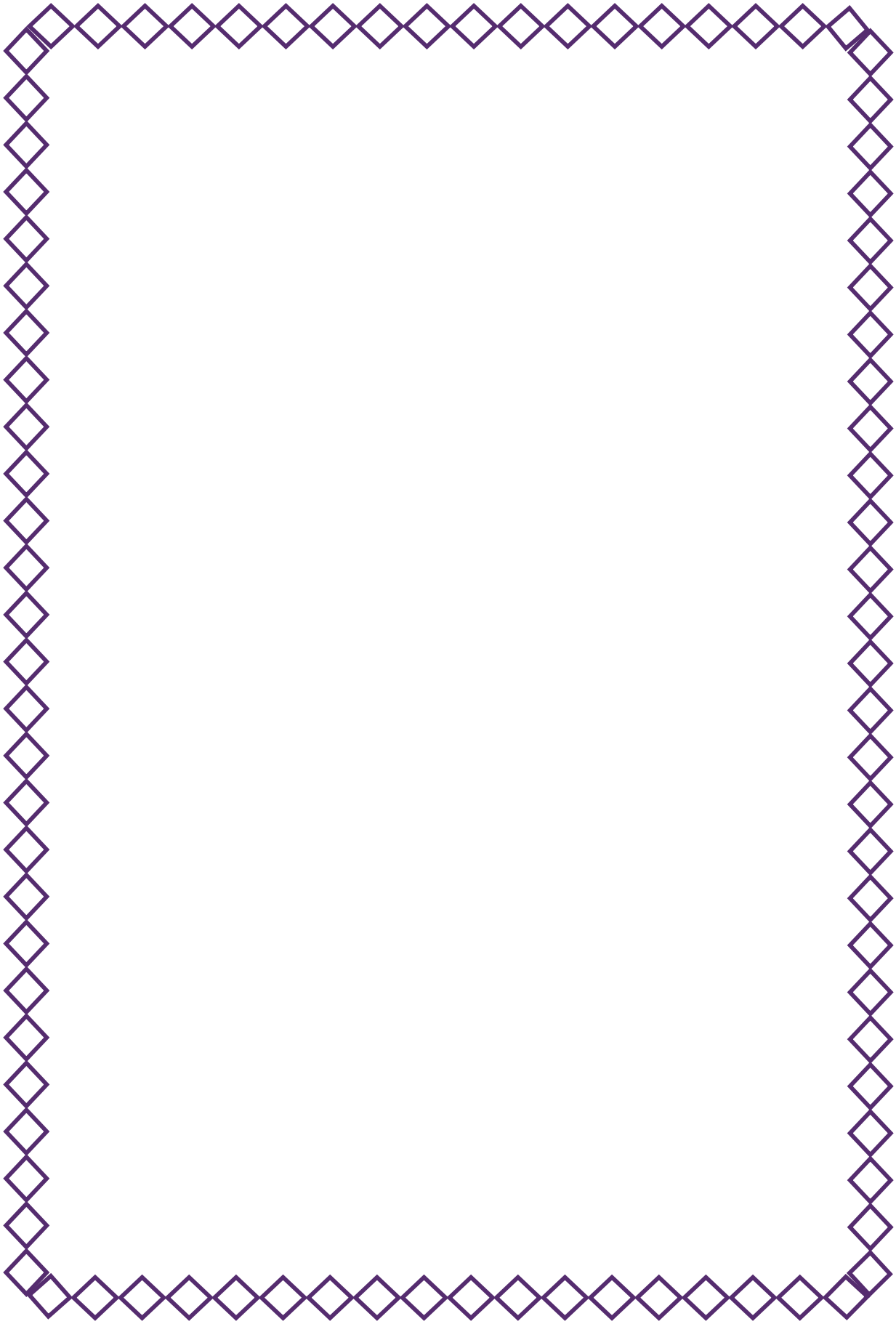
MAUI HUDSON

Maui Hudson affiliates to Whakatohea in Aotearoa New Zealand. He is an Associate Professor and Director of the Te Kotahi Research Institute at the University of Waikato. He was a founding member of Te Mana Raraunga Māori Data Sovereignty Network and the Global Indigenous Data Alliance. He leads a research project on Indigenous approaches to transforming data ecosystems, and is a co-director of Local Contexts, a digital tagging system that embeds provenance and community protocols into the metadata of traditional knowledge and genome sequences.



Azar Causevic & Anasuya Sengupta

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Whose Knowledge Is Online? Practices of Epistemic Justice for a Digital New Deal

The internet, as the primary digital infrastructure for knowledge, exacerbates existing inequities of marginalized communities across the world, even as it promises to be emancipatory and democratic. Through this essay, we offer our understanding of epistemic injustice, and how it manifests online. We also offer possible practices towards epistemic justice that need to be at the heart of any form of a "digital new deal". We first analyze two critical ways in which epistemic injustice manifests online: knowledge infrastructures, and knowledge creation and curation. We then describe our work to challenge these injustices on Wikipedia and through radical community archives, in partnership with the Dalit community from South Asia and the diaspora, the Shoshone and Kumeyaay Native Americans from the United States, and the queer community from Bosnia and Herzegovina. Finally, we offer three core organizing practices to decolonize the digital: centering the leadership of the marginalized and convening unusual and unlikely allies; contextualizing the digital to specific experiences and needs; and countering the hegemony of the "global" through a constellation of translocal imaginations and designs from across marginalized communities. More broadly, this essay argues for the decolonization of digital practices and calls for an urgent (re)imagination and (re)design of technological spaces. This, we contend, can only be done through the leadership and imaginations of marginalized communities, in a process free from material and cognitive exploitation.

Who are we, and why do we fight for epistemic justice online?

We are Azar Causevic and Anasuya Sengupta. We are friends and fellow fighters in the cause of 'epistemic justice': the recognition that not all knowledge systems and communities of knowledge have been treated equally through history, and the practice of challenging these inequities. We believe that at the foundation of many forms of violence in the world today is the violence of "unknowing", that we do not know each other as fully or as well as we should or could. The knowledges of the majority of the world — women, people of color, LGBTIQ+ folks, indigenous communities, and most of the Global South — have been marginalized, undermined, exploited, or ignored by historical and contemporary structures of power and privilege. Nowhere is this more starkly obvious — and simultaneously hidden — than in the digital worlds of the internet. To us, the (re)imaginations and (re)designs of the internet can be truly transformative only by centering the leadership and knowledges of the marginalized: the majority of the world.

Azar Causevic was born in Bosnia and Herzegovina.
Throughout my life, I have been trying to understand war, (transgenerational) trauma, gender, desire, loss, and injustice from personal and community perspectives. In 2011, a group of us started Okvir, an LGBTIQ+ grassroots organization in Sarajevo. We began by building community resilience and queer visibility in post-war Bosnia and Herzegovina, and after seven years of activism and organizing, have been able to put together structured mental health support for our community members. We were also able to build a queer archive to honor the stories and testimonies of LGBTIQ+ survivors of the 1990s Bosnian war as well as queer, feminist and anti-militarist resistance to the war in former Yugoslavia.[1]

Anasuya Sengupta was born in India.
As a woman from a middle class but "upper caste" or "savarna" family, I have struggled to understand, challenge, and transform my own simultaneous positions of oppressor and oppressed, (non)power and (non)privilege. I lived and worked in India till my early 30s, working both locally and internationally in feminist and social justice movements. In the early 2000s, I tried to bring together (unsuccessfully, at the time) feminist communities with free/libre and open source technology (FLOSS) communities. I moved to the United States in 2007, and more recently, to the United Kingdom, where I find myself a "woman of color" coping with my racialized identities and experiences. In 2016, I co-founded Whose Knowledge?, a global, multilingual campaign to center the knowledges of marginalized communities online.[2]

> The (re)imaginations and (re)designs of the internet can be truly transformative only by centering the leadership and knowledges of the marginalized: the majority of the world.

The two of us came together through the work of our organizations, and are now part of a growing community of practice and praxis around the world that works to make public knowledge online, for and from us all. We can only do this by ensuring that the internet's infrastructure, design, architecture, content, and experience are governed and led by the imaginations and expertise of the marginalized majority, grounded in the practice of epistemic justice.

In this essay, we lay out the ways in which we understand epistemic injustice, and how it manifests online. We then offer some practices towards epistemic justice online that we believe need to be at the heart of any form of a "digital new deal".

What is epistemic injustice, and how does it manifest online?

Historical and current structures of power and privilege continue to define what is considered "received" or "accepted" knowledge, who creates it, and how. Institutions and individuals embedded in systems of capitalism, colonization, patriarchy, racism, and LGBTphobia have actively undermined, destroyed, or appropriated the knowledges of much of the world's populations. This has led to severe knowledge or epistemic injustices against marginalized communities even though they are the majority of the world, and the power enabling the internet. Yet the internet, as the primary digital infrastructure for knowledge, further exacerbates these inequities, even as it promises to be emancipatory and democratic.

Historical processes of colonization and imperialism — by western Europe and the United States — have also produced implicit and explicit assumptions of racial and "civilizational" hierarchies. These assumptions have, in turn, informed and justified the expansion of colonial and imperial rule in Asia, Africa, and the Middle East, and the slave trade from these regions into North America and Europe.[3]

Even after the mid-twentieth century, when decolonization movements began across Asia and Africa, as well as among indigenous communities of the world, these assumptions have continued to shape how people of color, including African-American, Native American, and other non-white communities in the US, are treated. Most critically, beyond the facts of whose material resources were and continue to be exploited and extracted, these assumptions have determined whose knowledges and histories are considered worthwhile, and deserving of preservation and amplification. The cognitive consequences of slavery, colonization, and imperialism extend across the world, and often remain unanalyzed and unchallenged.

Miranda Fricker, a feminist philosopher, calls these hierarchies of knowing "epistemic injustice": "[the] wrong done to someone [...] in their capacity as a knower".[4] She makes a distinction between testimonial and hermeneutical injustice. Testimonial injustice "deflate[s] the credibility" of an individual or disbelieves a community — for example, when the police don't believe a black man on the streets. Hermeneutical injustice is a refusal to acknowledge the "social experience" of someone different from you because you disbelieve a concept — for example, a woman who experiences sexual harassment is not believed in a culture that either lacks an understanding of the concept or willfully undermines it.

These forms of testimonial and hermeneutical injustices are particularly stark in public knowledges on the internet. Two critical ways in which knowledge injustice manifests online are: a) knowledge infrastructures, and b) knowledge creation and curation.

Online knowledge infrastructures

The design, architecture, and governance of the internet's "global" platforms and tools rarely include women, people of color, LGBTIQ+ folks, indigenous communities, and those from the Global South (Africa, Asia and the Pacific Islands, Latin America, and the Caribbean). Currently, over 58 percent of the world's population can access the internet.[5] Of those, over 75 percent are from the Global South.[6] More than 45 percent of women across the world are online.[7] And yet, the internet does not look like us, and it is certainly not governed by us: a trans person from a country of the Balkans who speaks four different languages other than English, or a brown woman from India who speaks five languages other than English.

Instead, it is primarily the perspectives of white, cisgender, North American men that dictate how our knowledge infrastructures are created and managed. This includes complex issues of the global digital economy and ecosystem: digital (material, technical, and cognitive) labor, the colonization of data,[8] and e-waste "management" in the Global North that takes the form of "dumping" in the Global South. In essence, the platforms, policies, and protocols that most of us experience as the "internet" are created for and decided by the "local" context of the United States, making this "local" the largely unquestioned "global" of the rest of the world.
Facebook, for instance, is notorious for its role in spreading hate speech on the internet, often driven by its lack of awareness of non-US contexts and utter disregard for criticism emanating from there. The United Nations, for instance, has strongly condemned Facebook's role in the Rohingya genocide in Myanmar, where the social media platform did not have a team on the ground, let alone one with expertise in the local languages. This, years after activists have been warning about the unfolding crisis.[9]

> **The inability of marginalized communities to create knowledge in their own languages on the internet reinforces and deepens existing offline inequalities.**

Twitter tries to do better on hate speech, for instance, through a "fact check" feature that determines whether indigenous communities are appropriately addressed, but its curation style guide only describes populations in the US, Canada, and Australia,[10] ignoring the 370 million indigenous peoples across 70 countries.[11] So-called "artificial intelligence" or machine learning platforms, fed by datasets that are primarily based on white men, notoriously replicate systemic biases.[12] With the majority of the world excluded from knowledge infrastructures, such instances will continue to exist and proliferate.

Another aspect of digital infrastructures that is often ignored or underanalyzed is that of

language. The internet we have today is not multilingual or multiform enough to reflect the full depth and breadth of humanity. The inability of marginalized communities to create knowledge in their own languages on the internet reinforces and deepens existing offline inequalities. Language is a proxy for knowledge; the fewer the languages in which online public knowledge is available, the more restricted our access to the full range and multiple forms of human knowledge.

Knowledge content and curation online

Like knowledge infrastructures, public online knowledge is skewed as well, because the majority of those who use the internet do not produce the content on it. Take for instance, the world's foremost source of free public online knowledge, Wikipedia. Only 20 percent of the world (primarily white male editors from North America and Europe) edits 80 percent of its content,[19] and only 1 in 10 editors is female.[20] The result is that there are more articles online about Antarctica than most countries in Africa.[21] Besides, Wikipedia's citation policies require as references secondary sources like books, peer reviewed journal articles, and other forms of physical and digital publishing that have the inherent biases of language and location we have already described.[22]

Language is a proxy for knowledge; the fewer the languages in which online public knowledge is available, the more restricted our access to the full range and multiple forms of human knowledge.

Besides, the majority of public knowledge online is textual, in English, and created or curated by a select few. A few years ago, Google estimated that the nearly 130 million books published in modern history are in only 480 languages, a tiny fraction of the over 7,000 languages of the world.[13] Most of the world's languages are similarly missing from the internet.[14] Of the languages represented, English dominates general online content, accounting for 60 percent of the world's top 10 million known websites.[15] Most scholarly (including digitally accessed) publications are in English: this includes approximately 80 percent of all scientific journals[16] and 90 percent of all social science journals indexed on Scopus and JSTOR.[17] And while the internet has the potential to represent multiple forms of knowledge — multimedia, oral, visual, tactile, and embodied, which constitute most of the collective body of human knowledge[18] — these forms are missing from its archives.

These inequities also extend to visual knowledge. Wikipedia is again a good proxy to explain why women remain invisible in online spaces. Less than one-fourth of Wikipedia biographies are about women. Such biographies either do not exist or are incomplete. Black, brown, indigenous, and queer women are more likely to be missing and their knowledges underrepresented or deleted due to Wikipedia's current policies.[23] When they do exist, women's biographies are unlikely to carry their faces. We estimate (based on a forthcoming study) that less than

20 percent of Wikipedia articles on women have pictures. And when women's faces are missing from Wikipedia, their invisibility becomes more entrenched.

Half a billion people read Wikipedia every month.[24] It is among the top 20 most visited websites in the world,[25] and the largest free and openly available information base for many other websites, including Google's search engine and its knowledge graph.[26] Content gaps on Wikipedia thus have a significantly amplified impact on the broader internet. When we look for our childhood inspirations on the internet, we are more likely to find detailed articles on *The Simpsons'* TV show rather than any information on Lepa Mlađenović, the Serbian lesbian feminist, or *We Also Made History*, the first book detailing women's participation in India's Dalit movement. As part of our archival work, we had to write these articles so they could "exist" on Wikipedia and be known more broadly on the internet, and in the world.

Where do we go from here? Practices of epistemic justice

> *"Our encounters with mainstream knowledge production must be placed in this historical context. We remember that Dalits and other caste-oppressed people were not allowed access to reading, writing, or learning for millennia."*
> — Maari Zwick-Maitreyi, Dalit scholar and activist[27]

> *"[The] scientific knowledge [of indigenous peoples] was designated as 'folklore' and our cosmology relegated to the category of 'myth'. Our great literatures in the form of dances, songs, and oral histories became and continue to be cultural artifacts easily commodified and appropriated."*
> — Persephone Lewis, professor of tribal practice (University of San Diego), from the Yomba Band of Shoshone Indians

What we have learned through years of working at the intersections of feminist, queer, social justice, art, and technology movements, is that power and privilege are truly confronted and transformed in *practice*. So our work has been about practicing new ways of navigating and understanding knowledge and the digital, for ourselves and our communities. Three critical aspects of this work are: a) the ways we think and act around the politics and hierarchies of knowledge; b) the politics and hierarchies, even more specifically, of history; and c) how this helps us (re)imagine and (re)design the digital for very different (digital) futures.

Science and technology aren't the exclusive provenance of 18th century Enlightenment, or contemporary scholars and researchers of Europe or North America. Throughout history, the knowledges of marginalized peoples have been actively destroyed and undermined by structures of power and privilege. For example, some indigenous knowledge systems were regarded as primitive, pagan, and heathenish, while others were systematically relegated as non-knowledge.[28] These power relations continue to imbue present-day knowledge production.

But what happens when we start understanding the folklore and myths of indigenous and other marginalized peoples as different ways of expressing scientific and other knowledge in their contexts? What happens when we collect "ourstories" from communities whose existence was perennially negated?

Politics and hierarchies of knowledge

When we first started Whose Knowledge? in 2016, and began challenging the politics and hierarchies of knowledge, we started with Wikipedia. We were Wikipedia editors ourselves, and understood the urgency of making the world's largest online encyclopedia truly representative of the worlds we inhabit. Even though we couldn't shift and change the form of the encyclopedic entry, we wanted to make sure that communities like the Dalits from South Asia and the diaspora, or the Shoshone and Kumeyaay Indians from the United States, were not forgotten and marginalized many times over in the digital knowledge commons. This was particularly important to Anasuya, as a "savarna" Indian who bears responsibility for her caste communities who have inhabited and gained from an oppressive caste system for millennia. I also found an intriguing emotional and political connection with my Native American friends whose lands had been brutally colonized by Europeans in search of my own; the colonizers found us both, and our histories and experiences of colonization resonate even while they are different.

> What happens when we collect "ourstories" from communities whose existence was perennially negated?

The Dalits are the community of over 250 million people from South Asia and the diaspora who were formerly and pejoratively called "untouchables". The "upper caste" or "savarna" communities of the caste system considered them fit only for manual scavenging and the handling of corpses — practices which continue to this day. As Maari Zwick-Maitreyi reminds us, Dalits have been systematically denied access to spaces and tools of education and knowledge. When we began collaborating with our partners, the Dalit feminist group Equality Labs,[29] they had already been working on retelling South Asian history from the perspectives of Dalit Bahujan communities,[30] through the radical community project, Dalit History Month.[31] We used this as a foundation to map the Dalit Bahujan knowledge we wanted to bring online, including to Wikipedia. This enabled our Dalit friends and scholars determine the knowledge they wanted to archive. Since 2017, they've created a huge swathe of new and modified content[32] through editathons we've helped them organize: over 100 editors modifying 270 articles and creating 30 new ones.

Yet, soon after they began their work, a Wikipedia editor of Indian origin began to systematically reverse these efforts, by removing significant sections of edits and additions, and flagging other edits as inappropriate. To this day, Dalit editors and their articles continue to face significant backlash and reversions on Wikipedia. The biographical article about the Dalit South Asian icon, Dr. BR Ambedkar (known for being the architect of India's constitution, among many other things), is periodically vandalized. We've been building an ally network to push back against these trolls, but the process is slow, painful, and retraumatizing for a community of activists and scholars challenging overlapping forms of power. This is especially so in the current moment in India, governed by a Hindu fascist state that is systematically destroying and undermining all knowledges and histories

that don't uphold a monocultural "Vedic" narrative.

These extraordinary forms of brutalizing marginalized communities and their knowledges resonate with the experience of the Kumeyaay Nation and Yomba Band of Shoshone Indians who we work with in the United States. During conversations with the Kumeyaay elders on bringing their knowledges online, we were reminded that, until very recently, it was illegal to practice Native American cultures and beliefs in the US. It was only in 1978 — within living memory and existence of most of their generation — that the American Indian Religious Freedom Act allowed them to share their knowledges publicly. The elders also reminded us that for many indigenous peoples across the world, sacred knowledge is not meant to be shared openly. Over time, the scientific knowledge of these communities, as Persephone Lewis tells us, became "reduced" to myth and story, their cultures and practices exploited and commodified.

These politics and hierarchies continue to be exemplified in the marginalization of Native Americans in the present-day US. When we first began editing Wikipedia together, Kumeyaay scholar Michael Mishkwish Connolly did not begin with Kumeyaay astronomy and agriculture (on which he is an expert). Instead, he began with editing a Wikipedia article on the Californian Gold Rush,[33] which at the time, only made a passing reference to the impact of the Gold Rush on Native American populations. Where it did mention them, the accompanying illustration was of a Native American "savage" shooting arrows at "hapless" white settlers. Today, that section of the article is far more substantial, recounting the genocide perpetrated on the native populations by the settlers, with a historically accurate illustration of a group of settlers pointing their guns at Native Americans. Lewis, who is professor of tribal practice at the University of San Diego, has been working with her students to mark and honor these many facets of Native American knowledge and history, and bring them online through Wikipedia.

For both Dalit and Native American people, challenging the politics and hierarchies of digital knowledge is not an intellectual effort: it is the essence of their own self-respect, self-determination, and dignity as communities. It is emotional, cultural, economic, and deeply political. It is a practice of epistemic resistance and revolution.

Politics and hierarchies of history/ ourstory

As part of Okvir's Queer Archive project, in collaboration with Whose Knowledge?, we collected "ourstories" from our community of LGBTIQ+ activists in Bosnia and Herzegovina (BiH) who had survived the Bosnian war (1992-1995). Up until then, war narratives had been monopolized and monetized by political ethnonational elites or "eligible" victims and survivors, and did not include the experiences of queer feminist activists or our anti-military comrades. There were no recorded accounts of queer people in the diaspora, in concentration camps, or hiding in basements, queer sons and daughters of those who fought against each other, queers who refused to shoot, queers who didn't belong to any of the ethnic categories, queers who died, and so on. *Our*story was crowded out and invisibilized by the male, heterosexist, ethnonationalist *his*tory of the war.

The interconnections between "war", "LGBT", "queer", "security", "gender", "sexuality", "resistance", "ethnicity" have historically been ignored in BiH. These concepts have been given meaning only by those in power. As we mourned each victim, we understood that history and justice didn't include us, that we were not recognized as legitimate to claim justice in the first place. Following years of community conversations, we decided to start by archiving "ourstories" from the painful period of the Bosnian war, even as we understood that our existence goes beyond the former Yugoslavia and its disintegration, and further back into the past. We needed to trace part of our roots at the intersections between three different, but as it turned out, deeply connected movements in the region: feminist, anti-militarist, and early LGBT activism.

In a discussion during our early work on Queer Archive, one of us asked aloud: "Who are my (queer antifascist) people? Yes, we did have the Antifascist Front of Women during WWII, but were queers there? I need to find out who my people are and what they did during this war that we remember. Did they resist? How did they survive?" So many powers have conquered Bosnia and Herzegovina throughout history, so many wars have been fought on its land, and there is such a strong antifascist legacy. Yet, there are no documented traces of queer existence in recorded history. It is as though we did not exist. The question 'who are my people' haunted us. This blindspot in collective memory left us feeling dislocated as a political community, and this was a gap we urgently needed to fill.

In October 2016, we started documenting the work and survival stories of our community's pioneers for the archive.

In subsequent years, this initiative has anchored the queer community in BiH, giving us a sense of continuity in our own struggles, and a reason to celebrate. Being able to look back at the past with pride and a sense of belonging is vital in the context of BiH where belonging and pride have normally been reserved for the majority who claim the entirety of history, and exclude those opposed to violence, division, and profit. The anti-military queer women who worked on rape trauma with survivors, the queer people who initiated the first queer organization, or the gay men who, to this day, work on preserving the antifascist legacy are the foundations of our archive.

(Re)imaginations and (re) designs of the digital

> *"If we taught histories along with technologies, we would be able to bring the genius of human collaboration and problem solving back into technological spaces [...] Are we linking technology to processes of extraction in the interests of the elite, or are we prepared to rethink technology from the ground up, rather than naively recirculate the forms of technology given to us?"*
> — Kavita Philip, professor of history and feminist science and technology studies, University of California, Irvine

The decolonization of digital practices calls for an urgent (re)imagination and (re)design of technological spaces, with the leadership of marginalized communities, through a process free from exploitation. This needs a deeply feminist, human, and humane politics and practice — the commitment to address deep inequities, and affirm, acknowledge, share, and redistribute knowledge without extraction and exploitation. From the perspective of marginalized communities,

this needs critical and radical creativity and adaptability, and the courage to speak many truths to many powers, while documenting and centering our own heritage, histories, ancestors, and pioneers.

This work must simultaneously challenge the entrenched political economies of knowledge that exist both in the physical and digital, material and cognitive, economies of the local and global. We need to see the interconnectedness of cognitive and material labor, and honor the bodies, minds, and spirits of marginalized communities. We can only imagine (digital) futures through acknowledging our pasts and presents.

and unlikely allies who will help us dream of and act upon visions of a feminist and decolonized internet. Our Decolonizing the Internet conference in Cape Town in 2018, and the Decolonizing the Internet's Languages convention in 2019, brought together community activists and scholars, technologists, archivists, librarians, open knowledge advocates, and many others, to think through ways to transform our digital presents and futures. Over 60 percent of our groups comprised women or trans/non-binary folks, over 60 percent were from the Global South, and more than 70 percent were people of color. Centering marginalized communities and their expertise meant that

> **We need to, once and for all, break the myth of the "global" internet that is primarily designed and controlled from Silicon Valley, California.**

Three core organizing practices will help us in this process: a) centering the leadership of the marginalized and convening unusual and unlikely allies; b) contextualizing the digital to specific experiences and needs; and c) countering the hegemony of the "global" that comes from a very specific local Silicon Valley perspective, through a constellation of translocal imaginations and designs from across marginalized communities.

Center the margins and convene unusual and unlikely allies

The many inequities of the digital that we currently live with will not be overcome and transformed by those who created them. At Whose Knowledge?, in partnership with many movements, organizations, communities, and individuals across the world, we have begun convening unusual

the conversations and agendas for action were radically different from those of a homogenous group of California-based or focused technologists.[34]

Contextualize, contextualize, contextualize

Our systems of knowledge, our languages, our socio-political and economic contexts are rarely understood, or centered in, current digital designs of the internet. But there can be no digital new deal without a deep, meaningful, and intentional understanding of different and specific contexts and experiences.

In creating Queer Archive, we found that platforms for archive building are rarely contextualized and localized in different languages. Most of them are dependent

on unpaid, unacknowledged, volunteer community work for their localization and translation. For instance, Omeka, a popular open source, web-publishing platform for sharing digital collections in BiH is not yet translated to Bosnian, Croatian, or Serbian. Simply cross-referencing and combining metadata in English and our local languages requires additional labor, let alone creating metadata "classifications" and systems that apply to our contexts. The internet abounds in these forms of disembedded, decontextualized design and knowledge infrastructures.

Counter the "global" hegemony of Silicon Valley through a constellation of translocal imaginations and designs

We need to, once and for all, break the myth of the "global" internet that is primarily designed and controlled from Silicon Valley, California. We each access and experience the internet not in a singular form, but in multiple ways. Yet, this homogenizing narrative is entrenched in digital infrastructures, content, and governance, as we have pointed out throughout this essay.

We need to counter this hegemony through a constellation of translocal imaginations and designs that also include our friends from marginalized communities of California, and that will make our digital futures what we want, need, desire, and imagine. Both of us have spent the last few years connecting this constellation of communities through our own work, and that of our friends. Only through these powerful translocal connections, can we move towards epistemic justice online and (re)affirm that "our knowledges are urgent. They are practical. They are creative, colourful and collective. They are plural [...] Our knowledges are transformative. They are hope."[35]

NOTES

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ABOUT THE AUTHORS

Azar Causevic was born in Bosnia and Herzegovina. Gender-in-process queer, pronoun they. Queer feminist activist. Community organizer and one of the core team members of the LGBTIQ+ association Okvir and the Queer Archive project. Devoted to sustainable LGBTIQ+ community building in BiH with respect to all aspects of security and safety. Passionate about queer spaces of love, memory, and resistance. Engaged in video, graphics and sound production, and design. Peer counselor. IT explorer. Poetry and psychoanalysis lover.

Anasuya Sengupta is co-director and co-founder of Whose Knowledge?, a global multilingual campaign to center the knowledges of marginalized communities (the majority of the world) online. She has led initiatives in India and the USA, across the Global South, and internationally for over 25 years, to amplify marginalized voices in virtual and physical worlds. She received a 2018 Internet and Society award from the Oxford Internet Institute, and is on the Scholars' Council for UCLA's Center for Critical Internet Inquiry. When not rabble-rousing online, Anasuya makes and breaks pots and poems, takes long walks by the water and in the forest, and contorts herself into yoga poses.

ILLUSTRATION BY DENIZ ERKLI

Conversation with

Richard Kozul-Wright

How the Global South Can Rise to the Challenge of a Digital New Deal

The fault lines in the global economic order, exposed once again by the pandemic, is an opportune moment for long-standing advocates of transformative change to put forth new agendas for the post-Covid world. Structural challenges posed by a globally uneven playing field, and upheld by discriminatory trade policies, unidirectional flows of labor and data, and differential levels of environmental and human degradation experienced by the Global South, require an overhaul of international systems and call for a reconfiguration of domestic priorities.

Taking cognizance of this, Richard Kozul-Wright, along with University of Boston's Kevin Gallagher, put forth the 'Geneva Principles for a Global Green New Deal'[1] which envision a global realignment of development goals, conferring autonomy to states, encouraging productive spending, and accounting for climate realities.

We spoke with Richard Kozul-Wright, director of the division on globalization and development strategies at the United Nations Conference on Trade and Development (UNCTAD), about whether and how these principles can be rearticulated and reconfigured to inform a progressive and egalitarian agenda for rapidly digitalizing economies. How can we govern data, the digital, and network technologies differently? How can we forge a democratic future for digital trade? What institutional arrangements are needed for redistributive justice in a rapidly digitalizing world? And above all, how can we rise to the challenge of a Digital New Deal?

Edited Excerpts

IT for Change (ITfC): The Covid-19 pandemic has given a boost to the digitalization of economies. Across the world, we are witnessing the expansion of digital servicification and a rise in forays by US and Chinese Big Tech corporations into foreign markets. In your view, what is worrisome about this trend and what are some of the risks we should be looking out for?

Richard Kozul-Wright (RKW): Clearly, access to the digital economy has helped during the pandemic by keeping information flowing, by keeping spending going through digital payment platforms and financial technology services, and by keeping classrooms going through online education and e-learning. But there are some real worries, three in particular, that we have to pay attention to. First, these gains are obviously limited by the digital divide, both within and between countries. It seems almost certain that the emphasis on the use of and access to digital technologies during the pandemic will further exacerbate existing inequalities. In that sense, greater digital servicification will lead to further divisions. So that exaggeration of the digital divide is the first concern. The second is that the digital economy, at least as we see it, is a rent-based economy where the 'winner takes most', if not all. In the absence of the right kind of regulations, digital servicification will almost certainly lead to higher concentration of rents in the hands of a few big digital platforms, mainly from the US and China, that already have a clear lead in that respect. This is an obvious concern. Beyond the issue of differential access to technology, the increased income inequality that's likely to be generated, will further political and social divisions. The third concern is related to the first two. The digital economy is based on access to data and, as a consequence of the pandemic, more data is being collected and processed by the platforms. This data is also, for all practical purposes, owned by these platforms. Most developing countries, at this moment in time, don't have the legislatory or the physical infrastructure to be able to strengthen data sovereignty. This will pose further challenges for developing countries as the first-mover advantage becomes more and more entrenched, and the challenge around access to and ownership of data becomes more and more problematic.

> Greater digital servicification will lead to further divisions, and the exaggeration of the digital divide during the pandemic is a major concern.

ITfC: What are your thoughts on how the current multilateral trade regime is contributing to some of these problems that you mentioned?

RKW: We at UNCTAD are worried about the way in which the rules of the global economy in general, including in the trading system, are rigged in favor of certain vested interests. That's the background against which we look at these problems. In the

particular context of the digital economy, the World Trade Organization (WTO) has an existing work program on e-commerce — to have discussions on e-commerce rules, allow countries to understand what these rules can do, and how those rules might impact development processes in particular. At the same time, the Doha Development Agenda, which has not as yet ended, is being squeezed out of the discussion by attempts to shift rule-making to newer issues, including those related to the digital era. This is coming at a time when the WTO itself, as an institution, has lost a lot of trust, particularly from its development partners. That's a real concern for us in the particular context of wider discussions of reform of the WTO. Any reforms at this time should not come at the cost of the Doha Development Agenda. That round needs to be concluded before any new issues are put on the negotiating table, including rules involving the governance of the digital economy.

context. On top of that, the big digital platforms are not only financially very powerful, but also politically very powerful. They have the political and financial clout to put pressure on governments to rig the digital rules, in exactly the same way that other powerful corporations have been able to rig the rules in other parts of the trade system. Now is not the appropriate time to try and force rule-making on digital issues, both for the developing countries as well as the WTO itself, which is going through a very difficult moment.

ITfC: As you mentioned, it's quite apparent to outside observers as well that the multilateral rule of law and global trade systems are in crisis for a variety of reasons. In the digital governance context, this has meant a pervasive influence of multistakeholderism which has often undermined public interest because of corporations arguing for an equal seat

> **The challenge ahead is to reinvigorate the state and to get back towards a multilateral system in which the state, rather than private sector interests, sets the goals that define the common good.**

We are worried that the current way in which the WTO is operating will work to the advantage of the digital giants and against developing countries which lack the digital infrastructure necessary to be able to benefit from these new technologies. Digital rules at this moment in time, to borrow a slightly outdated metaphor, at least technologically speaking, would be putting the cart before the horse. We don't think that's very appropriate in the current

at the table. Given the urgency to create norms for future digital economies — making digital transnational corporations (TNCs) accountable and deciding new rules on digital taxation and tariffs — we need global governance frameworks to challenge the current unequal order. How can we reinvent governance of digital TNCs within the current system?

RKW: I am not sure multistakeholderism adequately describes the evolution of global governance intention. We see this much more as a neo-capitalist world in which the interests of large corporations in developed economies are being advanced in cahoots with their own states in a way which resembles mercantilism. That poses challenges for developing countries who have much weaker states and firms than is the case for advanced economies.

The one thing that Covid-19 has obviously done is to highlight the pivotal role of the state and the public notion of economic interest. That's clear in the context of the global health pandemic, but it is also true of other aspects of public goods and socio-economic rights. The challenge ahead is to reinvigorate the state and to get back towards a multilateral system in which the state, rather than private sector interests, sets the goals that define the common good. That's the big challenge. This is very difficult given the way in which the rules of the system have been redesigned over the last 40 years to pander to private interests. The nature of the challenge goes back to the lack of trust in the system. And this lack of trust is reflected in the way in which the forces of the political economy are playing out, in particular, along digital lines.

One of the things that will be important to challenge coming out of the current crisis is the narrative, that is already being heard, of rapidly reglobalising the system in response to the pandemic, using the pandemic as a kind of bait-and-switch. The crisis is being used to say that what we need is an international solution to this problem (which we all agree is the case). However, the bait, in the form of access to international technologies and the necessary goods and services during the pandemic, is quickly being switched into code for extending the rules of the digital economy which favor existing vested interests.

> **Developing countries haven't yet found the positive agenda that is necessary to build the policy space they need.**

Resistance to this kind of bait-and-switch by developing countries and civil society organizations is the necessary first step. The more difficult challenge is whether on the back of the pandemic, on the back of the recognition that the state matters even more in protecting lives and livelihoods, the existing rules of the game — currently heavily stacked in favor of certain interests — can be rewritten to bring about the elements of social and economic justice that are clearly missing from the system. Developing countries are still very much in resistance mode. They haven't yet found the positive agenda that is necessary to build the policy space they need, not only in the context of the digital economy but across a series of economic activities. They need that space if they're going to recover from this crisis in a better way than they did ten years ago, and to build the kind of resilience — economic, social, and medical — that everyone is talking about as a necessary forward step out of the pandemic. That's where the challenge lies right now.

ITfC: Typically, the governance challenge is so difficult because it demands that we come

up with a vision of the kind of world we want to build. At the beginning of the pandemic, in April, you had published an article in *The Tribune*[2] where you spoke about the five strategic goals for a Global Green New Deal. In your view, what may be the normative principles for a Digital New Deal that is also cognizant of the looming ecological crisis?

RKW: This was part of some work we were doing jointly with the Boston University to develop a general set of principles that we think are necessary to revive the multilateral system across a whole swathe of areas of economic life, and not just the trading system, where the rules and norms have been diverted by neoliberalism and the rise of unchecked corporate power. It's a problem with respect to finance, intellectual property, and so on across that system.

strategic goals. They're very general in nature, but they apply as much to the digital economy, or the evolving digital economy, as they do to the analog economy. The goal should not be liberalization, privatization, deregulation — these may or may not be useful instruments to achieve the larger goals of environmental sustainability and shared prosperity. Rather, we need to ensure that the basic principles around which we structure our aims and policies are such that the instruments don't pre-empt or distort the overriding goal, but are calibrated to deliver those goals.

Obviously, common but differentiated responsibility in any multilateral context remains a basic principle for us, particularly where global public goods and the global commons are concerned.

> **Policy space should be extended to allow for the pursuit of national development strategies in line with a country's particular capabilities and historical legacies.**

It's not a system that's capable, despite all the talk, of delivering fairer outcomes. It doesn't produce the kind of caring economy that can protect the most vulnerable populations and promote a wider sense of economic rights. It doesn't lead to a kind of participatory politics that can counteract the capture of policymaking by powerful interest groups. Ultimately, that's the biggest concern. What is currently offered doesn't lend itself to a sustainable future in which the environment is not being constantly ravaged and defiled for narrow private interests. The idea behind our work was the need for a different set of principles on which to deliver these kinds of broad

That notion applies, in particular, to the digital economy through the commitment to special and differential treatment in trading rules. Policy space — within the interdependent world we inhabit — should be extended to allow for the pursuit of national development strategies in line with a country's particular capabilities and historical legacies. This has to be central to any kind of global rules. The need for proper participation on equal terms, accountability, and full membership in the process of designing multilateral rules systems has to be central. These are among the set of principles we have tried to outline and that we think have a broad resonance

when it comes to the design of any sort of international interaction across states. The necessity of these principles is even more true for the digital economy where the dangers of corporate capture, rent seeking, polarization are arguably more intense than many other areas of economic life. Trying to take those general principles and applying them to the specifics of the digital economy is a challenge, and should be a necessary part of a Digital New Deal that we are trying to articulate for a more sustainable and inclusive multilateral system.

ITfC: How do you think countries in the Global South could forge their pathways to development in the digital economic order? There is a dual challenge here: to not replicate the growth model of neoliberalism which is predicated on data extractivism and to not be reduced to mere data mines for companies of the Global North.

context is the necessary first step.

One thing that developing countries shouldn't be shy of is pointing out continuously that the lead of the advanced economies themselves, despite their rhetoric, is because of their use of industrial policy in this area, often linked to the military-industrial complex. The endless use of subsidies, financial support, tariffs to build up assets and capabilities in the area is what advanced economies have been doing over the course of the last 50 years or more to gain this dominant position. Thinking in industrial policy terms is critical for the Global South to get a handle on this challenge. This speaks to the need to rethink the rules of the international trading system that has done its utmost to prevent active industrial policy from being part of the toolkit for developing countries over the last 20-30 years.

> **Developing countries shouldn't be shy of pointing out continuously that the lead of the advanced economies is because of their use of industrial policy, often linked to the military-industrial complex.**

RKW: This is very much an industrial policy challenge. The digital is the latest wave of industrial 'progress'. It's the newest path towards the industrial frontier. The challenges can only be met with active policy engagement by governments. It can't be left to markets for all kinds of reasons including inherent problems of the digital economies — scale economies, externalities, asymmetries — that are hardwired into these activities. These have to be addressed by governments. Thinking about industrial policy in this digital

Certainly, when advanced economies talk about WTO reform, as they are doing now, they are thinking about ways to make it all the more difficult for developing countries to use the kinds of policy tools that they themselves used to build up capacity in this area. That's the first set of challenges that developing countries need to focus on.

We also, in the work that we have done, have tried to outline a kind of digital cooperation agenda, particularly at the regional level,

for developing countries. There are a lot of opportunities in the digital context for building regional alliances and strengthening regional integration, whether it's about building data economy, cloud computing infrastructure, broadband infrastructure, promoting e-commerce, use of regional digital payments — there are a lot of areas that make up the digital economy that lend themselves to a much stronger regional agenda. We have tried to articulate a kind of progressive digital cooperation agenda for developing countries. That's an important way to go, all the more so as one suspects that regionalism will become more important coming out of this pandemic. All the talk about shortening value chains, for example, needs to take hold amongst developing countries too. That's another important area.

> Development finance has a critical role in the industrial policy agenda.

The last one, in context of particularly South-South cooperation, is learning from success stories. There are success stories in the developing world. The obvious one is China (though it's not the only one). We do have a Belt-and-Road platform at UNCTAD, where we want to try and disseminate lessons from the Chinese experience that other developing countries could usefully tap into when thinking about their own structural transformation challenge. This includes, of course, the digital economy where China has emerged as a major digital player in the course of 20-25 years. So that sharing of experiences among countries of the South, for example, countries that have been able to develop legislation on data sovereignty, is also a necessary part of the kind of strategic thinking that developing countries are going to need if they are going to benefit from what is potentially a very transformative technology but also a technology that could leave them even further behind if they don't develop the right policy tools to harness it.

ITfC: The development finance for building the critical digital and data public infrastructures needed by developing countries is often a challenge. In your view, what is not right with the development financing in the digital sector today? How can this change? How can development finance rise to the challenge of the Digital New Deal?

RKW: That's another key question. When we think about industrial policy, it's not just technology issues that are at play. Development finance has a critical role in the industrial policy agenda. At UNCTAD, we have for a long time criticized the way in which footloose capital and the deregulation of financial markets along with the narrowing of central bank agendas, have distorted the financing of the development agenda and moved it away from thinking about how finance contributes to structural transformation to thinking about how you can boost stock markets and other types of short-term, often highly speculative, asset classes. That, unfortunately, remains the agenda. This is what the World Bank calls the 'maximizing finance agenda' that uses public funds to incentivize private investors, and this remains a dominant and highly distortionary feature of the international financial system. That's a general problem that needs to be tackled, not only for the digital economy but for many other traditional economic activities where the Global South needs to build capacities.

We need a much more regulated financial system, both at the national and international levels. In that context, we have always insisted on the critical role of development banks — both national, regional, and, ideally, multilateral development banks — as sources of reliable, stable finance that give firms and governments in the South the necessary longer-term horizon that is essential if you are going to truly diversify and upgrade your economy with long-term investment planning. That's a general point, but it is a central point.

In the context of the digital economy, a related but additional challenge is that the South is, inevitably, in an infant industry territory, where start-ups suffer a whole series of disadvantages that come from their lack of scale and more limited capacities. Development banks have often, even the successful and good ones, failed to find ways to effectively encourage and nurture smaller businesses which are of a more productive nature — I'm not talking here about the microfinance agenda which is part of the problem and not part of the solution. That need to find effective financing windows for potentially productive start-ups in the digital economy will be a necessary part of the financing agenda coming out of the crisis, as we try and look for ways to rebuild the interface between finance and industry in a much more constructive way than has been the case in most countries in the last few years. There again, lessons from China are very important for other developing countries in examining how to think about these challenges.

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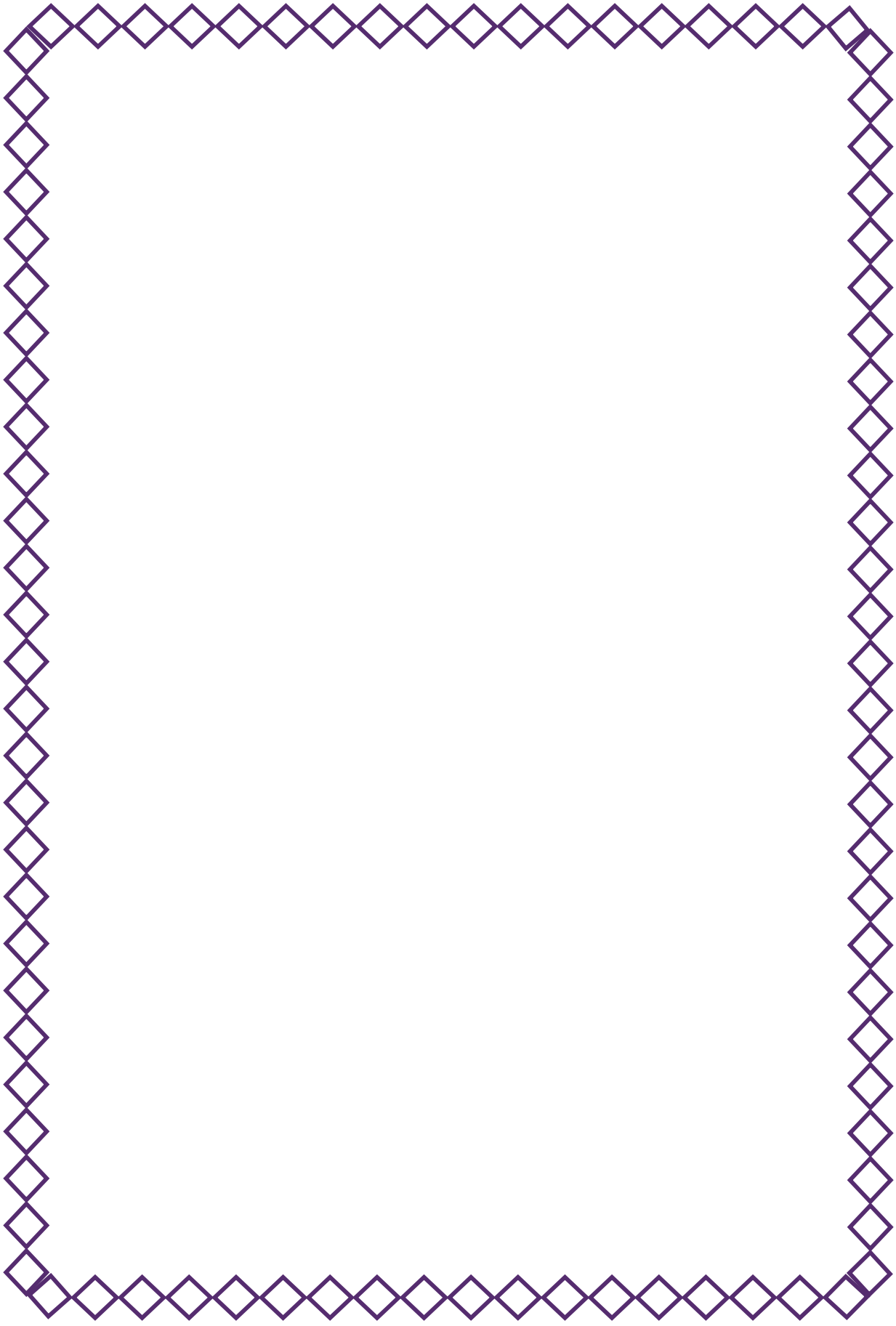

François Soulard

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A Westphalian Turning Point for the Digital

The shockwaves of the Covid-19 pandemic have brought to the forefront the physiognomy of digitization. In the backdrop of a fragmented multilateral stage, the intensified use of digital technologies to support the post-pandemic recovery has come without sufficient awareness of the inherent dangers generated by the computerization wave. Far from being a mere new industrial sector, the IT economy is "upgrading" the current industrial economy and is shaping a new matrix. Akin to the two previous industrial revolutions that started in 1775 and 1880, a new technical system has been on the rise since 1975, this time based on the synergy of microelectronics, software engineering, and the ubiquitous networked connectivity. To limit the predation wrought by this new system and envision a digital new deal, it is necessary to address the lack of understanding of the new digital economy and refresh our doctrines. This calls for a Westphalian turning point for the digital. Granted that the turn is unlikely to come any time soon, the time is still ripe for us to design new initiatives and prepare the ground for new foundations.

Introduction

"The hope is that, in not too many years, human brains and computing machines will be coupled together very tightly, and that the resulting partnership will think as no human brain has ever thought."
— Joseph Licklider, March 1960

The Covid-19 pandemic has put health, political, and economic systems under considerable strain, accelerating a phenomenon already at work in the digital continent and, more broadly, on the security front.

This has exposed a deeply fragmented multilateral stage, torn between geopolitical rivalries and nationalist reflexes while allowing for medium-intensity scientific cooperation. On the one hand, as with the previous health crises of the 2000s such as Ebola, MERS, and SARS, the coronavirus pandemic has created — on a whole new scale — a sense of urgency that has forced the adaptation and invention of innovative responses. On the other, it has provided alibis for certain actors to impose their will, strengthen their control, and manipulate opinions if needed to conquer economic markets, all in the name of efficiency to meet the demands of the healthcare spiral.

The cascading effects of the Covid crisis are not entirely new. Despite the many imperfections in the multilateral framework, the World Health Organization (WHO) has provided the basis for countries to develop crisis responses, with some adaptations to suit their local contexts. And yet, in every country, the current crisis remains marked by extreme operational vulnerability, irrespective of the degree of material development.

While the initial sources of the pandemic may have been easily identified and secured, the absence of a steering function for risk modeling, effective response mechanisms, and a coordinated global action required in the face of a threat of this magnitude has landed us in the current debacle. In short, our international system stands bare and archaic, with the G20, the WHO, and other players unable to orchestrate any transnational efforts. As the current crisis has unfolded, it has exposed the flaws in our socio-economic systems and modes of action adopted to cope with the situation.

The absence of a globally coordinated response to the pandemic is a missed opportunity to move towards better economic models than the ones we are currently stranded with. Our current models, relying on a rigid vertical segmentation of productive activities, resulting in the concentration[1] and optimization of economic costs in long delocalized chains, have proved to be less resilient to the crisis. Some cards have also been reshuffled in the realm of perceptions, geopolitical relations, technologies, and economics.

> **There is an intensified use of digital technologies to support post-pandemic recovery without any particular awareness of an endogenous crisis in the digital sphere.**

One of the consequences of the pandemic has been a crude sketching of the world canvas in which we will operate in the decades to come, in which the traditional balance of power, the lack of cooperation, and the assertion of national interests will be the linchpins. New stress points arising from the pandemic and the acceleration of previous trends are likely to seal medium-term arrangements. The crisis has favored a wave of sovereign posturings and affirmations which were already underway at the global level. Big Tech corporations are taking the place of fossil-fuel producers in the stock market podium while clean power shares are up by 45 percent so far in 2020.[2]

Be that as it may, beyond the ideological sensitivities and despite the intensity of the global economic slowdown, we can see that current responses to the pandemic are not built on the identification of an 'endogenous fracture' in global capitalism. For states and other actors engaged in international exchanges, there has been no real questioning of the engines of the economic status quo. Rather, attention has been focused on the imperative to manage the health contingency and promote recovery, possibly accompanied by certain corrective measures. The focus has also been on a certain strategic reorientation, in particular on the decoupling and relocation of sectors.

> **There are neither new insights in the governance of the digital nor a reorientation in decision-making, only an acceleration of previous tendencies. The computerization of the real economy is one of them.**

However, unlike the global financial collapse of 2008, the pandemic is an external accident which originated outside the current economic and political matrix. This diagnosis is often challenged on the grounds that the circulation of the virus could have been facilitated by the no-holds-barred extraction of natural resources, unregulated globalization, experimental manipulation of living beings, or even by the authoritarian nature of the Chinese state. Besides, the emergence of every new climate or security risk[3] increasingly forces us to re-evaluate existing notions of economic efficiency and pay attention to the long-term variables of resilience and adaptation.

The recovery plans have been criticized for reinforcing earlier standards of productivism and not taking into account, for example, the new climate commitments[4] resulting from the Paris Agreement of 2016.

This initial diagnosis of the origins of the crisis is central because it has determined the forms taken by recovery strategies and their interactions with the digital sphere. We are at a stage where many — including sections of the global economic elite[5] — are rushing to underline the contradictions exposed by the pandemic. And yet, there are few signs that it has led to a fundamental shift in the nature of recovery models.[6] There is

an intensified use of digital technologies to support post-pandemic recovery without any particular awareness of an endogenous crisis in the digital sphere. There are neither new insights in the governance of the digital nor a reorientation in decision-making, only an acceleration of previous tendencies. The 'computerization of the real economy' is one of them.

In this respect, the digital continent, the primary focus of this essay, is perhaps one of the most fertile areas to explore in the present landscape. The shockwaves of the pandemic have brought to the forefront the ethos and physiognomy of 'digitization'. This physiognomy needs to be approached carefully through a lens and a vocabulary that can accurately describe the processes at work. Instead of digitization, for instance, which only refers to the sub-process of data encoding in a binary format, I will evoke the process of 'computerization'.

> The shockwaves of the pandemic have brought to the forefront the ethos and physiognomy of 'digitization'.

The latter raises the idea of a transformation of the old technical system, constituted by the alloy between the human workforce and machines, into a new one based on the alloy between programmable automatons and the human brain. In this context, the question of 'cognitive registers' is of primary importance. A new understanding is needed to grasp these manifestations in depth and see beyond the parameters defined by the spirit of the times. The difficulty in envisioning computerization as a phenomenon that goes beyond a mere technical disruption is a crucial part of the agenda. This is at the root of the current digital imbalance that exacerbates the impacts in terms of predation and threats, and reduces the potential for a social justice-oriented digital economy. Through negative and positive shocks, the pandemic is offering us a sort of radiography of the characteristics of the new digital economy. This new economy is not merely a new industrial sector, it is 'upgrading' the current industrial economy and shaping a new matrix.

1. The fault lines of the emerging new technical system

Let's start with the weaknesses of our cognitive structures. The disarray created by the pandemic led to its initial diagnosis through ideological bubbles and horizontal communication networking. The resulting 'spinning of perception compasses' disrupted critical intervention efforts in the immediate aftermath of the emergency, particularly in communities with overly rigid or permissive leaderships, regardless of the political regimes in force.[7] One just has to look at how the Chinese state's hermeticism ultimately constituted the best escape hatch for the virus to all of China and beyond. Or how posturing by the US head of state exacerbated the healthcare stalemate. This dispersal of perceptions also weighed on public debate and the corrective measures that were projected on economic models.

Due to the central role digital networks have played since the onset of the crisis, they

have undoubtedly been affected by this 'spin' and found themselves somewhat in the crossfire. IT resources have been deployed heavily in response to the emergency, albeit not without errors or backpedaling.[8] For many businesses and governments,[9] the crisis has forced a rapid advancement in computerization,[10] something that had previously been strategically undervalued or delayed.[11] Of course, the revenues of many IT services — excluding various privileged sectors — have declined.[12]

In the US, the head of the White House rants about the country's tech monopolies and the Attorney General has announced that he wants to initiate antitrust proceedings against Google. If we are to believe Standard & Poor's analysis, the six digital giants — namely Facebook, Apple, Amazon, Netflix, Google, and Microsoft — have broken previous stock market valuation records, holding nearly a quarter of the world's total market valuation amongst themselves.

For many businesses and governments, the crisis has forced a rapid advancement in computerization, something that had previously been strategically undervalued or delayed.

Nevertheless, this line of business has made a double gain in legitimacy, boosting economic growth and consequently fitting into most economic recovery plans in the Organisation for Economic Co-operation and Development (OECD) and elsewhere.[13] But in turn, and below the media radars, the effectiveness of computerization in certain areas has inevitably led to a new wave of feudalism by furthering an all-out dependence, monopoly, and a spectre of surveillance. Feudalism, as a particular form of predation, is a relationship in which one of the two parties is able to extract wealth by force or impose a transaction on the other.[14] It is akin to the conquest and control of territories, this time not in the geographic space but in the economic sphere, by a new breed of 'lords' who are disposed to wage battle at their borders to defend their domination and eventually redistribute their excess wealth as an act of charity.

Their market value increased by around 43 percent between January and September 2020, while the rest of the large companies on the same index saw their cumulative value decline by 4 percent.[15] In Europe, against a backdrop of re-industrialization and computerization of services, the recent concession of national sovereign data by governments to US corporations has generated much outrage. Despite the General Data Protection Regulation (2018) and the invalidation of the Privacy Shield voted on at the European level in July 2020, France, for example, has decided to implement its national Health Data Hub with Microsoft.[16] Furthermore, almost everywhere, under the garb of security measures, the temptation for surveillance has gained ground both in authoritarian regimes as well as in democracies that, at least outwardly, preach about citizens' rights. On top of this, we have seen a resurgence of

cyberattacks and hijackings (including those on health systems) that have been engulfed in the vortex of the pandemic to monetize a share of the destruction.[17]

This sequence of events leads us not far from a Hobbesian state of nature whose cacophony would encourage us to revisit the social contract at the heart of our societies. The idea is not that far-fetched either. For now, we will measure the change of scale achieved by 'network rapacity' by taking a look at one of the first such theses published in 1998 in *Hijacking the World: The Dark Side of Microsoft*, and those compiled by Shoshana Zuboff in 2019 in *The Age of Surveillance Capitalism*. The titles speak for themselves. This particular rapacity of networks, as Niall Ferguson reminds us,[18] is only touched upon by the sycophants of the techno-industrial revolution who hardly evoke the idea of negative externalities and are worried about the rising frictions of globalization.

> **The boost provided by the pandemic to digitization has also led to a spurt in its forms of predation.**

The boost provided by the pandemic to digitization has also led to a spurt in its forms of predation, letting the new digital economy emerge by the force of circumstances in the backdrop of an inappropriate 'apprehension by thought'. The confusion, the superficiality of discourses, and the rise of oxymorons ('inclusive growth', 'inclusive labor markets', 'sustainable development', 'netizen') reflect a growing disconnect between these different plans.

Schematically, for the proponents of dominant neoliberalism, the 'digital revolution' is a central vector of growth that must be made to coincide with the postulates of liberal or state regulation of markets, perfect competition, and the primacy of shareholder value; it will usher in a green economy or the "great reset"[19] that would embody the new course to follow in order to meet global challenges. Here, digitization is seen as one disruptive innovation, among others. This is the perception of the Sino-American duopoly and it is the vision that President Xi Jinping has just outlined[20] amid geopolitical tensions that intensify the competition around electronic technologies. For the heterodox — from Marx and Keynes to Joseph Schumpeter, Joseph Stiglitz, James Galbraith, or Jeremy Rifkin among others — whose theoretical field widens to socio-cultural dimensions, digitization is a novelty that perpetuates the inequalities of wealth, asymmetrical relations, and the primacy of finance. They criticize the general equilibrium theory preached by neoliberalism.

For others, for instance Yanis Varoufakis, Thorstein Veblen, Gaël Giraud, or Pierre Calame, the digital is a relative, even 'technicist' innovation, which distills changes in the physiognomy of societies and must be put at the service of a transition towards a more sustainable economic matrix, a matrix which cannot be reduced to the dominant economic trends. Digital networks are also seen as a technical element. This is true for the Green New Deal proposed by the Democratic Party in the US, which oddly, in the country of Silicon Valley, mentions low technology but ignores digital innovation.[21] In all these cases, IT, thus distanced and reduced to the 'digital', only serves political ends — not a negative in itself — and is

relegated to the background. Above all, it is not seen as a '**new technical system**' — a synergy of fundamental techniques to organize the economy and the society, which has consequences for the anthropological field. We will elaborate on this concept a little later.

Ultimately, it is as if the brutality of the collisions triggered by the digital continent continues to elicit behaviors oscillating between fascination, mimicry, and blindness on the one hand, and refusal and negation on the other. The current transition to a new technical system is a period of turmoil in which entrepreneurs with the first-mover advantage generate high profits, while others remain prisoners of older forms of organization to which they have become accustomed. Computerization still appears to be a phenomenon 'endured' by the majority of economists and elites who perceive neither its full potential nor the dangers to which societies are exposed with its emergence. Potentialities are on the side of a new economy that enhances quality, functionalities, services, automation of repetitive tasks, clean power energy, full employment, and new forms of intelligence relying on the alloy between human brains and the programmable automaton. In this respect, if we conclude that the pandemic offers only a small window of opportunity to advance these digital issues, it is because the reform proposals and the political subjects that campaign for these potentialities are, for the moment, too external to the political and social spheres in general, and the ruling spheres in particular.

2. A new frame of reference for 'computerization'

This leads us directly to the conditions likely to build a better understanding of computerization and its integration into its preferred field: the system of production of goods and services. In essence, if computerization is an 'endured innovation' around which a series of creative destructions develop, as Schumpeter points out, this is because it is 'ill-treated' in our minds — misunderstood and under-conceptualized. A new frame of reference is therefore necessary, capable of escaping the disciplinary corset to which computerization is usually subjected and, instead, focusing on its 'transformative force'. To me, the need for this new frame of reference has become a central issue in recent years through various processes such as the Earth Summit (2012), the World Forum of Free Media, the Internet Social Forum, as well as through my own work on computer ecosystems. It echoes other conceptual contributions that we will briefly mention here.

> The contemporary technical system not only reconfigured the socio-economic matrix, it also ushered in new relationships with nature.

To define this frame of reference and project towards a sustainable digital horizon, we should venture into a field that is philosophical, conceptual, and epistemological and draw inspiration from thinkers of the history of techniques such

as Bertrand Gille, André Leroi-Gourhan, or Gilbert Simondon. They describe how the networked computer is much less an isolated invention than a technology embedded in a new technical system. The latter is a cluster of techniques, basically microelectronics, software engineering, and the ubiquitous networked connectivity, intertwined with a singular cohesion. The first modern technical system, born in 1775, was based on the synergy between mechanics and chemistry. It was completed around 1880 by energy, with the advent of oil and electricity. The contemporary technical system, initiated around 1975, not only reconfigured the socio-economic matrix through the third industrial revolution; it also ushered in new relationships with nature, in which the link connecting intentions and human action, thought, organization, communication, forms of competition, market size, and consumer needs began to be modified.

Techno-skeptics frequently oppose this vision, rejecting the idea that a mere bundle of techniques could have such a systemic impact on social and cultural dimensions. Gilbert Simondon emphasizes the antagonist relation between culture and techniques by putting forward an anthropological response: "Culture has constituted itself as a defense system against techniques [...] It ignores a human reality within technical reality. To play its full role, culture must incorporate technical beings in the form of knowledge and in the form of a sense of values."[22] Its corollary is that for a change in the technical system to occur, new techniques must be available, but it is equally necessary to effect a socio-cultural change. This is the stage, confusing and highly perilous, which resembles the anarchic landscape that we have outlined above, underlining the need for 'new cognitive tools' to understand this situation. More than defeatism, utopianism, or ideological conformity, it is imperative to resort to realism, to methodological and rigorous exploration facilitating epistemological crossbreeding, and a 'multilingualism' which also characterizes IT.

Such a reconfiguration does not erase the previous industrial system based on a synergy of chemistry, mechanics, and energy. It computerizes it to varying extents depending on the maturity of each national economy and its cultural foundations. Among the few economists venturing off the beaten track, Michel Volle has attempted to summarize the characteristics of the new emerging economy.[23] This refers to regimes of monopolistic competition, fixed-cost production, maximum risk, and increasing returns to scale.

Unlike the mechanized economy, the contemporary economy tends to be spontaneously ultra-capitalist and form temporary monopolies around innovations.

Unlike the mechanized economy, the contemporary economy tends to be spontaneously ultra-capitalist and form temporary monopolies around innovations. This is not to say that the mechanized economy has eliminated all forms of violence. On the contrary, despite its professed principles of balanced exchange, trade union rights, and a certain constraint

on monopolies, the exploitation of labor, imperialist tendencies, colonization, and the extractivism inflicted on peripheral economies continue unabated.

But because of its intrinsic characteristics, the contemporary economy is now the bearer of new forms of endemic violence. It tends to shift the historical opposition between the working class and the owners of capital to a confrontation between 'entrepreneurs' and 'predators'. Here, entrepreneurs are conceived as those who are passionate about the active relationship with realities and people, and who put innovation at the service of productive action and the real economy.

for monetization and intelligence, the temptation to exploit the synergy between human intelligence and the programmable automaton through the reductive logic of data and programs, and so on. Laurent Bloch also illustrates the rejection of computerization and its effectiveness within companies and in information systems.[25]

To understand this physiognomy in greater depth and consider strategies for action, we should also be interested in the simultaneous emergence of neoliberalism and computerization, which together have amplified this new state of nature. Neoclassical thought that unfolded since the 1970s, and its emergence as a political

> **The contemporary economy tends to shift the historical opposition between the working class and the owners of capital to a one between 'entrepreneurs' and 'predators'.**

Since the 1980s, the exaltation of shareholders has eroded companies, driving out entrepreneurs and replacing them with managers concerned only with attractive accounting results. According to Volle, this evolution, which has gone hand in hand with the rise of neoliberalism and the rising power of the financial system, is a key factor in the current crisis. Predation, which historians remind us is the economic regime of feudalism, has taken the form of a vast constellation of practices that have continued to grow over the past three decades: the hyper-volatile activity of banks and the decoupling of the financial sphere from the productive one, illicit diversion of financial flows, civil and industrial espionage, confiscation of capital as mentioned in the work of Thomas Piketty,[24] data extractivism

force, coincide with the beginnings of computerization. It can be argued that the postulates of neoliberalism, contrary to the patrimonial economy that computerization has brought about,[26] have come in part to respond to the wave of destabilization caused by the new emerging technical system. In their preoccupation with shareholder value, self-regulation of the markets, and the withdrawal of the state, the founders of neoliberalism turned their backs on the emerging new technical system, creating a climate all the more conducive to its predatory effects. Whereas these should be better understood and contained, the dominant ideology continues to encourage their free rein.

3. A new deal for a new economy

These statements need to be developed in greater detail than we can do here. But let us retain their main implications when it comes to sketching out the strategies for change. The first perspective, which we see as a backbone, is to focus attention on the structural transformations generated upstream and downstream by the computerization of economic models and institutional actors. It invites us to reconsider the conceptual grids, to adopt a less fearful, conservative, and Manichean perception of the dangers and advantages of computerization. It suggests that attention should be directed less towards areas already formalized (internet governance, digital data and rights, e-commerce, cybersecurity, media and social networks, etc.) and more towards the dynamics at work between the organized human being and the ubiquitous programmable automaton. Of course, the above mentioned sub-domains continue to be relevant registers around which a whole series of actors have been structured. But they evade other cross-cutting issues and the overall vision of a change in the socio-productive architecture. This explains, in particular, why the idea of an industrial revolution or a great societal transformation has not yet garnered a consensus.

In this regard, the conceptualization effort is not only theoretical. It has to be connected with the trenches that arise in the spaces where the legal, the political, the organizational, and the economic integrate and confront each other. The case studies and monographs developed in different socioprofessional environments are valuable epistemological sources to feed a new interpretative framework. While most indicators or statistics are not designed to make visible the emerging new economy, monographs are more adapted to enhance its essential characteristics and to produce the basics of an intellectual framework. This was the case in 1847 when the modern technical system emerged. More recently, Erik Brynjolfsson, among others, has contributed to overcoming the blind spots in the productivity brought about by IT.[27]

> A strong perspective needs to be developed, capable of addressing not only the political sphere but also citizens and economic players.

In addition to these writings, there is also a need for transformative narratives. This is the second perspective which refers to a mobilizing imaginary capable of guiding the efforts to build a “new economy”, that is to say, responding to the objectives of cohesion and well-being while remaining within the domain of biosphere viability. As previously discussed, the new economy must be enriched by previous doctrines. In view of the vigor of the peoples whose historical and continued demands for more dignity marked the year 2019 — from Algeria, Brazil, Bolivia, France to Iraq, Iran, Hong Kong, Indonesia, India and beyond[28] — it seems difficult to imagine that the new efficiency and the forms of intelligence that appear today borrow only from market rules or develop themselves outside ideas of justice and equity. However, that threat is already knocking at the door. New technologies

are showing that, in the absence of a new framework of thought and adapted regulation, they amplify potentially extreme tensions in terms of inequalities, distribution of wealth, and social rupture. This doctrinal effort, therefore, invites a review of the values of and the relationships among equity, freedom, efficiency, and new constraints and regulations. As these are specific to each geo-cultural base, the foundations of this new economy are, therefore, linked to a debate on the integration of each society into sustainable globalization.

From this perspective, the term 'digital economy' is largely insufficient to stimulate such mobilization. This is also the intuition of the "Great Reset" initiative undertaken by the World Economic Forum which envisions "urgently build[ing] the foundations of our economic and social system for a more fair, sustainable, and resilient future".[29] We may be seriously skeptical about this initiative, driven as it is by the promoters of unregulated liberalism. But let us recognize that a strong perspective needs to be developed, capable of addressing not only the political sphere but also citizens and economic players. The idea of a "general assembly of the computerized economy", launched by IT specialists calling on the diversity of professional circles, could be a lead. This initiative should not be seen only as an intellectual exercise. It must set itself the goal of building influence on political and economic leaders, and therefore take a long-term view.

The Treaty of Westphalia, which sealed a new international order in the 17th century, was the outcome of a change in the conception of European leaders who then opted for a new system of balance of power after a prolonged period of destabilization.

Reduced to current multipolarity and contemporary economics, recent news leads us to believe that we are not currently at a turning point of this nature. However, it is nevertheless necessary to invest in preparing for the crises to come and create the conditions to initiate a less costly and less destructive shift. It is now impossible to ignore that the contemporary economy is the scene of a new dialectic between predation, balanced exchange, the rule of law, and the return of feudalism in a modernized form. The challenge of finding new foundations along the way is, therefore, more seriously posed than ever.

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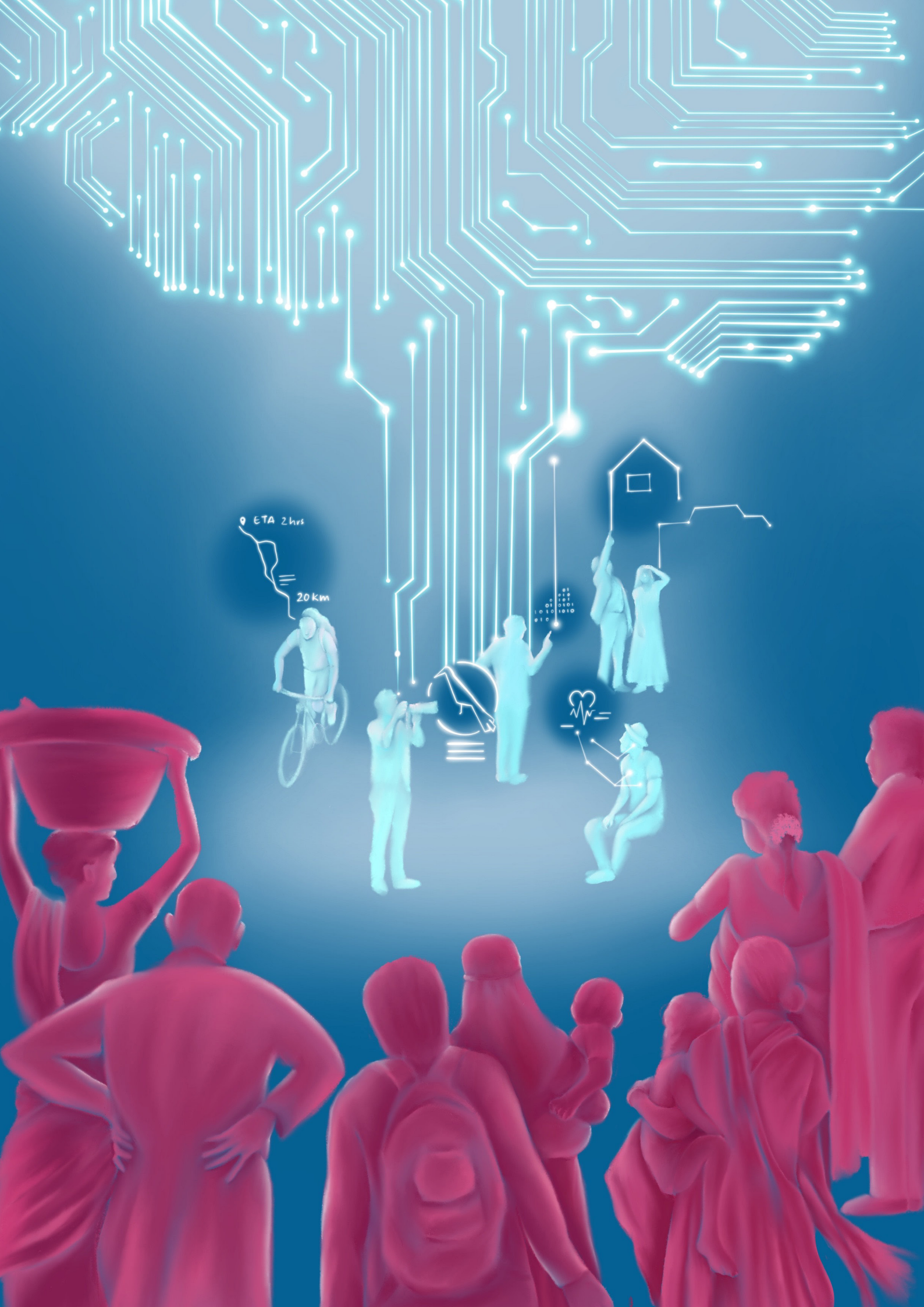
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Lessons From a Pandemic: Three Provocations for AI Governance

What, if anything, can the global pandemic teach us about regulating artificial intelligence (AI)? Through three provocations (*AI as abstraction; AI as distraction; AI policy as infrastructure policy*), this essay explores how the data-driven responses to — and the technology-related impacts of — the Covid-19 pandemic hold crucial insights for the emergent policy terrain around algorithmic accountability and the political economy of AI systems.

Introduction

What, if anything, can the global pandemic teach us about regulating artificial intelligence (AI)? Through three provocations (*AI as abstraction; AI as distraction; AI policy as infrastructure policy*), this essay explores how the data-driven responses to — and the technology-related impacts of — the Covid-19 pandemic hold crucial insights for the emergent policy terrain around algorithmic accountability and the political economy of AI systems.

First, just as abstract and decontextualized data visualizations and statistics about the pandemic have enabled the proliferation of narratives claiming that the "pandemic doesn't discriminate", I argue that abstraction in the discourse around artificial intelligence or AI systems plays a similarly pernicious role. For those engaged in advocacy around the social harms of AI systems, a definitional exercise could be a key way to rescue AI from the abstract, and foreground social and material concerns around these systems.

Second, contact-tracing apps deployed during the pandemic are a good entry point to understand 'AI as distraction'. If contact-tracing apps were at the peak of the hype cycle in the early months of the pandemic, they now appear to be in the "trough of disillusionment".[1] It's a good time then to ask: What was lost in the hype? Distraction is a useful way to understand the real function of many AI/algorithmic decision-making systems (ADS) tools which often disguise the underlying motivations and distract from deeper inequities and governance failures. Process-focused regulatory mechanisms like algorithmic impact assessments (AIA) hold promise, but they need to be structured to combat distraction and reveal the motivations driving these projects before they are implemented.

Finally, the pandemic has popularized the comparison of platforms to public utilities and brought a renewed focus to their "infrastructural" power. I argue that the "infrastructural turn"[2] in AI policy is well on its way too, although this is sometimes obscured because of the lack of consensus around what counts as policy "about AI" versus broader data governance norms or industrial and competition regulation. AI policy should, in fact, be understood as an assemblage of these various policy trends aimed at democratizing, or at least, diversifying access to the inputs that sustain this new computing landscape: data, software, compute, expertise.

AI as abstraction

> *"The number of such laborers died/injured during migration to their native places due to such lockdown, State-wise?*
>
> *Government Response: No such data is available."*

The Indian government's response to a recent question on migrant workers who died as a consequence of the nationwide Covid-19 lockdown, imposed on March 23, 2020 with barely four hours' notice, touched a raw nerve in public discourse.[3] It came at a moment when statistics and data visualizations about the spread and impact of the pandemic have become normalized as a key mode of managing the pandemic. This is often referred to as "data-driven governance".[4] The government's response — *no data available* — was a reminder that the picture the data paints is one that is palatable and indeed beneficial to those that

construct it. In other words, "data on the impact of Covid" is not a neutral container: Who decides what counts as impact? Why isn't there data on deaths due to the economic or governance impacts of Covid? Or data on the socio-economic profiles of those infected, and those who succumbed? As Rashida Richardson notes, "To exercise sovereignty is the power to authorize and enforce what information is relevant and necessary to govern."[5]

Pradesh during the pandemic to understand the patterns of policing and locate the socio-economic profiles of the individuals policed.[8] They produced a "countermap" that demonstrated that arbitrary and disproportionate criminalization of marginalized communities had only amplified during the pandemic.

Abstraction plays a similarly pernicious role in the discourse around AI systems.

> **Abstract and decontextualized data visualizations and statistics about the pandemic have enabled the proliferation of narratives claiming that the "pandemic doesn't discriminate", thereby erasing the stark disparities in how different demographics have been impacted.**

As mentioned earlier, abstract and decontextualized data visualizations and statistics about the pandemic have enabled the proliferation of narratives claiming that the "pandemic doesn't discriminate", thereby erasing the stark disparities in how different demographics have been impacted. These data stories (like the lack of data on migrant deaths) can legitimize similarly abstract policy decisions that fail to take into account the immediate and urgent needs of particular demographic groups or localities.[6] In response, counter data-narratives too have begun to emerge. Data for Black Lives and the COVID Racial Data Tracker in the US collected confirmed case data by race.[7] In India, the Criminal Justice and Police Accountability Project (CPAP) studied 34,000 arrest records and 500 First Information Reports filed in Madhya

The term AI is ubiquitous in public discourse about technology but remains notoriously underspecified; it is hard to pinpoint precisely what kinds of systems are being referred to under this umbrella term.[9] The moniker 'artificial intelligence' connotes the replacement of humans with machine thinking. It has an aura of futurism and magic[10] routinely reinforced by images of robots[11] that often accompany articles about AI. This imagination of AI has only served to create and foster an 'AI hype', which has ironically benefited a range of routine systems with vastly different functionality and levels of computational intensity. From content filters on social media and fraud detection tools in welfare systems to facial or other forms of biometric recognition to "smart" refrigerators and self-driving cars, there is an ever-expanding spectrum of

systems that are enveloped under the rubric of "AI". This has led to heated "boundary wars" in the technical research and business community that try to pinpoint a definitional threshold.[12] For these groups, the stakes are high; the definitional threshold will determine which programs benefit from the ever-expanding pool of funding for AI research or make new ventures more appealing to investors.[13]

documents, and now legislation, that use this framing, primarily in the context of government use of ADS.[16] **Identifying these as "decision systems" shifts the emphasis from an abstract notion of mimicking or replacing human intelligence to systems that *make decisions, allocate resources, create priorities, and engage in value trade-offs.*** A growing body of research has clarified the various choices or trade-offs that are made

> AI as an abstract buzzword can be brandished against complex social problems as if it were a neutral and external 'solution' rather than a sociotechnical system.

For those engaged in advocacy around the social harms of AI systems, a definitional exercise could, however, be a key way to rescue AI from the abstract, and foreground social and material concerns around these systems. Just as glossy data visualizations can obscure the unequal impacts and governance failures of the pandemic, AI as an abstract buzzword can be brandished against complex social problems as if it were a neutral and external 'solution' rather than a *sociotechnical* system[14] designed and developed to make value-laden choices and trade-offs.[15] These abstract narratives of so-called autonomous systems also obscure the material infrastructure and distributed global workforce that undergirds the AI economy.

There has been a growing shift toward using the term 'algorithmic decision-making systems' or ADS to describe some of the most ubiquitous and worrying algorithmic systems in use today. This is a change being propelled by advocacy organizations and there are already multiple official policy

at every step in the lifecycle of the system: from the data used to train these systems, the choice of algorithmic models that are used (and the causal logics they deploy), and the complex ways in which those 'supervising' these systems interpret and apply their results.

In fact, concentrating on the human labor involved at multiple steps in the life cycle of algorithmic systems has been another key tactic in de-abstracting the idea of 'autonomous AI'. Policy solutions like 'human-in-the-loop' that envision human supervision to be an antidote to concerns of algorithmic opacity have also largely failed, leading to calls for a more nuanced exploration of this relationship and changing the lens to "algorithm-in-the-loop".[17] Other research focuses on the large globally distributed workforce which prepares the foundational datasets required for many of the most ubiquitous text and image processing systems.[18]

AI as distraction

Earlier this year, as most of the world was confronted with a rapidly spreading pandemic with no end in sight, contact-tracing apps developed by governments and some of the world's the largest technology companies were a prominent (and arguably central) part of both official and popular narratives about the response to Covid-19.[19] In the policy space, there were heated debates and rapid civil society responses to such technology-oriented solutions to the public health crisis which highlighted the concerns of privacy, transparency, and efficacy. In countries with low internet penetration or smartphone coverage, the overwhelming reliance on technological measures raised serious concerns of exclusion and, relatedly, the efficacy of using data derived from these apps to guide policy decisions.

> AI systems are typically proposed as a magic bullet to solve complex social problems. In reality, they can inhibit progress on broader reforms.

Several months into the pandemic, as many countries grapple with a second wave of high infection rates, there is now markedly less buzz around technological solutions to the global public health crisis.[20] While contact-tracing apps are still available in most countries, they appear peripheral (if at all) in news and official accounts of the Covid-19 response. Recent download rates of such apps in Europe, where they are strictly optional, have been very low, ranging from 20 percent of the population in Germany to just 3 percent in France.[21] In India, where it is effectively mandatory, the Aarogya Setu app has gone from being a key part of the Prime Minister's Covid-19 address to one mired in controversy.[22] It is still effectively unworkable for large parts of the population without a smartphone and access to the internet or lower digital literacy skills.

If contact-tracing apps were at the peak of the hype cycle in the early months of the pandemic, they now appear to be in the "trough of disillusionment".[23] It's a good time then to ask: what was lost in the hype? What was the opportunity cost of the focus on these kinds of consumer technology in a time of crisis? In the Indian context, I argued along with my coauthor that "these technology-based responses to the pandemic obscure that the country still lacks the foundational infrastructure for analyzing digital health information".[24] In other words, the focus on apps distracted from the more foundational lack of digitized information about the public health system, such as the number of hospital beds, disease incidence, and death tolls. Such data[25] would have been invaluable for government agencies making decisions about how to ration hospital resources and testing facilities, but most of it is not available[26] for policy and planning authorities. In the US, Cathy O'Neill argued that the app-hype was distracting from the glaring lack of testing and clear official messaging around masks and other precautionary measures.[27]

Distraction has been a key function of

many AI/ADS tools in two primary ways. First, similar to the example of app-hype during the pandemic, AI systems are typically proposed as a magic bullet to solve complex social problems. In reality, they can inhibit progress on broader reforms. The buzz around using AI "to solve poverty" is a stark example of this.[28] Data-driven forms of financial technology have been promoted as a form of inclusion to bring the poorest within the net of the formal banking and digital payments ecosystem.[29] However, these technology-driven programs distract from the economic reality that these individuals lack the means and assets to participate in these systems and are particularly vulnerable to exploitative and predatory lending schemes.[30]

> **Algorithmic systems can distract from the underlying political or economic values being pursued by the institutions that introduce them.**

Secondly, algorithmic systems can also distract from the underlying political or economic values being pursued by the institutions that introduce them. A 2013 case from Michigan serves as one instance of how algorithms can be used to disguise austerity measures or other forms of neoliberal governance.[31] In October 2013, Michigan implemented a new automated unemployment insurance system to reduce operating costs and target fraud in unemployment insurance claims. When the Michigan Integrated Data Automated System (MiDAS) was implemented, the Unemployment Insurance Agency laid off 432 employees — roughly one third of its staff. After hundreds of people started complaining about being unfairly fined for fraud, the Auditor General found that MiDAS was "in error" 92 percent of the time. This error can be explained in terms of technical parameters, but that would distract from the fact that it was embedded in the broader and ongoing cutbacks in unemployment insurance and other forms of social welfare benefits under the new Governor Rick Snyder. The political values of the administration were reflected in the way the algorithm functioned to severely limit the number of recipients, and discipline or demonize those reliant on state aid.[32] A recent attempt at using facial recognition technologies in a housing complex in New York led to protests from resident groups who argued that it was in fact "*a form of tenant harassment, designed to evict rent-stabilized residents*" at a time of rapid gentrification in the neighborhood.[33]

Process-focused regulatory mechanisms like algorithmic impact assessments (AIA) could be one way to combat distraction, reveal the motivations driving these projects, and engage in a meaningful cost-benefit analysis. Requiring entities to conduct AIAs is increasingly being proposed as a tool to ensure accountability and transparency when using algorithmic decision-making systems. While AIAs are an active field of research, they are already beginning to find mention as a requirement in regulations like the directive on Automated Decision-Making Systems in Canada and the Algorithmic Accountability Bill, 2019 in the United States. These regulations delegate many of the specifics of AIA to future executive rulemaking, and there is an active debate on

how to best identify the types of effects that count as impact, when these assessments are conducted (*ex ante* and/or *ex post*), and who are invited to participate or consulted in these assessments. In addition to focusing on potential impacts, it will also be critical to structure AIAs to ensure that the broader political and economic motivations of these uses are illuminated. This can only happen through consultations that not only include the perspectives of those directly impacted but also deliberately decenter the technical components of these projects in favor of the social and economic contexts in which they will be used.

AI policy as infrastructure policy

"*The pandemic has many losers but it already has one clear winner: big tech*", declared an *Economist* headline in March 2020.[34] The indispensability of large scale multinational technology companies was both revealed and entrenched at the height of the pandemic as virtual platforms for communication and market exchange became key to maintaining normalcy in the economy and social spheres like education.

> The indispensability of large scale multinational technology companies was both revealed and entrenched at the height of the pandemic as virtual platforms became key to maintaining normalcy.

As mentioned earlier, various governments were seen collaborating and negotiating with private actors as part of the technological responses to mitigating the spread of the virus as well as creating systems to govern society post the lifting of lockdowns. In China, despite popular accounts that the state has unrestricted access to data held by companies, reports suggest a more complex picture of state-private sector negotiation over access to data. Chinese authorities were putting considerable pressure on companies like Alibaba and Tencent to share their data infrastructure for the purpose of geolocation and other data required for the government's flagship Health Code apps. It was revealed that the data held by state-owned telecom companies did not compare with the GPS and other data held by platforms like Allpay and WeChat. The British Prime Minister famously invited senior representatives from four of the largest Silicon Valley technology companies in an emergency effort to tap into the resources of big tech.[35] Other companies, like Microsoft and Amazon cloud platforms hosted a range of government data dashboards and technology tools, including that of the United States Center for Disease Control (CDC). The CDC also used Microsoft's customizable healthcare chatbots.[36] Google search engine pledged ad grants to the World Health Organization (WHO) to play a key role in sharing factual information on how to prevent the spread of the virus. Previously low profile, Google's life sciences company Verily was suddenly in the news for carrying out large scale drive-through testing in the US.[37] These instances underscore the ways in which big tech

companies could leverage network effects, data linkages, and large amounts of available capital to expand their footprint across multiple social domains from communication to finance to healthcare while the pandemic swept across the world.

The Apple and Google partnership, launched in April 2020, for a Bluetooth-powered contact-tracing app also holds critical insights about the nature of power these platforms exert. The two companies were going to make a contact-tracing toolkit available as part of their operating systems which could then be leveraged by state-sanctioned health apps. This provided a potential solution for the dozens of governments grappling with the challenge of Bluetooth-related restrictions on smartphones that limited the efficacy of these apps.

However, in order to use these features, the governments' apps would have to play by Google and Apple's rules on how their apps would be designed. This was a significant boon for individual privacy and security because it mandated a decentralized architecture and therefore restricted data sharing with centralized government servers. Soon enough, however, tensions emerged as governments of France and the UK, among others, were slighted by the idea that Google and Apple would dictate how states designed their technological response to Covid-19.[38] It was a reminder that the smartphone itself contains crucial social infrastructure controlled by a handful of companies globally. As Micheal Veale notes, "It's great for individual privacy, but the kind of infrastructural power it enables should give us sleepless nights."[39]

In fact, this focus on the infrastructural power of platforms has taken renewed prominence in policy circles over the last year, sometimes expressed in comparisons of these companies with public utilities. The infrastructural lens is an important tool to understand the business logics that have created these forms of platform power, as well as the material infrastructure (data centers, submarine cables, smartphones, chipsets) that sustain it and inhibit competition. More broadly, the infrastructural lens is helpful to understand the impacts of being excluded from the use of these platforms, which has been a key concern with the shift to virtual learning during the pandemic.

The infrastructural lens is an important tool to understand the business logics that have created forms of platform power, as well as the material infrastructure that sustain it and inhibit competition.

The "infrastructural turn"[40] in AI policy is well on its way too, although this is sometimes obscured because of the lack of consensus around what counts as policy "about AI" versus broader data governance norms or industrial and competition regulation. AI policy should, in fact, be understood as an assemblage of these various policy trends

that respond to and anticipate the ongoing shift towards a computing landscape that consists of high intensity computational tasks, typically involving large amounts of data. It is a landscape dominated by internet companies like Google, Facebook, Amazon, Microsoft, Apple in the US and Alibaba and Tencent in China that have been able to leverage their access to data, computational power, algorithmic expertise, and capital to build and develop cutting edge algorithmic tools that have, in turn, served to expand the scale, reach, and monetization potential of these platforms.

The infrastructural turn in AI policy involves disaggregated and targeted legal and policy interventions aimed at democratizing, or at least, diversifying access to the inputs that sustain this new computing landscape: data, software, compute, expertise. The Indian government has prominently made "access to data" for Indian companies and the state a key lever to enhance domestic competitiveness. A broadly stated mandatory data access proposal in recent policy documents has raised more questions than answers around the legal and technical frameworks to facilitate such a regime.

The contours of AI policy should not be limited to axes of accountability, discrimination, and privacy, but also expand its scope to recognize the data governance and competition policies that attempt to influence the global political economy of AI.

The US and Chinese economies have disproportionately benefited from the wealth generated by these companies, despite the fact that Global South countries like India and Brazil are some of the largest markets for Silicon Valley companies by the sheer number of users.[41] Dominance in the AI marketplace is also deeply intertwined with the development of cutting edge military and cybersecurity technologies. As a result, it is a combination of economic and security anxieties that are fueling a range of policy developments aimed more explicitly at promoting domestic or native enterprises, and the creation of "national champions". This kind of rhetoric has been most evident in policy developments at the European Union level as well as several recent policy moves by the Indian government.[42]

Data localization or the legal requirement to store data on servers within the geographical territory of the country has been another site of heated policy making, with the draft Personal Data Protection Bill of 2019 including a requirement to keep a copy of personal data in India. One of the key official justifications for data localization has been the need to bring foreign companies firmly within Indian jurisdiction. Data localization can then be understood as a foundational step in a more aggressive access to a data regulatory regime, and one that is likely to invite stiff opposition from a range of stakeholders. Access to computing resources as well as diversifying the players providing cloud computing services has been another key theme in recent policy documents both in the EU and India. The draft e-commerce

policy specifically states the need to create domestic cloud computing companies and includes government subsidies for such companies as a potential route to consider. Other efforts like public research clouds and data trusts are also experiments in creating pooled in computation and data resources that can reduce the barriers to entry for smaller and medium-sized companies as well as research organizations. Finally, while access to data and computing has been most prominent, these policy documents also note the need to cultivate and fund research centers of excellence in order to retain talent and compete with Silicon Valley and Chinese R&D.

Rather than be dismissed as digital protectionism, these developments should be taken seriously for their explicit acknowledgement of data governance as a form of industrial policy. That is not to say that the fundamental rights rationale for enacting data protection and surveillance regulation are facetious, but rather that there are additional and intersecting geopolitical and geoeconomic drivers for all these forms of data governance policy which need to be understood and engaged with by the AI policy community. In other words, the contours of AI policy should not be limited to axes of accountability, discrimination, and privacy, but also expand its scope to recognize the data governance and competition policies that attempt to influence the global political economy of AI.

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ILLUSTRATION BY MANSI THAKKAR

Stefania Milan & Emiliano Treré

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Latin American Visions for a Digital New Deal: Towards *Buen Vivir* With Data

para Diego Armando Maradona, desde los márgenes a las estrellas
[for Diego Armando Maradona, from the margins to the stars]

In this contribution, we explore the notion of 'data poverty' to examine the social costs of the first pandemic of the datafied society and identify critical fault lines in the dominant digital paradigm. We engage with Latin American perspectives and traditions, especially in the fields of popular education and communication for social change, to outline three key elements of a Digital New Deal: critical ecology, liberation pedagogy, and autonomous design. Taken together, we argue, these components can intercept and mitigate the new forms of data poverty visibilized and exacerbated by the pandemic. Subsequently, we mobilize the Andean indigenous social philosophy of *buen vivir* which outlines "a way of doing things that is community-centric, ecologically-balanced, and culturally-sensitive". We elucidate the three ingredients of a '*buen vivir* with data', namely the fusion of the social with the ecological question, a dialogic and participatory approach to decision-making, and a "localized, relationship-oriented" practice of community care and solidarity based on the recognition of ontological difference and commonalities. We conclude by illustrating how the notion of *buen vivir* can help us understand the present and collaboratively design a better future for the digital realm and beyond.

Introduction

In the second decade of the 2000s, cities are smart, service work takes place through platforms, society is datafied, and our lives are increasingly quantified and monitored through an array of dashboards and biometric technologies. The world has never been as technologically advanced as it is today. Yet, an infinitesimally small virus was all it took to bring the world to a grinding halt. Economic, educational, and social activities have been paused while the vaccine is rolled out. Friendships, family support, and work have been displaced to the digital sphere. Not only has the Covid-19 pandemic unveiled our fragility in the face of a global health emergency, it has also exposed our dependence on digital infrastructures for a myriad of crucial activities — from remote working to service delivery, from medical care to the monitoring of public space. It has massively accelerated the digital transformation of sectors as diverse as public education and public administration. The magnitude of this global health crisis seems to have prevented us from taking a critical view of the dominant digital paradigm but the time is ripe to re-evaluate the techno-architecture of the present and decide what the digital society of the near future should look like.

The New World Information and Communication Order (NWICO),[1] which at the turn of the 1980s was the first multilateral debate to put cultural imperialism on the global agenda, is now only a faint memory. Yet, the scale of the current crisis calls for a rethink of the prevailing social and economic order in ways that are commensurate with justice, equality, and environmental sustainability. In this essay, we review the social costs of the first pandemic of the datafied society[2] to identify critical fault lines of the dominant digital paradigm. We then learn from Latin American traditions and perspectives, especially in the fields of popular education and communication for social change, to sketch out three core elements of a Digital New Deal: critical ecology, liberation pedagogy, and autonomous design. Taken together, these components can intercept and mitigate the new forms of data poverty[3] visibilized and exacerbated by the pandemic. In the concluding section, we mobilize the power of the Andean indigenous social philosophy known as *buen vivir* — "a way of doing things that is community-centric, ecologically-balanced and culturally-sensitive".[4] We delineate the three ingredients of a *buen vivir* with data and illustrate how it can help us understand the present and collaboratively design a better future for the digital realm and beyond.

After the digital divide: Data poverty in the time of Covid-19

The pandemic has upended established ways of doing things, from shopping to traveling, from leisure to learning. It has made a handful of wealthy technology companies even richer, strengthening their quasi monopoly in sectors like e-commerce, cloud computing, and content streaming. Amazon, for instance, has doubled its profit during the pandemic[5] while revenues of Microsoft's Azure has increased by 48 percent, buoyed by the sales of cloud computing services.[6] Even before the pandemic, state sovereignty had been jeopardized as strategic infrastructures such as healthcare data or border control technology moved into private hands.[7] This trend has only expanded in the aftermath of Covid-19. Tech solutions

such as location tracking have allowed us to perform remotely activities that would otherwise require co-presence such as university exams or office work, while legitimizing large-scale data surveillance with no end in sight. "Largely without public debate — and absent any new safeguards," warned Ronald J. Deibert, author of *Reset: Reclaiming the Internet for Civil Society* (2020), "we've become even more dependent on a technological ecosystem that is notoriously insecure, poorly regulated, highly invasive and prone to serial abuse."[8]

> **Not only has the Covid-19 pandemic unveiled our fragility in the face of a global health emergency, it has also exposed our dependence on digital infrastructures for a myriad of crucial activities.**

This has also left huge sections of the world's population stranded and alienated. In our increasingly digitized and privatized world, only 53 percent of the population has some form of access to the internet, reports the International Telecommunication Union.[9] The digital divide might no longer be high on the list of concerns for policymakers and multilateral organizations, supplanted by the dazzling marketing of tech companies and their efforts in the "zero rating" department, but it is by no means a problem of the past. On the contrary, it is worsened by the new class of advanced skills that are necessary to thrive in the datafied society, including data literacy, basic statistical knowledge, and perhaps even the ability to interpret code. Furthermore, it is now exacerbated by the impossibility of digital disconnection. The Covid-19 crisis has demonstrated that the choice to not be connected to digital networks and apps constitutes a privilege that many citizens cannot afford. For many workers whose livelihoods depend on the decisions taken by the algorithms of digital apps, there is no possible break from the data deluge and the sheer intensity of permanent, coerced connection.[10]

The pandemic has laid bare our over-reliance on quantification as a way to know and act upon the virus, with data becoming "a *sine qua non* condition of existence".[11]

At the same time, it has exposed the weaknesses inherent in a number of technological solutions which were once presented as innovative ways to tackle societal inequalities. Biometric welfare in India may have made people go hungry when the risk of disease transmission associated with users' fingerprints interrupted the distribution of food rations to impoverished families.[12] The reach of citizen-scoring mechanisms based on automated detection of pockets of poverty, like the Colombian System of Possible Beneficiaries of Social Programs (Sisbén), have been extended by Covid-19, but the opacity and contradictions of their faulty algorithms have also been exacerbated.[13] The design of these systems makes it virtually impossible for citizens to reclaim their social rights — let alone have a say in the decision-making process

or correct algorithmic errors. Elsewhere in Latin America, distance education has exposed the limitations of a one-size-fits-all solution for rural areas. In Peru, for instance, governmental response to the pandemic glossed over the many socio-technical divides that still affect the country, leaving behind many families with no internet, TV, or radio access.[14] Finally, the pandemic aggravated the already harsh working conditions of gig and delivery workers in both developing and wealthy countries, enslaved to the platform, forcing them to take on extended working hours in risky, unsafe environments, chasing the whims of algorithms.[15,16]

> **For many workers whose livelihoods depend on the decisions taken by the algorithms of digital apps, there is no possible break from the data deluge and the sheer intensity of permanent, coerced connection.**

We can file these distortions of the prevailing techno-solutionism under the rubric of data poverty. As we argued elsewhere,[17] data poverty concerns a multifaceted condition of invisibility that becomes particularly dangerous during a pandemic. It has little to do with data exploitation[18] or data colonialism[19] which might come across as "luxury problems" in the face of a soaring Covid-19 death toll (which stood at an appalling 1.4 million at the time of writing). Rather, as "data is tied to peoples' visibility, survival, and care", the pandemic has revealed two types of data poverty. The first has to do with the scarce statistical and testing capabilities of developing countries. The second concerns a growing number of invisible populations within distinct geopolitical and socio-political contexts — including gig workers, sex workers, and undocumented migrants.[20] While these segments of society suffer invisibility in ordinary times as well, during the pandemic their condition is particularly challenging; being invisible to the state might engender more risks and threats for these populations and their surrounding networks and communities. Furthermore, it can lead to exclusion from subsidies and welfare support — or even basic forms of assistance such as healthcare — even within resource-rich nations.

While data poverty maps into existing inequalities and exacerbates them, it also corresponds to a more general loss of agency for the individual and the community over their well-being. The forms of invisibility it perpetuates can deprive entire populations of voice and sovereignty over their futures. In this respect, investigating the impact of data poverty might help us to situate one of the paradoxes that has defined the governmental response to the Covid-19 crisis. On the one hand, governments across the globe have relied extensively on technocratic know-how, "expert committees", and *ad hoc* "task forces" operating outside the control and constraints

of democratic accountability. This approach has resulted in the imposition of top-down measures, stripping local communities of the power to define what constitutes community and care during a global pandemic. At the same time, individuals who have no control over this decision-making have frequently been penalized for not adhering to oftentimes draconian rules and dispositions such as lockdowns, their inability to do so framed as "recklessness" and blamed as the key factor in the aggravation of the pandemic. For all these reasons, we argue that rehabilitating the agency of individuals and their communities should be at the core of a Digital New Deal oriented toward destabilizing the dominant digital paradigm and offsetting the externalities of widespread data poverty.

Lessons from Latin American scholarship and movement praxis

We now turn our attention to Latin American scholarship and community practice in search for productive venues to address the problems of data poverty and the resulting loss of agency and sovereignty that go hand in hand with the tech industry's rising power over public and private life. Latin America is one of the most unequal regions of the world and has suffered a disproportionate loss of lives in the wake of the pandemic. Yet, over past centuries, the region has also nurtured a one-of-a-kind grassroots activism and critical scholarly thinking "pushing the boundaries of what it means to *pensar desde el Sur* [think from the South]".[21] Three critical fields of scholarly intervention and movement praxis provide food for thought to support our effort to draw the outlines of a Digital New Deal: **critical ecology, liberation pedagogy, and autonomous design**. These interventions go beyond the exposure of systemic injustice with roots in colonialist exploitation, and offer productive venues for social change centered on the individual and the community.

Critical ecology builds on the Latin American traditions of biodiversity and ecology preservation endorsed by eco-social movements like the Brazilian *Movimento dos Trabalhadores Rurais sem Terra*[22] and the international peasants' movement *Vía Campesina*.[23] It can inspire a Digital New Deal for two reasons. Firstly, it firmly positions the ecological question at the center of the social question — since "In the South, the 'social question' and the 'ecological question' get meshed together"[24] — and calls for "a necessary biocentric and bioethical turn"[25] in our understanding of our tech-mediated social relations. It invites us to put on "ecological spectacles"[26] to acquire a holistic vision "based on a new paradigm which has the Earth as its root and foundation".[27] Secondly, it encourages us to reignite the debate on the dependency of much of the Global South on technology developed in the North. "The ecological perspective again opens the discussion about the relations of international dependency," writes Joan Martinez-Alier in an article aptly titled *Ecology of the Poor*. The "North-South conflict can now be seen also as an ecological conflict."[28] In a nutshell, the critical ecology tradition interrogates societal over-reliance on technology that, contrary to market propaganda, is the poisonous fruit of twisted political economy histories and has a skyrocketing environmental footprint.

A second tradition of interest concerns **liberation pedagogy**, also known as pedagogy of autonomy. In the 1960s, Brazilian educator Paulo Freire, influenced by

Marxism and liberation theology, criticized the inability of the education system to empower the dispossessed to overcome their condition. In response to this structural problem, Freire proposed an educational approach that centers human beings as active agents in transforming their world and is based on dialogue and horizontal relationships between learners and teachers. Acknowledging that theory and practice of social change should go hand in hand if they are to break the prevailing 'culture of silence', liberation pedagogy can nurture a "critical consciousness" (*conscientização* in Portuguese) seen as "an intrinsic part of cultural action for freedom".[29] Liberation pedagogy is of value here for three main reasons. First, it attributes an active role to individuals and communities in shaping their futures. Second, it conceptualizes the unity of praxis (e.g., engagement with technology) and theory (e.g. values) in social change. Finally, it interrogates the paternalistic approach that has often characterized governmental response to the pandemic, evident in coercive measures like lockdowns.

Last but not least, "**autonomous design**" — a term coined by anthropologist Arturo Escobar — provides another useful lens to productively imagine our post-pandemic futures. It takes the lead from critiques of the development project ("a grand design gone sour"), and from the Zapatista[30] *cosmovisión* (worldview) of the pluriverse, "a world where many worlds fit". Escobar asks "how difference is effaced and normalized — and conversely, how it can be nourished."[31] Grounded in "an ethical and political practice of alterity that involves a deep concern for social justice, the radical equality of all beings, and nonhierarchy", autonomous design argues that design (of technology, policies, society) "can be reoriented from its dependence on the marketplace toward creative experimentation with forms, concepts, territories, and materials, especially when appropriated by subaltern communities struggling to redefine their life projects in a mutually beneficial relationship with the Earth."[32] Bringing the pluriverse to the fore encourages us to make room for and give voice to ontological difference[33] in the Digital New Deal — an approach that is diametrically opposed to the one-size-fits-all techno-solutionism[34] of our pandemic reality and helps to overcome the "data universalism"[35] that have characterized many Covid-related solutions.

> **Taken together, these three disruptive epistemic operations allow us to foreground the autonomy of individuals and communities vis-à-vis the industry and the state.**

Taken together, these three disruptive epistemic operations allow us to foreground the autonomy of individuals and communities vis-à-vis the industry and the state, which we argue, should be at the core of any Digital New Deal. In light of the growing data poverty and the lessons learnt from Latin American movements and thinkers, we now examine how the dominant digital paradigm can be reimagined for equity, justice, and sustainable futures. In the following section, we argue that the Andean indigenous social philosophy of ***buen vivir*** — defined as "a way of doing things that is community-

centric, ecologically-balanced and culturally-sensitive"[36] — can help us understand the present and collaboratively design a better future for the digital realm and beyond.

Nurturing integrated autonomy: *Buen vivir* with data

Buen vivir (itself a Spanish translation of the original Quechua *sumak kawsay*) is translated into English through rather imprecise phrases such as "good living" or "living well". It points to the harmonious coexistence of human beings with each other as well as the surrounding ecosystem. It is also connected to a sense of the collective. While neoliberalism promotes individual rights, *buen vivir* shifts priorities away from economic growth as an end in itself towards social and environmental wellbeing and meaningful human connections. It insists that the rights of the individual cannot be disentangled from those of peoples, communities, and nature. Not surprisingly, the notion has gained traction in recent years, finding itself enshrined in Ecuador's new constitution in 2008 with the recognition of the rights of nature and cultural diversity.

As sustainable development scholar Eduardo Gudynas explains, there are two common misunderstandings that attach themselves to the notion of *buen vivir*.[37] Firstly, *buen vivir* has often been injected with an idealized return to an imagined idyllic pre-Colombian past. In reality, it is a concept shaped not only by indigenous thinking, but also Western critiques of capitalism over the last three decades, especially in relation to feminist critical thinking and environmentalism. Secondly, while the term has been superficially equated to Western notions of wellbeing and welfare, it is radically different as it focuses not just on the individual and their needs, but is also rooted within the social context of the community and the environmental context in which the individual is embedded. We evoke *buen vivir* here because it intercepts some of the key concerns illustrated above, most notably the inevitable interconnection between humankind and the environment in the critical ecology approach, the agency of individuals and communities put forward by liberation pedagogy, and the coexistence of ontological difference cherished by autonomous design.

> Rather than conceiving *buen vivir* as a strict blueprint for change, we should view it as a launchpad for fresh thinking and new perspectives.

In the context of the Covid crisis, *buen vivir* can help us effect an economic and social "reset"[38] and rethink our mid- and long-term priorities. Linked to degrowth, the notion can help us redefine how we understand the limits of the dominant digital paradigm. It can inspire us to set new parameters for a future trajectory and prefigure possibilities for contesting the capitalist "there-is-no-alternative" imperative. Through this notion and related rights, we can, for example, reimagine and reorient health, travel, and education away from exploitative models that disregard people, places, and the natural

environment and usher in a transformative change in society. At the same time, the focus on *buen vivir* can promote social and environmental wellbeing and strengthen meaningful human connections.

We should, however, resist the temptation to romanticize the complex notion of *buen vivir* and strip it from socio-political contexts. Ecuador introduced *buen vivir* into its constitution not merely as an ethical principle (as in the case of Bolivia) but also embedded it as a set of rights. Yet it failed to manage the current health emergency[39] due to the usual corollary of an overworked hospital system and a helpless population. How, then, should we react to Ecuador's catastrophic handling of the pandemic? Unfortunately, the analysis of public policies adopted in the last decade reveals a worrying discrepancy between the promises of the official agenda and programs implemented on the ground. There is an evident gap between the principles and rights emanating from the notion of buen vivir and the policies and measures implemented by countries such as Bolivia and Ecuador in response to the crisis. This is why it is imperative to transform *buen vivir* into a concrete set of policies, activities, and regulations that can improve wellbeing. The ethical principle and the rights that emanate from this concept provide the right direction, but principles and promises must result in on-ground policies and measures that speak to the lived experiences of the people.[40] What the case of Ecuador makes evident is that rather than conceiving *buen vivir* as a strict blueprint for change, we should view it as a launchpad for fresh thinking and new perspectives that "helps us see the limits of current development models and [...] allows us to dream of alternatives that until now have been difficult to fulfil."[41]

If "living with data"[42] is our inevitable present and post-pandemic future, can we imagine a *buen vivir* for the datafied society? We argue that *buen vivir* with data entails foregrounding at least three key ingredients. The first concerns the fusion of the social with the ecological question, or in other words, the search for a harmonious relation between human and nature.

> **A Digital New Deal must seek to put the social and the ecological questions at the core as the two are intimately connected.**

This is obviously of paramount importance in an age of climate emergency. However, it also entails deconstructing the notion that a datafied society is inherently the green alternative to the fossil fuel era. The data economy is expected to consume one-fifth of global electricity by 2025,[43] but this figure corresponds to the pre-pandemic energy consumption. In 2016, data centers had the same carbon footprint as the aviation industry.[44] A Digital New Deal must seek to put the social and the ecological questions at the core as the two are intimately connected.[45]

The second ingredient for a *buen vivir* with data points to the necessary dialogic and participatory approach that must be at the center of any decision-making that concerns people, paving the way for the autonomy of and an active role for communities in shaping their datafied futures. Without downplaying the role of expertise in a global crisis like the one we currently face, centering dialogue

à la Freire generates situated knowledges and individual as well as collective empowerment.

Finally, the third ingredient in our list has to do with a "localized, relationship-oriented"[46] practice of community care and solidarity based on the acknowledgment of ontological difference as well as commonalities. We have seen many instances of this spontaneous solidarity at play during the pandemic, as testified by the editorial project 'Covid-19 From the Margins',[47] among others.[48] Rather than just filling in for the (many) failures of the (welfare) state, solidarity and community care should be seen as a way to reclaim agency and sovereignty while defining the kind of societies we want to live in. An ambitious and much-needed green recovery program[49] based on environmentally-friendly growth and an expansion of renewable energy in Latin America can offer a platform where the diverse elements foregrounded in this intervention can be reconciled and experimented with. Only in this way can we hope to reconcile a Digital New Deal with local preferences, values, customs, worldviews, and practice, and make room for a sustainable digital future.

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ILLUSTRATION BY MANSI THAKKAR

Action Group on Erosion, Technology and Concentration (ETC Group)

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Food for All or Feeding the Data Colossus? The Future of Food in a Digital World

The Covid-19 pandemic has accelerated the global resource grab in our food and agriculture systems. The encompassing digitalization of the core ecological and social components of these systems is the new means of making vast profits. Approaches that claim precision through efficient utilization of resources are, in fact, forms of power grab by the data colossus — the world's largest corporations such as Google, Amazon, Microsoft, and Alibaba — from the fields and fishing grounds of farmers and fisher folk. In response to these incursions, some groups of smallholder and peasant farmers have been either struggling to benefit in the fringes of digitalization or attempting to create their own open source alternatives. Ultimately though, the principles of food sovereignty can only be protected by democratic processes that challenge the monopolistic powers of these corporations. To develop alternatives to a corporate-controlled 'fourth industrial revolution' and regain control over our food and agricultural futures, we need to assert peasant farmers' sovereignty over their data, promote agro-ecology and bottom-up technologies, and build a comprehensive global system of participatory technology assessment.

Introduction

Food and agriculture has always been a key battleground for the deployment of new technologies. The sector has often acted as a vehicle to win over to industrial models of production, the hearts, minds, stomachs, and pockets of people who produce food and those who consume it — which is everyone. It is also a big business. The World Bank estimates that the food system accounts for at least a tenth of the global economy, making food a natural target for technology titans seeking new speculative investment opportunities for the development and deployment of new technologies.[1]

Technology has transformed the global food system several times in the recent history and big technology firms (whether in chemicals, genetics, or machinery) have been especially active in exploiting this field. Far from being politically neutral, technology is always introduced within an ideological framing and advanced by powerful players who use it as a lever to shift or retain power in the food system and, thereby, over populations. As it was for industrial chemistry pioneers in the last century, so it is today for data colonialists who smell profits in the fields and the fishing grounds.

The power vested in technology to transform the global economic system has never been greater. The exponential technological changes ushered in by the so-called fourth industrial revolution have the potential to upturn all economic sectors including food and agriculture. This essay argues that any alternative to this corporate-led technological food future will have to contain strategies to counter this tsunami and challenge the ideologies behind it. These alternatives must centre the interests and livelihoods of peasant farmers, small farmholders, and indigenous communities who feed 70 percent of the world's population, and yet, have been perennially pushed to the margins by previous technological waves and their disruptive consequences for the food system.

> Technology has transformed the global food system several times in the recent history.

The essay is structured as follows. In Section 1, we outline how mega-corporations have identified food and agriculture systems as sources of data and then proceeded to harvest this data for financial gains. Sections 2, 3, and 4 identify some of the most dangerous features of this data colossus. Finally, Section 5 proposes the strategies and components of an alternative new deal for food and agriculture based on a democratic process of technology assessment and the principles of food sovereignty.

1. The flawed food system as a 'data problem'

While food producers traditionally consider seeds, breeds, soil, and cultural practices as the bedrock of the food system, corporate players are increasingly regarding data as the key strategic resource. A great mapping is underway, reimagining every aspect and challenge of the food system as a big data enterprise — from soil, climate, and genetic data, to logistics, trade, consumer, and health data. The streaming of big data from farm machinery, grocery shopping,

or agro-biodiversity is now an increasingly valuable commodity in its own right, leading to the rapid economic ascendancy of data platforms in the agri-food industry and the 'datafication' of all aspects of food, agriculture, human health, environment, and other related domains.

> Data surveillance, processing, and manipulation is transforming each 'link' across the food chain.

Data surveillance, processing, and manipulation is transforming each 'link' across the food chain — beginning with breeding and genetic engineering strategies at one end, followed by data-mediated food logistics and commodity delivery systems in the middle, and digital consumer retail and health technologies at the other end.[2] But reframing the challenges faced by the food system as a 'data problem' only suits the interest of investors such as asset management firms with horizontal shareholding across the food chain.

To be sure, this overarching system of control enabled by the datafication of the global food system did not happen overnight. The decades-long struggles of family farmers in the Global North to defend their 'right to repair'[3] was a subtle warning of the technological slavery that would come with the corporate takeover of data and technology on the farm. Farmer groups have cried foul on digital 'turnkey' agreements where the user of data-enabled tractors legally surrenders rights by the act of turning on the machine. They have locked legal horns with farm machinery giants to protect their right to repair farm machinery. In this digital Wild West, many governments and regulators have been persuaded to allow corporations to reap vast profits from e-commerce and digital trade without ever being required to pay taxes. In the post-pandemic economy, unmitigated corporate influence on the food chain, facilitated by big data surveillance, is being repackaged as the harbinger of food safety, health, and personalization benefits to end consumers, and production cost efficiencies to farmers and fisherfolk. Over time, platform companies can boost their profits by utilizing big data patterns and machine learning (often called artificial intelligence or AI) to redesign the entire food system. The result would be a food system stripped of all direct human relations with the soil, plants, animals, rivers, or the oceans, and mediated by data and data-driven business strategies.

2. Food systems in a biodigital world: Old game, new tricks and traps

Food systems contain both the complex and diverse living world of biology and the hyper-rationalized behavioral world of economics. It is at this interface that biodigital convergence — the interactive combination of digital technologies and biological systems — has emerged.[4] We see this trend in every step of the food chain — the development of robotic bees to aid pollination, the co-evolution of digital and biological technologies in the agricultural application of CRISPR-Cas9 technologies,[5] and synthetic biology microorganisms 'programmed' to secrete industrial proteins. Beyond the individual 'apps', a digitally-enhanced agro-ecosystem is being envisaged as a bio-digital

system — a living, food-growing landscape shaped and nudged by robotic and data-driven machines.

Biodigital convergences across the food system are paving the way for new players, from sectors that are not traditionally associated with food and agriculture, to wield power over food production and consumption. This includes everything from digital technology platforms to companies manufacturing drones and hyperspectral sensors, and oil, energy, and finance majors that want to biodigitally reshape landscapes and farming practices, marketing them as climate change mitigation initiatives and reaping carbon credits to offset emissions from their fossil fuel-dependent businesses.

These biodigital interventions will have profound and long-lasting impacts on the global food system, hunger, food sovereignty and farmers' rights to seeds, and development. They will displace rural labor, undermine traditional and local knowledge systems, further marginalize farmers, and expand extreme industrial agriculture.

For agri-food giants, data strategies are not just a means to uncover and capture new efficiencies in food. These strategies form the basis for shifts in the economy toward 'surveillance capitalism'[6] as data giants amass and leverage datasets from both food producers and consumers as a new form of capital. The agricultural and food data thus collected can be profitably combined with environmental, health, security, and consumer data to deliver real-time insights with exploitable value beyond the food system. This means that the big names in food in the coming decades are most likely to be data processors. Amazon with its data trove, data-led insights, and AI capacity to understand the consumer grocery end of the food chain is now stepping into what its supporters call 'precision agriculture'. Its web services subsidiary is partnering with major seeds and agrochemical companies as well as genomic data initiatives like the Earth Biogenome project. Similarly, Alibaba is aggressively moving into the digital food and agriculture space through its 'ET Agricultural Brain'.[7] Meanwhile, giant agribusinesses such as Bayer (now incorporating Monsanto), Yara, and John Deere are reinventing themselves as data providers, crunching data generated from farmers' fields in strategic alliance with digital platforms.[8] Corporate behemoths in poultry and livestock have also embraced big data, machine learning, and the internet of things (IoT) to make their operations more 'efficient', which is often code for reducing dependence on human labor while maximizing profit at every stage.

> For agri-food giants, data strategies are not just a means to uncover and capture new efficiencies in food, but form the basis for shifts in the economy toward 'surveillance capitalism'.

The industrial agricultural system, comprising long food chains that depend on fossil fuel, leaves food availability vulnerable to

energy shocks and trade disruptions. The emerging data-dependent agri-food system will find itself confined by limitations and vulnerabilities arising from data infrastructures. On-farm data, consumer food data, genomic data, among others, will constitute an ever-larger driver of the data colossus enabled by massive networks of supercomputers, servers, data centers, fiber optic cables, and 5G wireless systems. No-holds-barred mining of lithium, copper, silicon, and other rare earth minerals necessary to create the infrastructure for this colossus will increasingly place a hard physical limit on the ability of digital food systems to feed people. The possibility that deliberate cyberattacks, ill-designed algorithms, or network outages could cause food shortages in the digitally-mediated food chain is yet to be reckoned with, as is the vulnerability of our complex food system. With industrial farming and food provisions increasingly designed and directed by machine learning, the potential for unexplained (and unexplainable) points of failure in the food system is growing.

Energy and material limits on data systems will also drive interest in low-energy biological modes of computation, data transfer, and storage — such as molecular communication developed to process and carry digital information on biological and chemical molecules such as DNA or pheromones. Farmers and fisherfolk may find themselves recast as literal data farmers and synthetic molecular communication may interfere with natural ecological modes of communication and other mutually beneficial relationships between living things, such as gene flow and pollination processes.[9,10]

Biodigital investments are additionally flowing into biotech strategies that do not modify the food itself but, instead, either modify elements of agro-ecosystems such as soil microbes, weeds, and insects, or do not incorporate modified DNA into the final product such as 'transient modification', RNAi sprays, biosynthesis, and big data breeding strategies.[11] By avoiding the legal definition of genetically modified organisms (GMOs), these kinds of technologies could allow the industry to sidestep regulations that have safeguarded most consumers from genetically engineered foods for the last 25 years.

3. Creating illusions of 'choice'

Corporations attempt to 'nudge' or persuade consumers towards specific behaviors — for instance, into accepting GMOs — while giving them the illusion of choice. During the pandemic, online sellers enticed consumers to save time and avoid social contact by using different 'hyper-nudging' techniques.[12] Such techniques include consumer-targeted discount e-coupons, products placed strategically at the online point of sale, and leveraging insights from a consumer's shopping history in order to offer new products according to taste, lifestyle, and income.[13] Needless to say, these hyper-nudging techniques have very little transparency and even lesser regulatory limits on the purposes of algorithmically-driven desire-modification and to what end.

> The manipulation of consumer behavior can generate real-time profit opportunities in genetics or farm conditions.

The manipulation of consumer behavior can generate real-time profit opportunities in genetics or farm conditions. Technology platforms with interests across the food chain can leverage consumer insights to redesign seeds, farming patterns, and logistics in ways that maximize short-term profit at great cost to ecosystems, health, justice, and people's rights.

4. Corporate megabytes for lunch?

The future of our food system thus stands compromised. With technology companies making inroads into the system, digital technologies are at the forefront of shaping the present and the future of food and agriculture. As the digitalization tsunami sweeps across farming communities, landlessness, land grabbing, exploitative market relations, and the lack of social protections will likely worsen.

The trillion-dollar companies Amazon, Apple, Microsoft, and Alphabet have already become so powerful that governments and multilateral organizations like the United Nations (UN) heed their advice on public health, education, and digital cooperation policies. These firms and their political surrogates claim that digital technologies can solve the world's problems, ranging from diseases and aging to energy and food crises. They echo the false promise of small-scale solutions — that utilizing big data, sensors, and machines could render diverse smallholdings and fishponds more profitable. Instead of giant autonomous combine tractors rolling across enormous fields, they advocate for swarms of small robots to be deployed in smaller disaggregated plots. Catchy labels like 'climate-smart' digital and genomically-enhanced agriculture are promoted as consistent with demands that industrial modes of production be replaced with more democratic approaches that give

> As the digitalization tsunami sweeps across farming communities, landlessness, land grabbing, exploitative market relations, and the lack of social protections will likely worsen.

The knowledge and agency of farmers and peasant families will be pushed further into the margins as robotic agriculture moves into their lands, obliterating the role of women farmers, wiping out livelihoods, and transforming economies. The underclass of people living in economically precarious circumstances in rural and urban areas will keep rising, exacerbating income and social inequalities.

local communities more control. In reality, such shifts merely entrench the power of the already-dominant megacorporations that own these technologies and thus control the infrastructure of an increasingly digitalized food system.

Hyperbolic promises of 'technology for good', involving public-private partnerships such as the World Economic Forum (WEF),

proclaim that digital technologies can deliver higher income, better living conditions, and more equitable status for peasants and smallholders in the post-pandemic world. And some small enterprises, farmers' groups, and civil society organizations do indeed venture into harnessing the potential of digital technologies in good faith from their position in the fringes, relying on smartphones and open operating systems as tools for digital leverage. But more often than not, the pro-poor narratives are propagated by self-styled digital saviors and the vested interests behind these technologies.

5. An alternative new deal for food and agriculture

Reversing the corporate capture of the global food system and reclaiming it for people and the planet calls for building an alternative new deal for food and agriculture. This is a task already being undertaken by some farmers' groups and popular movements which are actively discussing alternative digital technologies, based on a set of premises different from those espoused by corporate interests. Ultimately, whether or not, how, and which technologies may be beneficial for peasant farmers, pastoralists, and fisherfolk on whose backs the global food system is built, will depend on the conditions, requisites, and sincerity in building this new deal. But at its core, it should take into account the following components:

5.1. Peasant farmers' sovereignty over data

Data giants are already forcing a new, poorly understood reality upon food systems. There is an urgent need to interrogate and expose who controls and benefits from this evolving digital reality. Without a doubt, the digital food system is being reconfigured to benefit data processors, industrial agricultural giants, biotechnology players, commodity and grain behemoths, the global logistics machinery, and retail giants that are, in turn, gradually being swallowed by digital platform giants.

It is, therefore, more urgent than ever to talk about food sovereignty, the right of peasant farmers, peoples, and countries to define their agriculture and food policies in ways that establish direct, democratic control over how they feed themselves, and how they maintain land, water and other resources for the benefit of current and future generations. It is a vision that animates all food movements struggling for justice. In the post-pandemic world, where digital technologies are ubiquitous, peasants and smallholder movements globally will have to consider if farmers' control over data has a place in the tenets of food sovereignty. Some argue that limited digitalization could be useful in agriculture and is compatible with food sovereignty. This especially if peasant farmers decide to digitize information and data on their practices and resources for the benefit of their communities, based on free, prior, and informed consent and full knowledge. Others question whether this new, fleeting, and seemingly fungible 'economic commodity' approach to data and associated disruptions have any place in a resilient food system that privileges life processes, communities, and place.

Key to this debate is the recognition and defense of the central role of farmers and fisherfolk in creating the knowledge, relationships, and harvests that nurture the majority of the population, and that are now being reduced to data without their consent. Irrespective of whether farmers consciously

generate these datasets, taking back control over data is critical to determining their community's future. These debates need to be part of a collaborative effort to reimagine and reconfigure digital relations in ways that can protect and advance the rights of peasants, smallholder farmers, women farmers, agricultural and food chain workers, cooperative markets, local breeders, and fishing communities.

> **Publicly-generated environmental data, genetic data, weather data, and agronomic data must remain in the public sphere.**

Just as farmers' movements and civil society fight for seeds and associated knowledge to remain free from proprietary rights and enclosures, publicly-generated environmental data, genetic data, weather data, and agronomic data must, at the very least, remain in the public sphere, free from enclosures or commercial exploitation. Some initiatives offer free and open source software in which algorithms and data are not proprietary, but controlled by those who create the data. These are steps in the right direction but not, in themselves, sufficient.

A promising example of a redefined model for generating, developing, and sharing data — digital and otherwise — in the agriculture sector is the Farm Hack initiative, a global collaborative platform for exchange of knowledge and people-centred farm tools among farmers across the world.[14] The right to repair movement, of which Farm Hack is an example, is an important spoke in redefining the role of data in food systems and asserting people's right and control over data and data-driven technologies. Data tools in production systems should be regarded as a means for peasant farmers and smallholders to better understand their own environment, consider options, and develop skills, capacities, and potentials based on their needs and self-determination. However, even in such models, we need to ask who is doing the data aggregation, through which ideological lens, and what kind of power does the aggregator acquire in relation to farmers and the community.

Farmers and communities should expose and challenge ostensibly attractive deals and free apps extended by technology companies to suck up knowledge and data to improve their algorithms and machine learning capacities. Google, for example, is distributing AI tools for crop identification to African farmers which, like its core search technology, does not make it clear that data from users — purportedly the recipients of a 'free' service — are being used to improve the company's algorithmic capabilities. There is no agreement to return that value to the farmers whose crop data are being digitally pirated to improve neural nets in North America. Many agricultural technology start-ups are, with good intentions, establishing similar collaborations with communities and non-governmental organizations to generate big data that power proprietary algorithms. These collaborations are based on the premise that data is a free and worthless commodity at the extraction stage, but gains in value immeasurably once processed by algorithms developed by data colonialists.

If we are to counter such extractivist practices, the principle of free, prior, and

informed consent to be sought from farmers and communities before collecting data from their fields and agricultural practices, should be inviolable. The terms 'free', 'prior', and 'informed', when taken seriously, would mean that the real costs and implications of engaging in data relations are transparently and fairly spelt out before farmers give their consent.

5.2. Agroecology and the fight for 'wide tech'

Socially just forms of ecological food production that build on existing practices by smallholders and peasant farmers, often termed agroecology, are practiced by hundreds of millions of farmers who feed the majority of the world's population.[15,16] These practices are developed by communities across generations through shared and collaborative knowledge systems that incorporate local, traditional, and indigenous knowledge and practices, in addition to being informed by institutional knowledge. While the pandemic has provided an opportunity for digital technologies to make significant inroads into our food systems, agroecological approaches, particularly those based on the principles of food sovereignty, are also growing in popularity and can provide a counterweight. However, bottom-up agroecological technologies and innovation including open source platforms — collectively referred to as 'wide tech' — need to safeguard against potential corporate appropriation that can undermine local innovators and prey on local knowledge and resources.

The fight for agroecology should be undertaken on all fronts, local to global. The UN's Food and Agriculture Organization (FAO) is an important and legitimate arena for such a fight. Over the past few years, civil society has made much headway in advancing the agroecology agenda at this forum. However, the misappropriation of the concept of agroecology is also underway, with industrial agriculture interests advancing their own corporate interpretation and lobbying for an expansion of agroecology deliberations to include 'other innovative practices' which are barely defined. It is only a matter of time before digital farming lobbyists start expounding the gospel of 'cyber-ecological' or 'robo-organic' farming. While peoples' movements have successfully pushed for a recognition of agroecology as an organizing framework for food systems, the corporate push for digital agriculture is now taking centerstage. The proposals to create a Digital Council for Food and Agriculture at the FAO and convening of a Food System Summit by the UN in 2021 are driven by agribusiness proponents who have elevated digital solutions as an organizing theme with agroecology as an add-on.

5.3. Cutting the bots out: Creating shorter food supply chains

Against this backdrop of increasing corporate concentration, globalization, and digitalization of the food system, has emerged a countervailing trend among food producers and consumers. Since the pandemic, many smallholder food producers in the Global South have reconnected with local consumers in the midst of disruptions in export markets and commercial supply chains during lockdowns.[17] Some surveys suggest that up to a third of consumers in the United Kingdom are buying more locally-produced foods.[18] Policy responses imposing social distancing during the pandemic have ironically fostered mutually supportive

relationships between producers and consumers in many countries. Communities have witnessed the emergence of shorter supply chains through direct producer-consumer links, community-supported agriculture, and even systems of bartering. Disruption in jobs and livelihoods have also engendered social innovations and entrepreneurship across communities in various contexts, especially among women and youth. The flourishing mutual aid and stronger local networks often have a digital character, enabled largely by existing communication technologies and rudimentary, often non-proprietary, software for social collaboration and micropayment.

The counter-trend towards short supply chains and less industrialized systems could continue and even increase in the coming years, strengthened by demands for greater nutrition, diversity, a healthier environment, and mutual support among peoples. However, given the huge amounts of capital being invested in the digitalized industrial food system, and the disregard for its ecological and social impacts, there is a real risk that an increasing proportion of the global food system will become locked into industrial models.

5.4. Interrogating techno fixes: Participatory technology assessment

Technology assessment (TA) is fundamental to the debate on fair, just, and ecologically sustainable use of digital technologies that serve the common good. Participatory TA is a process that enables people to evaluate new and emerging technologies and allows them to examine the interests and powers behind the introduction of new technologies, the ways in which they are applied, and their potential impacts on the environment and communities. The active involvement of civil society, indigenous peoples, local communities, farmers, fisherfolk, popular and social movements is fundamental in participatory TA, which is aimed at democratic control over technologies, grounded in the precautionary principle and the rights of communities to free, prior, and informed consent.

Respecting collective decisions to adopt or reject a technology or putting conditions on its development and application is a key element of TA. The process could focus on scientific research linked to the development of future technologies that may directly impact communities, as well as existing technologies that were imposed without such consent. It could foster food sovereignty and even conflict reduction in communities[19] through peasant agroecological approaches. It could provide a powerful platform for communities to examine the relevance of digital technologies in the food system, explore the desirability of non-digital options, and consider a variety of options and innovations beyond the technological sphere.

6. End reflections

Innovation and technological developments can take many paths, each involving intrinsically political choices. Precaution requires an understanding of the real nature of uncertainty by avoiding the scientific error of mistakenly assuming safety or harm. Reclaiming our future in a way that is guided by precaution and democratic accountability, rather than abandoning it to the data colossus, is not only possible, but also a moral imperative.

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ETC Group is a small, independent civil society organization that monitors the impact of emerging technologies and corporate strategies on biodiversity, agriculture, and human rights. It has offices in Quebec in Canada, Davao in the Philippines, Mexico City and the UK.

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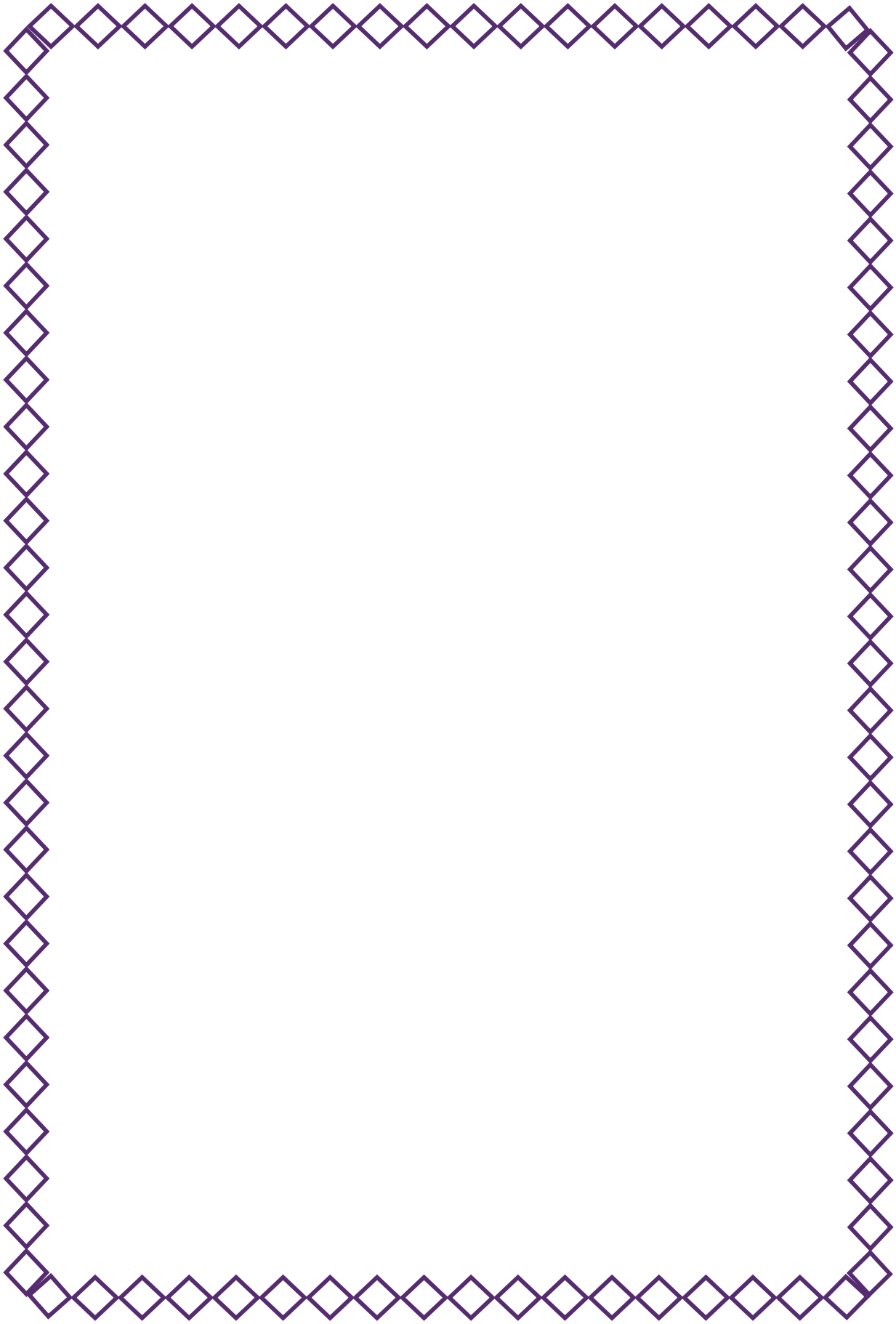


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Beyond Public Squares, Dumb Conduits, and Gatekeepers: The Need for a New Legal Metaphor for Social Media

In the past few years, social networking sites have come to play a central role in intermediating the public's access to and deliberation of information critical to a thriving democracy. In stark contrast to early utopian visions which imagined that the internet would create a more informed public, facilitate citizen-led engagement, and democratize media, what we see now is the growing association of social media platforms with political polarization and the entrenchment of racism, homophobia, and xenophobia. There is a dire need to think of regulatory strategies that look beyond the 'dumb conduit' metaphors that justify safe harbor protection to social networking sites. Alongside, it is also important to critically analyze the outcomes of regulatory steps such that they do not adversely impact free speech and privacy. By surveying the potential analogies of company towns, common carriers, and editorial functions, this essay provides a blueprint for how we may envision differentiated intermediary liability rules to govern social networking sites in a responsive manner.

Introduction

Only months after Donald Trump's 2016 election victory — a feat mired in controversy over alleged Russian interference using social media, specifically Facebook — Mark Zuckerberg remarked that his company has grown to serve a role more akin to government, rather than a corporation. Zuckerberg argued that Facebook was responsible for creating guidelines and rules that governed the exchange of ideas of over two billion people online. Another way to look at the same argument is to acknowledge that, today, a quarter of the world's population (and of India) are subject to the laws of Facebook's terms and conditions and privacy policies, and public discourse around the globe is shaped within the constraints and conditions they create. Social media platforms, like Facebook, wield hitherto unimaginable power to catalyze public opinions, causing a particular narrative to gather steam — that Big Tech can pose an existential threat to democracy.

This, of course, is in absolute contrast to the early utopian visions which imagined that the internet would create a more informed public, facilitate citizen-led engagement, and democratize media. Instead, what we see now is the growing association of social media platforms with political polarization and the entrenchment of racism, homophobia, and xenophobia. The regulation of social networking sites has emerged as one of the most important and complex policy problems of this time. In this essay, I will explore the inefficacy of the existing regulatory framework, and provide a blueprint for how to think of appropriate regulatory metaphors to revisit it.

1. The role of new media in democratic discourse

For a thriving democracy, three essential components are generally necessary: free and fair elections, working forms of deliberation, and the ability of its people to organize themselves for the purposes of protest. The basic idea behind deliberative democracies is that effective public political participation means more than just majoritarian decision-making. It involves the exchange of reasons and arguments — elected representatives should be able to provide the reasons behind their decisions, and respond to the questions that citizens ask in return. This process of debate, discussion, and persuasion, in addition to the aggregation of votes, is crucial for the legitimacy of policy outcomes.

The advent of the internet and social media has meant that millions of people are interacting with each other and debating issues. At the time of writing this essay, there are over 3.01 billion people online, over 20 percent of the world's population. Since the early 2000s, a general optimism around new media, coupled with a mounting loss of faith in mainstream media, led many to believe that social networking sites would limit the ability of editors — compromised by economic and political compulsions — to play the role of gatekeepers of news. It was hoped that public accountability would emerge from the networked nature of the new media. Several examples of citizen journalism enabled by social media were hailed as harbingers of a new era of news.

This vision of social media as a democratizing actor was based on the ideal that it would be open, egalitarian, and enable genuine public-driven engagement. Google News,

Facebook's News Feed which tries to put together a dynamic feed for both personal and global stories, and Twitter's trending hashtag feature looked poised to be the key drivers of an emerging news ecosystem. Initially, this new media was hailed as a natural consequence of the internet which would enable greater public participation, allow journalists to find more stories, and engage with readers directly.

platforms that allow us to explore different perspectives and arguments before we make up our minds. Instead, these algorithms seize on our half-baked opinions and hasten their crystallization. It is bad enough that our online selves drive this propaganda, but lately, politically aligned actors are making creative use of such platforms to inundate us with misinformation, hate speech, and polarizing content.

A democratic society needs media and platforms that allow us to explore different perspectives and arguments before we make up our minds. Instead, these algorithms seize on our half-baked opinions and hasten their crystallization.

Over time, it became evident that far from being open or egalitarian, social media platforms introduce their own specific techno-commercial curation of how information is accessed. This can often amplify, and not lessen, the issues that plague mainstream media. For a democratic society to thrive, individuals need to be active participants in discourse and not passive recipients of information. Social media platforms view users primarily as consumers, and not citizens. Their single-minded drive to appeal to our basest and narrowest set of stimuli may make good business sense, but does no favors to the cause of democracy. As citizens, we need to be exposed to more than the most agreeable or extreme form of our still evolving opinions. The signal we give to algorithms through likes and clicks are often only a fleeting or tentative take on an issue. A democratic society needs media and

2. The 'public spheres' of online platforms

Internet platforms have tremendous power to shape and moderate content that they facilitate. Although run by private corporations, these platforms have become public squares for discourse without any public accountability. This has blurred the lines between the public and the private. In the United States, the Supreme Court ruled that streets and parks, regardless of who owns them, must be kept open to the public for expressive activity. In the landmark 1939 case Hague v. Committee for Industrial Organization, the court said clearly:

> *"Wherever the title of streets and parks may rest, they have immemorially been held in trust for the use of the public and time out of mind, have been used for the purposes of assembly, communicating thought between*

citizens, and discussing public questions. Such use of the streets and public places has, from ancient times, been a part of the privileges, immunities, rights, and liberties of citizens."

Despite its relative obscurity, there are few constitutional rights with more everyday relevance than the right to speak freely in public or address crowds on the sidewalks. The peculiarity of viewing even privately-owned spaces as 'public forums' lies in moving beyond the restrictions imposed by the state in penalizing private actions on public property. This means that free speech must be allowed to occur freely in public places, thus giving citizens the rights to assemble, protest, and engage in free conversation.

filed a suit against this act. This private handle (@realDonaldTrump), with over 53 million followers, is used by the president on a daily basis to pronounce policy decisions and opinions. In fact, the former White House Press Secretary Sean Spencer clearly stated that tweets from this handle could be considered official statements made by the president.

The Southern District court of New York refused to see Twitter as a traditional public forum. But it said that the interactive space accompanying each tweet, vis-à-vis how people are allowed to share, comment on, and otherwise engage with the tweet, may be considered a designated public forum. However, even here the key concern was not whether Twitter was a public forum or not,

> There are few constitutional rights with more everyday relevance than the right to speak freely in public.

While we do not have anything similar to the public forum doctrine in all common law countries, in most cases, there will be clearly articulated rights to assembly, with similar objectives. Thus far, courts have been hesitant to accord social media platforms the status of public forums. The primary reason is that these remain privately-owned platforms with their own community guidelines. While often informed by laws on issues such as copyright infringement, hate speech, and misinformation, the enforcement of community guidelines are not judicially-determined decisions.

This became a thorny issue when United States president Donald Trump, using his personal Twitter handle, blocked the accounts of several people, seven of whom

but that a citizen's right to access government information was being restricted. The court's reasoning was that the nature of the platform is irrelevant; it is the nature of speech, and the fact that it is government speech, that is relevant. Even though the concerned account is a private one and Trump operates it as any other private user would, when the platform is used to perform roles that relate to public functions, it automatically transforms from a private account to a designated public forum.

Besides, for those of us who consume and engage with information through platforms like Facebook and Twitter, the web, over time, gets reduced to a personalized, and therefore narrower, version of itself. Our Facebook timelines are occupied more and

more by people and posts with shared and similar interests, proclivities, and ideological leanings. Attempts to break out of this restricted worldview by following people and organizations whose voices one may perceive as dissimilar to their own are often unsuccessful. In these circumstances, it feels as though platforms like Facebook deliberately resist attempts by people to burst the personalized bubble it creates for them. It is ironic then that in a hearing before the Senate Select Committee on Intelligence in 2018, Jack Dorsey, the founder and chief executive officer of Twitter, repeatedly referred to Twitter as a "digital public square", which required "free and open exchange".

Clearly, there are parts of social media which are designated spaces, where government officials, ministries, departments, elected representatives create pages, accounts, and handles to communicate with the public. This part of the platform is designated as a public forum and the same standards apply here. But that is not the case for content created by ordinary citizens on social networking platforms.

In several countries, including the US and India, courts have applied the well-known 'public-function' test, under which the duties of the state will apply if a private entity exercises powers traditionally reserved exclusively for the state. This means that if an entity performs a function of a sovereign character or one that significantly impacts public life, it must be considered the state for that purpose. The need for such a provision arises from the tremendous amount of power exercised by social networking sites in contemporary times.

3. Legal metaphors for social media

Over the past three decades, we have seen legal jurisprudence evolve to understand and address the legal questions posed by the internet and cyberspace. Most of these issues remain unresolved in our legal imagination, but we have formulated structured and clear principles about how one may approach them. Jurisprudence on cyberlaw is built largely around finding the appropriate metaphor. More often than not, the law and jurists seek assistance from existing regulations governing offline activities which can be most likened to the digital activity in question. The regulation of internet intermediaries has been built around the overworked metaphor of 'dumb conduits'. Below, we explore the different analogies that could instruct how we regulate intermediaries in general, and social networking sites in particular.

Kate Klonick argues that there are three possible ways to look at the major social media companies. The first is to view them as 'company towns' and ascribe to them the character of the state, bound to respect free speech obligations as the state would. The second is to view them as common carriers or broadcast media, not equivalent to a public body but still subject to a higher standard of regulation so as to safeguard public access to its services. The third analogy would treat social media sites like news editors, who generally receive full protections of the free speech doctrine when making editorial decisions.

Jonathan Peters is a proponent of the first analogy. Peters relies on the landmark US Supreme Court case Marsh v. Alabama which states that "the more an owner, for his

advantage, opens up his property for use by the public in general, the more do his rights become circumscribed by the statutory and constitutional rights of those who use it." While this view of March has roundly been rejected in later cases, Benjamin Jackson provides a more rounded argument for invoking the 'public-functions' test. He argues that "managing public squares and meeting places" has fallen within the domain of the state, and now that social networking sites perform this role, they perform a public function. This approach has received some judicial blessing in the US, most notably in Packingham v. North Carolina, where the court equated social networking sites such as Facebook, Twitter, and Linkedin with the 'modern public square'. This formulation, while effective in dealing with the denial of access of information on these platforms, will pose other problems. As both Klonick and Daphne Keller suggest, this may be disastrous in dealing with already exacerbated problems of misinformation and hate speech online.

The second analogy likens social networking sites to common carriers such as broadcast media. According to Black Law's Dictionary, a common carrier is an entity that "holds itself out to the public as offering to transport freight or passengers for a fee". This common law doctrine has been central to the regulation of modern telecommunication carriers such as radio and television broadcasters. These broadcasters are not considered analogous to the state, in that they retain their private identities and the rights that go alongside. However, they are expected to be subjected to a higher degree of regulation, most importantly, the 'equal access' obligations. These obligations are based on one of three rationales. In the case of radio, the need for regulation arose from the "scarcity" of radio frequencies, prompting governments to intervene through a licensing and allocation system. Cable television does not suffer from the same scarcity limitations as radio; here the rationale for regulation is based on the bottleneck, or gatekeeper, control over most (if not all) of the television programming that is channeled into the subscriber's home through the cable operator. The third criterion is that of invasiveness. Back in 1997, a US court categorically denied that the unique factors that justified greater regulation of cable and broadcast were present in the case of the internet. Its decision was based on the reasoning that the internet was not as 'invasive as radio or television' as it required affirmative action to access a specific piece of information unlike on radio and television.

> **Most intermediaries affirmatively shape the form and substance of user content in some manner, using highly intelligent prioritization algorithms.**

A decade later, in 2008, Bracha and Pasquale critiqued this position, arguing that the internet has emerged as a space where "small, independent speakers [are] relegated to an increasingly marginal position while a handful of commercial giants capture the overwhelming majority of users' attention and re-emerge as the essential gateways for effective speech". Effective application of the common carrier analogy requires looking

at two key questions. First, in what ways are internet intermediaries, and in particular social networking sites, comparable to common carriers like cable and broadcasters. Second, do these intermediaries satisfy either the "scarcity" test, the "bottleneck monopoly power" test, or the "invasiveness" test. The nature of regulation that they must be subject to could depend on the role they are performing and how it satisfies one of the above tests.

The final analogy is that of 'editors', where social networking sites exercise content moderation powers in line with the protected speech rights of a newspaper editor. Volokh and Falk have argued that search engine results are protected speech because they are a result of editorial judgments. It has been debated whether search engines, by virtue of dealing with facts as opposed to opinions, are rendered outside the scope of free speech. This position may not be tenable under several common law jurisdictions as facts are where much of the speech begins, and search results also represent a subjective opinion about facts. The same considerations may also apply to 'editorial' decisions of social networking sites. This characterization would also have an impact on the safe harbor protection (in that they are exempt from liability for user-generated content) that internet intermediaries enjoy in several jurisdictions. The basis for safe harbor is the idea that intermediaries are dumb conduits for the distribution of the speech of their users, rather than speakers themselves. However, this argument of dumb conduit is no longer tenable. Most, if not all, intermediaries affirmatively shape the form and substance of user content in some manner, using highly intelligent prioritization algorithms.

First, let us consider the more superficial design features of intermediaries. When Twitter, for instance, claims safe harbor, it positions itself primarily as a distributor of users' tweets. However, its user interface is deterministic and affects the nature and content of tweets. The 140-character limitation (now 280) has led to the evolution of Twitter's own syntax and vocabulary. Replies, likes, retweets, and hashtags are among the design features that shape how content is created on such a platform. But while these do impact the generation of content, they are perhaps not sufficient argument against safe harbor. They do not render Twitter much more than a thoroughfare for ideas, albeit one with distinct rules on what form those ideas may take.

> **Many intermediaries employ design features to hold our attention by making their interfaces more addictive.**

The more insidious design features are also more obscure or opaque in nature, and worth looking at more closely. Many intermediaries employ design features to hold our attention by making their interfaces more addictive. Facebook employs techniques to ensure that each user sees stories and updates in their news feeds that they may not have seen on the previous visit to the site. It analyzes, sorts, and reuses user data to make meaning out of their "reactions", search terms, and browsing activity in order to curate the content of each user's individual

feed, personalized advertisements, and recommendations. All of this is done under the garb of improving user experience. Given the deluge of information that exists online, it is indeed desirable that platforms personalize our experience in some manner. But the constant tinkering with user data and personalization goes far beyond what is strictly necessary.

Essentially, the discovery of information is transformed from an individual to a social and algorithmic endeavor. On a platform like Facebook, a large portion of users are exposed to news shared by their friends. Such selective exposure to opinions of like-minded people existed in the pre-digital era as well. However, the ease with which we can find, follow, and focus on such people and exclude others in the online world enhances this tendency. A study by Bakshy and others shows that on Facebook, three filters — the social network, the feed population algorithm, and the user's own content selection — combine to decrease exposure to ideologically challenging news from a random baseline by more than 25 percent for conservative users, and close to 50 percent for liberal users in the US. There is little empirical work on the subject in India, but it is clear that Indian users too have limited exposure to diverse views on a platform like Facebook. However, these statistics are of limited value. The digression of 25 to 50 percent assumes that the baseline is a completely bias-free exposure, which is a fiction. In fact, there is now evidence to suggest that those who are only on mainstream media are more likely to be stuck in ideological bubbles. The combination of filters on Facebook still allows for exposure to some ideologically challenging news.

4. Revisiting the structure of intermediary liability regulation

In any case, there is a clear need for differentiating between infrastructure information intermediaries (such as ISPs) and content information intermediaries that facilitate communication (such as social media networks). It might be possible to create content-neutral standards for infrastructure information intermediaries that do not primarily focus on content transmission. For example, a set of content-neutral standards (like common carrier regulations) could apply to infrastructure intermediaries, while separate standards that are not content-neutral would apply to content intermediaries. Given their full and total control over our user experience online, intermediaries do owe us a duty of care.

The other criterion for differentiation of platforms could be on the basis of size. The draft Information Technology (Intermediary Guidelines) Rules, 2018 in India seeks to tackle this classification on the basis of the number of users. If resources and capacity are the guiding principle behind this classification, this criterion becomes problematic as a large user base can be reached by small businesses with low turnover as well. The other potential criterion for this classification can be monetary size, which may be more reflective of the capacity of the intermediary to exercise due diligence.

The approach of imposing statutory liability on web platforms for harmful speech is widely criticized for being violative of the constitutionally protected human right of free speech and expression. Because private platforms operate with the fear of being

penalized if they fail to regulate harmful speech, they are likely to err on the side of caution and remove content, even when it is unnecessary. This can have a chilling effect on free speech on the internet. This threat to free speech is exacerbated by the difficulty in enforcing such regulatory policies. Regulations expect platforms to take down content within a prescribed time period from the time they have 'knowledge' of the objectionable content. For platforms with millions of users, all of whom have the ability to post and report content, being saddled with short time periods (often just 24 hours) to take down content, poses a very heavy burden. The natural response then is to remove content without diligently evaluating its illegality.

Office of Justice the power to 'recognize' institutions. Ideally, this power should be fully independent of the state, and should include representation from stakeholders from within the industry and civil society.

While both of the above approaches have their pros and cons, what is clear is that the oft-used metaphor of dumb conduits for internet intermediaries is no longer applicable for social networking sites. There is a dire need to identify other regulatory parallels which better explain the role of these intermediaries. Given the complex range of roles performed by a company like Facebook, it is also worth considering if these disparate roles ought to be regulated differently.

The oft-used metaphor of dumb conduits for internet intermediaries is no longer applicable for social networking sites.

The second approach is a more involved form of co-regulation. For example, the German law that seeks to implement hate speech online, the Network Enforcement Law, envisions the recognition of independent institutions as self-regulated ones within the purview of the Act. Where certain content is reported by users as illegal but is not manifestly unlawful, the service provider is permitted up to seven days to remove it; here, the provider may refer the decision of unlawfulness to this self-regulated institution. The idea of having trusted institutions such as press councils play a more active role is a good one. However, the German framework compromises the independence of the institutions significantly. It allows the Federal

The regulatory exercise for internet intermediaries is complex as none of the analog metaphors are able to capture its functions fully or accurately enough to present a viable regulatory model. This calls for the formulation of meta-regulatory models which have a sufficient degree of flexibility built into them.

Instead of laying down precise and specific rules and means of enforcement, the regulator could use a combination of inducements and sanctions to incentivize outcomes based on clearly-defined public interest objectives. This can include differentiated approaches for both rule-making and adjudication of complaints. This could be done by allowing industry

bodies and companies to draft their own codes of conduct. These codes of conduct must meet specified objectives, and should subsequently be ratified by the regulator. Robust notice and comment, and public consultation thresholds can be set that individual associations drafting the codes of conduct must meet.

Coglianese and Mendelson define meta-regulation "as ways that outside regulators deliberately — rather than unintentionally — seek to induce targets to develop their own internal, self-regulatory responses to public problems". Broadly, most regulators must choose between two regulatory philosophies. The first is the deterrence model and the second is the compliance model. The deterrence model is an adversarial style of regulation built around sanctions for rule-breaking behavior. It relies on a model of economic theory which states that those regulated are rational actors who would respond to incentives and disincentives. The compliance model, on the other hand, emphasizes cooperation rather than confrontation and conciliation rather than coercion. It seeks to prevent harm rather than punish an evil. Its conception of enforcement centers upon the attainment of the broad aims of legislation, rather than sanctioning its breach. The complexities of the online content regulation problem statement make a clear case for a mix of both these models.

Further, intermediary liability regulators would need to invoke enforcement strategies that both successfully deter egregious offenders while rewarding those who are proactively taking steps to lead to favorable outcomes. In this case, good regulation would require adopting different responsive strategies, taking into account the behavior of the regulated actors. This can be done effectively only if there is an enforcement escalation and the threat of a credible tipping point that is sufficiently powerful to deter even the worst offenders. The regulator must be able to perform the functions of an educator, an ombudsman, a judicial body, and an enforcer. On one end of the spectrum, the regulator should be able to perform support functions such as educating platforms through informal guidance, standards setting, advisory services, and training. On the other, the regulator should have a variety of sanction powers at its disposal, starting from soft powers such as notices and warnings, naming and shaming, and mandatory audits, to powers to investigate and impose fines and compensatory orders.

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ILLUSTRATION BY JAHNAVI KOGANTI


DATA RIGHTS FOR ALL
ALGORITHMIC ACCOUNTABILITY

Kate Lappin & Sofía Scasserra

...

(Re)imagining a Social Contract for Labor in the Digital World

The Digital New Deal project is as much about open debate and exchange of ideas as it is about outlining new treaties, finding new metaphors, and envisioning new regulatory frameworks for the digital. This freewheeling conversation between Kate Lappin, Regional Secretary for the Asia Pacific region at Public Services International, and Sofía Scasserra, advisor to the global presidency of UNI Global Union and the Argentine Senate, belongs to the former category. Placing the worker front and centre, its aim is to think through and imagine new articulations of labor and data rights, new trajectories for trade union movements, and a radically different social contract for labor.

Kate Lappin (KL): Across the world, digital transnational corporations (TNCs), collectively known as Big Tech, are fundamentally shifting the political, economic, and social landscapes of workers' lives. There hasn't been a change this big since the industrial revolution. And, like the industrial revolution, this revolution too is fundamentally shifting our ability to organise and exercise power — as workers, as rights holders, and as users of public services. In keeping with the overarching theme of this series, our conversation will assess the ways in which the dominance of digital behemoths is upending workers' lives through constant surveillance and monitoring, incessant data capture, and algorithm-fueled inequalities. We will reflect on the need for a new social contract that centers workers' data rights, and the role of labor unions and social movements in this regard. Finally, we will mull over new strategies and alliances that can propel us towards a better future of work. Our focus will be on the Latin American and Asia Pacific contexts since this is where much of Sofía's and my work is based.

Let us start Sofía, with how you think the digital revolution and the growth of Big Tech corporate power has impacted workers.

Sofía Scasserra (SS): In recent years, the growth of digital TNCs has affected how we communicate, what we buy, and how we work. The introduction of technology into the workplace has begun to subject workers, as you mentioned, to constant surveillance, absorbing data from them and ushering in a new phase of cyber capitalism. And as we know, the data thus accumulated is reconfigured into raw material for developing more technologies that will then replace or discipline the same workers. These technologies are produced largely in the Global North and imported to developing countries in the South. This is what we call digital colonialism, and it forecloses any effective digital industrialization in the Global South. Of course, this is highly dangerous, especially for public services, since the technologies that are being imported are concerned not with social benefit but corporate profit.

> The introduction of technology into the workplace has begun to subject workers to constant surveillance.

The world of work in Latin America is diverse and complex. Informality is rampant and the digital divide has intensified existing inequalities. Some sectors have hyper-technological unicorns such as Argentina's Mercado Libre, even as entire regions are stranded without internet access and knowledge of technology management. This gap affects the arena of work, since it is not easy to train workers when a new technological tool enters the workplace, often leading to job losses. That said, the state of work in the region is not rendered 'sick' by technology and robotics, but by labor fraud.[1] The use of technologies to precaritize, outsource, and overload workers is common across countries in Latin America. This situation is not the fault of technology per se, but its poor implementation and the lack of regulation. And finally, the issue of 'data as the new raw material' is starting to ring alarm bells. UNI Global Union and

Public Services International (PSI) have both done extensive work on this really important issue. In your work at PSI, Kate, how do you see the lack of regulatory oversight on data rights affecting workers?

KL: You're right. World over, governments have largely failed to tackle fundamental questions about the value and power of our metadata, what it means for this level of intelligence and control to be in the hands of Big Tech monopolies, and what the role of democratic governments, entrusted with upholding human rights, should be in data governance. Over the past decade, discussions inspired by colleagues at IT for Change have made me consider and compare the changes that workers and communities currently face with those of communities confronted by the enclosure of lands and the introduction of industrial manufacturing in the past.

> The business model of Big Tech companies is based on their ability to effectively rewrite economic rules.

Both the industrial and the data revolutions involve powerful private interests capturing or enclosing a resource that was previously not a financialized commodity, and consequently amassing even greater wealth and power. It is useful to think about these histories because trade unionism was born out of workers' struggles in the aftermath of the industrial revolution. It led to better wages for some organized workers and spurred further demands for public services and a more representative democracy. These past gains are quickly being dismantled, often under the guise of technological restructuring.

Many private companies have now acquired a monopolistic hold over the metadata governments need to operate critical public services. Many governments are handing over rights to such data to companies without understanding their value or implications for effective public service delivery. Giving away rights over data to the private sector not only strips the government of potential revenue, but also undermines the capacity to govern, provide public services, and ensure decent work.

Google Maps and Uber hold essential data on city traffic flows, genome mapping companies are collecting massive databases on DNA sequencing required to develop future medicines, and Facebook can influence election results with essentially no regulatory oversight. Global data companies like Amazon, Google, Facebook, Microsoft, and Alibaba and their host governments are pushing for new e-commerce rules[2] to be adopted at the World Trade Organization (WTO). They are backing trade agreements that will constrain the capacity of governments to develop new ways to treat data as a collective social good. Already, rules that civil society has termed 'digital colonization' prohibit national regulations for data localization and requirements for digital companies to have a local presence, restrict access to source code, and limit the liability of Internet Service Providers.

The business model of Big Tech companies is based on their ability to effectively rewrite economic rules — they can avoid taxes by directing most of their economic activity

through tax havens, they have largely avoided antitrust laws that were designed to stop monopoly power, and they have created fictions like the 'self-employed worker' and 'flexible work' to get around labor laws.

SS: Also, these rules will weaken the terms of trade, pushing poorer countries to be only the consumers of technology, stripped of any access to data that could help develop and improve their own ecosystems and public policies. At various multistakeholder forums, we are being forced to approve rules that will determine an economy we are only just starting to understand. It is hard to imagine that poorer countries really understand what they are giving away if they sign these rules.

> Even workers who are employed by platforms are finding ways to resist the precarity to which they are subjected.

These rules and the new models that are being designed come under the umbrella of platformization of work and are already affecting all employment. When we talk about platformization of work, we refer to a world of work that is mediated by digital TNCs which have legal addresses in tax havens, and act as 'mere intermediaries' in the data economy through web platforms. This closely aligns with the WTO's idea of 'servicification'[3] of manufacture, which classifies everything, except the final product, as services. One rather extreme version of this idea will see every worker is a micro-enterprise that provides a service to a company through the intermediation of a platform.

This stance is being resisted in various parts of the world. Even workers who are employed by platforms are finding ways to resist the precarity to which they are subjected. Their victories have taken the form of labor laws that recognize the platform as a company and its workers as dependents, or cooperatives that organize workers in ways that give them more power to decide how to offer their work. Labor unions are also organizing and mobilizing platform workers around the world. In Latin America, platform workers are engaging in different forms of digital activism. They log into work accounts but don't actually take on work, thus disrupting services provided through platforms. These acts of resistance offer a ray of hope in the defense of decent work.

It is only a matter of time before, at least in Latin America, workers have more expansive rights and the power of these companies stands curtailed. But till that happens, Kate, do you see platformization inevitably engulfing other areas of work?

KL: As you mentioned, Sofía, there's nothing inevitable about the future of work. The World Bank and Big Tech might like to think that precarious, platform-based work is a natural consequence of technologies, but the future of work will be determined in the same way that it always has — through the exercise of power.

Precarious platform work hasn't come about because of technology — it has come about because tech companies have aggressively undermined labor laws and based their business models on the avoidance of

employment obligations. And when workers build collective power, they can challenge the fictions created by Big Tech capital. Tech companies in the US are complaining that their businesses may not be viable if laws introduced in several states to recognize workers as workers, are successful. They are pouring millions of dollars into lobbying against this.

The World Bank's 2019 report, The Changing Nature of Work,[4] made the case for a form of social protection that would enable platform workers and other precarious and displaced workers to continue receiving meagre, insecure income. They argued that a safety net would allow labor laws to be further deregulated. The Bank used technological determinism to emphasize what it has always advocated for — deregulation of labor and capital. These technological fictions enable the sustained attacks on wages, work conditions, and trade union rights. This will impact (and are already impacting) all workers. When the minimum wage floor is effectively meaningless, pressure mounts for all wages to go down, including public sector wages.

So clearly, workers delivering public services are not exempt from these pressures. Governments are increasingly outsourcing public services to Big Tech. More than half of Amazon's operating income comes from Amazon Web Services and a growing portion of AWS[5] is hosting government data. Public postal services are being squeezed by Amazon and others who use low wages or the fiction of platform work as a competitive advantage.

During the pandemic, the International Monetary Fund (IMF) advised governments to cut public sector wages suggesting that wages for some private sector workers are lower. As we have always said in the union movement — "touch one, touch all" — when some suffer, all eventually suffer. We know that, by driving down wages and monopolising wealth, Big Tech has played a major role in the exacerbation of various forms of inequalities. How is this playing out in the Latin American context, Sofía?

> **Algorithmic management sounds neutral but often draws on metadata that reflects existing inequalities and replicates it.**

SS: I totally agree with your assessment that the techno-deterministic view of the IMF and World Bank makes us think there is no alternative than to accept precariousness, because that is the only way the model can sustain. But the truth is that if your business model is sustained by labor precariousness while you get richer and richer, that is not a business model, that is essentially fraud.

Thinking about alternatives is hard in Latin America because governments right now don't have the capacity to come up with new frameworks on a regional scale, and people don't have enough digital education.

I think the biggest inequality between workers today is the digital divide. This gap operates between generations, excluding those who cannot adapt to new technologies. Many workers lose their jobs as a result. In some cases training works, but

in others, the accelerated rate of change of technology means that many workers cannot keep up.

The second gap is that of access to technology. In Latin America, access is very unequal, not only with respect to the level of income and the quality of the technology that a worker can afford, but also with regard to the infrastructure of public services available in their city. Some have to work for months to be able to buy a telephone or a computer that they can use for work, or they are stuck with old devices without enough RAM memory, unable to run the applications they need to work.

KL: I think that's very well put. To add a couple of points, data monopolies are a key driver in exacerbating existing inequalities. Data companies increase wealth inequalities by extracting and monopolizing much of the world's wealth, aggressively avoiding taxes which diminishes public services that can actually reduce inequalities, driving down wages, and worsening work conditions. Inequalities between countries is magnified not just by the wealth accruing to billionaires in the US, China, and to some extent Europe, but also by data monopolization that centralizes much of the world's information (or intelligence) in the US, China, and other data havens.

> **Overall, unions in the region need new strategies — whether they be greater web presence, more international alliances, or intelligent incorporation of technology.**

The gap in access to public services is even worse. The population distribution and demographic characteristics of the region mean that huge parts of Latin America are very thinly populated. This has repercussions on the incentives for companies to invest in better internet connections. Fiber optic technology is an essential public service that does not reach most cities and towns. What do we do with the rest, who are not in the big urban cities? The lack of quality public investment in the less populated regions means that only some workers can access better jobs through platforms and teleworking. Workers in regions that remain disconnected are stranded in the periphery of the labor market. What other inequalities do you see in your region, Kate?

Then there are inequalities fueled by algorithms. Algorithmic management sounds neutral but often draws on metadata that reflects existing inequalities and replicates it. Secretive algorithms can deepen the power imbalance between workers[6] who don't have access to the data, and the management which is protected by 'commercial-in-confidence' and trade rules that hide the source code.

In the case of platform workers, for instance, small changes in algorithms can drastically reduce their incomes for reasons that may remain completely unknown to them. Workers' productivity trackers may appear neutral but are generally modelled on the output of a healthy, experienced worker of a particular sex, age, and stature, on an ideal

day. Workplace health trackers can identify women who might be trying to get pregnant, help employers filter out workers with chronic diseases or those at higher risk of developing certain illnesses.

Algorithms can also reinscribe discriminatory practices in the delivery of public services. An algorithm in the US, for example, allocated health funding for Covid-19 based on previous health expenditure, meaning black patients typically received less funding[7] despite being at higher risk. Algorithms that profile suspects of crime, and those that process credit or job applications, have been revealed to be similarly discriminatory.[8]

If workers and their unions don't have access to algorithms, it's almost impossible to prove discrimination. If workers can't access information on how decisions regarding their civic life, their right to access services and social protections are being determined, the entire notion of accountable governance stands discarded. Unions have long fought for transparent mechanisms to set wages and work conditions. But the secrecy that Big Tech now enjoys poses a huge challenge to unions working to eliminate discrimination. How are trade unions in Latin America resisting such incursions, Sofía?

SS: It is almost impossible to generalize the situation of the trade unions in the region. There are countries with strong union structures, as in Uruguay, Brazil, or Argentina, and weak ones, such as in Peru or Colombia. However, what is common to all countries in the region is that the introduction of technology in the workplace has made employment more precarious. The original fear of being displaced by a robot has now been replaced by the spectre of more precarious jobs, and the lack of rights and regulatory oversight. In some countries like Argentina or Uruguay, new laws regarding the right of teleworkers and platform workers to disconnect are being discussed and approved. In Argentina, they are discussing a law that will give trade unions the power to know the criteria applied when determining the source code of the algorithm to manage platform workers. Training of workers is becoming a key issue throughout the region and in all sectors. In this, trade unions have much to contribute.

> We need a democratic new deal that includes the proposals for a digital new deal and a green new deal.

Overall, unions in the region need new strategies — whether they be greater web presence to amplify their message, more international alliances to meet the deficit of weak union structures, or intelligent incorporation of technology that will enable workers to adapt to a new reality and guard against labor fraud. The union challenges in the region are multiple and complex, but without a doubt, transnational unity is the most powerful tool available to them.

KL: The lack of homogeneity is also true for the Asia Pacific. The issues facing trade unions are extraordinarily varied and often so huge that they can feel insurmountable. With close to two-thirds of the world's population, the region includes both high income and least developed countries, countries with relatively strong trade unions and others where independent trade

unionism is impossible. Trade unions usually have paid staff only in the higher income countries.

The annual index of the ITUC[9] found that workers' rights are deteriorating faster in the Asia Pacific region than anywhere else. This means that trade unions in the region spend most of their time and energy on simply trying to survive, warding off attacks on trade union rights and members, and bargaining for improved conditions. This means they can rarely engage in research, policy work, or long-term strategizing. When the 'future of work' agenda is presented to unions, most think about short-term issues like job losses fueled by technological changes. These are legitimate concerns, but can lead unions to focus only on training and transitioning workers at the expense of the bigger picture. A number of union leaders can see, for example, the dangers of trade rules that cement the power of Big Tech, but it's not easy for them to lobby for alternatives.

> Our challenge, as global union federations, is to support unions and make them realize that this is a joint struggle.

Our challenge, as global union federations, is to support unions and make them realize that this is a joint struggle — platform delivery workers and public sector workers impacted by 'efficiency measures' are bound together as workers but also bound together with communities and users of public services. The trade union movement needs an ambitious agenda for the future, one that does not just restore, but also reimagines, the social contract. We need a democratic new deal — one that includes the proposals for a digital new deal and a green new deal.

SS: What you say is so important, Kate! We have to include trade unions and civil society in the reconstruction of institutions that can lead to a better world. We need a new social contract and its architecture has to be tripartite — determined by the state, corporations, but most importantly, the unions. We cannot continue with digital models developed unilaterally by the state, as in China, or corporations, as in the US. The state is important, but you also have to be careful about authoritarian states. Either way, it can be the main promoter of a new world that includes all three constituents. What are your own views on the role of the state in this?

KL: One of the challenges we face is that workers and communities have become deeply cynical about the state and are often more worried about governments' access to data rather than corporations.

Besides, the line between the state and Big Tech is getting increasingly blurred. Big Tech has not just sought to provide services on behalf of the state, but often to displace it altogether. Smart cities, for example, have been designed to function as private cities, collecting data from every interaction. India plans to build 100 smart cities, the most famous of which is the city of Gurgaon. All services, including emergency services, street repairs, water, and energy are privatized and digitalized.[10] But while Gurgaon boasts state-of-the-art buildings and houses, workers employed to run these services live in its many slums without

access to water and sewage systems, amidst uncleared garbage and roads full of potholes.

The influence of Big Tech is so great that governments are often too intimidated to regulate or criticize them. An Australian federal government employee published a journal article[11] which pointed out how these companies were amongst the very few profiting during the Covid-19 pandemic. The department management alleged the article was a breach of the public service code of conduct that prohibits public employees from publicly criticizing the government. The policy, the management alleged, extended to current or potential future public-private partnerships with Big Tech. The worker was forced to resign.[12]

Nevertheless, the role of the state, of democratic governance, is vital to envision data as a public good. Our aim should be to restore effective governance and develop public sector architectures capable of governing the use of our collective data. We need to do more to consider options for public data governance. If e-commerce is good for local providers, why not have a public platform that doesn't mine the data for its own monopolistic purposes? Why not have public cloud space so that public data can be kept securely without potentially being mined? If digital health diagnostics is indeed beneficial, why not make it a part of the public health system so that the metadata can help design better public health responses?

Much of the technology that Big Tech relies on was developed by the public sector. Yet, the profits and the benefits of that technology have accrued mainly to the obscenely rich. Only a democratic state response can change that. I'd be interested to know the Latin American experience in this regard, Sofía?

SS: The role of the state in Latin America is difficult to analyze, given the current political situation. In most countries, far-right governments are pushing for digital colonialism rather than digital industrialization. Most of them are not amenable to labor rights or putting limits on transnational companies. The exceptions are Argentina, Venezuela (a very controversial case), Mexico, and now we regain hope with Bolivia. In the midst of a pandemic and despite a shattered economy, Argentina introduced a cutting-edge legislation that grants workers engaged in telework the same rights as face-to-face workers. The legislation includes the right to disconnect and weaves in a gender perspective by allowing the reconciliation of working hours with care responsibilities.

> We have to include trade unions and civil society in the reconstruction of institutions that can lead to a better world.

The state is, without question, a fundamental actor in the defense of labor rights. But when it is absent, trade unionism is workers' only hope. The resistance in the region is remarkable. Trade unions in various countries are primarily responsible for resisting the attack of neoliberalism and ushering in labor reforms, even as governments try to push for adjustment policies to be paid for by workers. In Uruguay, for instance, the

pandemic is being used as an excuse to promote labor laws that will 'flexibilize' the market and take away social benefits that were gained in the last decade. In Brazil, Peru, and Colombia the situation is even worse and workers have to decide whether to stay at home and lose their jobs or go to work and get sick. There is no social protection or unemployment insurance.

> **In most countries, far-right governments are pushing for digital colonialism rather than digital industrialization.**

All these measures are promoted by the US government and corporations. On Twitter, Elon Musk said about Bolivia, "We will coup whoever we want." Governments in the region are financed and propped up by the US to maintain dominance over the region, promote their technologies, and push back against China. Another example of this was the recent election of the president of the Inter-American Development Bank (IDB). Historically headed by a Latin American, it is now led by a North American, Mauricio Claver-Carone, for the first time in history. In his first speech, he said he will actively work to kick China out of the region. Governments and Big Tech interests are connected together in ways never imagined. You mentioned the blurring lines between the state and Big Tech, Kate. In what ways are unions engaging with international rules that cement the power of data companies?

KL: Unions have played a leading role in campaigns against unfair trade rules at the WTO and in trade agreements. But these struggles have primarily focused on the impact of tariff reductions and rules that make national industries and local jobs less viable. We have worked with affiliates to understand the broader dangers of trade rules: services chapters that turn public services into commodities and promote privatization, intellectual property rights that make medicines unaffordable, and the power accorded to corporations to sue governments for laws or practices that undermine their capacity to make money.

But the e-commerce trade rules included in the rather Orwellian Comprehensive and Progressive Trans Pacific Partnership Agreement were a new challenge. Since the agreement was signed and released, we've worked with affiliates to understand how the rules give even greater powers to Big Tech — source code is protected and governments cannot demand that it be made available to the public, or even to the government, governments cannot require source code to be stored locally, corporates cannot be required to have a local presence, e-commerce transactions cannot be subject to tariffs. We have analyzed how the e-commerce chapter impacts health, local government, and energy workers.

The problem remains that this is one of many, many challenges facing unions. The best way to campaign on these rules is to show that they are all part of the bigger threat facing unions — unbridled corporate power. Of course, the form that our campaigns and activism take have to be reimagined in the post-Covid world. The pandemic has forced us to think more about digital activism. In general, there is a renewed emphasis on cyberactivism within the union movement as people increasingly

turn to varied forms of social media for information. Would you agree Sofía?

SS: Absolutely! I also think that recent experiences of cyberactivism by TikTok users in general, and K-pop fans in particular, has important lessons for trade unions. A generation of teenagers are outwitting algorithms to make their voices heard. More recently, they even managed to affect the turnout at the US president's campaign. This mode of activism is remarkable because these teens understand how to take coordinated action and achieve concrete results. And to achieve this, they deploy technologically very strategically.

I think trade unions should take a leaf out of this book. They need to pay attention to the causes that move the younger generation of workers and incorporate them into their demands. This is critical to mobilize a generation of young workers who are not only concerned about job insecurity but also about leaving their fingerprints on the web. That said, unions have been engaging in cyberactivism well before the pandemic, with some very positive results.

> Cyberactivism is critical to foster international solidarity.

KL: I think cyberactivism is critical to foster international solidarity, particularly if there's a sensitive global brand in the picture. A great example is the campaign led by the Kodaikanal Workers' Association to secure justice for workers suffering from mercury poisoning caused by a Unilever-owned thermometer factory in Tamil Nadu, India. Unilever ignored them for 15 years until they partnered with the Vettiver Collective and a young woman rapper Sofia Ashraf produced the song 'Kodaikanal Won't' that went viral and forced Unilever into a settlement[13] with the workers. Of course, there are many constraints. Few unions have widespread access to the technologies and skills that a well-developed digital strategy needs. Language differences across the region are always a challenge. And so, online activism always has to work in tandem with other forms of trade union responses.

SS: Certainly, cyberactivism has to be one more tool in the social struggle. It is necessary to understand how it works and incorporate it into current union strategies. But at the same time, the traditional forms of union organization must continue. Technology brings new ways of communicating but empathy and community are irreplaceable. The first trade unionists of the post-industrial era 'walked the factories' to get more members, and greater union representation is still the main force. The factory, the workplace has now changed. The new generation of union delegates are not only present on social media networks, but are willing to go further and visit workers at home when they allow it.

It is also essential to have meeting places in the union premises to foster a sense of fellowship. A sports day, a picnic, a training workshop, a talk in the afternoon — these small steps will ensure that workers in general, including teleworkers and those who have had to develop new modes of working as a result of the pandemic, manage to find ways to connect, so that working in isolation does not become a barrier to union organization. In your own work Kate, what

other ways are you using to respond to the current crisis?

KL: Right now, I think we need to reimagine our social, economic and political lives. If we start by acknowledging that our societies should be organized around the capacity to care and stand in solidarity with all, and that the point of digital data should be to aid that process, we can develop new proposals for governing data, societies, and work.

At PSI, we are trying to find ways to build union knowledge on issues relating to data governance, identify advocacy opportunities, and shape possible government responses. At the same time, we are working on issues like corporate tax avoidance, particularly by Big Tech. We hope unions can help campaign for digital profit taxes as a step toward global tax reforms. Finally, we want to emphasize the ideas of data as a public good and data commons.

> We have to start by introducing producer rights over data — if workers produce data, they have a right to the benefits that accrue from that data.

We have to start by introducing producer rights over data — if workers produce data, they have a right to the benefits that accrue from that data.

In the same way that unions have negotiated copyright entitlements for journalists, we have to campaign for data ownership rights to sit with the producer of the data and be licensed for use only where appropriate.

These changes won't happen overnight. But building strong, well-organized alliances between workers and unions across countries and sectors is a necessary first step. In the last 40 years, corporations have secured rights to move capital freely across borders while prohibiting cross-border solidarity. They have fed us the convenient fiction that subsidiaries are separate entities. This is not just a strategy to escape taxes and accountability but also thwart workers' efforts to organize.

Despite such unbridled corporate power, it is now possible to imagine a global strike of Amazon workers, for example. Polish Amazon workers went on strike in solidarity with German Amazon workers earlier this year. It would be even better if, along with these strikes, we could imagine global solidarity actions that demand structural change. What other strategies, alliances, and labor rights do you think need to be achieved in the present context, Sofía?

SS: I think the union movement is definitely getting stronger with new alliances. Going forward, we need to think about joint struggles not only between unions within the same sector, but also across sectors as production processes become more interlinked. As I mentioned earlier, there is a strong lobby in the WTO that sees each part of a production process as a service. With the advancement of the digital economy and internet of things, everything is potentially a digital service, with strong linkages between sectors. In the commerce sector, for example, a strong alliance between the banking and logistics sectors is unavoidable thanks to e-commerce. This makes

multisectoral alliances on the part of unions an imperative.

The right to disconnect was conceived as a new right not only in the interest of workers' mental health but also as a powerful tool for gender equality. It is the right of every worker not to be contacted outside of working hours by their employer. This not only allows you to enjoy your free time, give your mind a rest from daily tasks, but also helps you regain sovereignty over time so that families can better distribute household chores. Being contacted after work hours should be seen as a lack of respect for the worker. In Argentina, we successfully pushed for teleworkers' right to disconnect but it needs to be extended to every worker in the country, and throughout the region.
Finally, we also need to limit what information companies can collect on their workers and what they can do with it. Workplaces must seek express and prior consent from workers before collecting such data. Workers need to be aware of what information is being circulated about them and they must have the opportunity to request that this information be eliminated once the employment relationship ends.

> We need to limit what information companies can collect on their workers and what they do with it.

I really do not see much awareness among unions in Latin American about the implications of mass surveillance. Workers are subjected to surveillance through facial recognition systems, specific softwares installed on their computers, 'intelligent buildings' which have sensors and cameras everywhere. The general population seems to be asking for more surveillance to cope with crime in large cities, an 'I-have-nothing-to-hide' attitude prevails in workplaces, and unions are not yet aware of the dangers of the constant monitoring by companies and governments. And ironically, trade unions themselves are at the risk of being surveilled and persecuted through these technologies. The resurgence of far-right governments, as in Brazil, suggests that if more such governments come to power in the future, with surveillance technologies already installed, social movements will face their worst fight. So it is worrying to see that social movements do not take this demand as a direct attack on democracy and freedom.

KL: As grim as that is, do you think there is 'hope' for the social movements in general, and the trade union movement in particular?

SS: There's always hope. That is never lost. Trade union movements in the Americas have survived military dictatorships and plans to dismantle governments. They have always come out of these disruptions renewed and strengthened. The region's tradition of struggle, protest, and solidarity are an invaluable asset.

The solidarity that social movements across Latin America have demonstrated is remarkable. The feminist movement in particular spread like wildfire and there is a strong sense of sisterhood, especially among the youth, who are no longer willing to tolerate patriarchal outrage.

The trade union movement thrives on these struggles in the region. Political resistance creates a common enemy. Resisting

neoliberalism and neoimperialist attacks from the US has helped us join forces against a common cause and achieve a united Latin America.

Hope for the future lies in the region learning from young people. With the strength of the institutional framework that it has created over the years, these lessons can transform Latin America into a new sovereign digital economy, with rights for all workers.

KL: Yes, I agree, there's always hope. The pandemic has exposed the deep flaws in the current economic and political order. But it has also brought about a renewed respect for public services and the workers who deliver them. This has perhaps opened up a space for discussions about the risks of precarious work and privatized services and potential alternatives.

But it's really important that we also recognize that corporations see all crises as opportunities for profitmaking and influencing policy. Big Tech has made the greatest gains in the pandemic — what Naomi Klein has called the Screen New Deal.[14]

Trade unions represent the largest democratic membership movement in the world. We can point to many wins. We know that trade unionism delivers better wages, better societies, and greater equality. We know that power cannot be shifted without a fight. We know that Big Tech companies have amassed so much profit that their wealth dwarfs most government budgets. Yet, I am hopeful every time I look at other historical movements that sprung up against capital amassed by a tiny few and delivered unprecedented changes for the benefit of all.

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ILLUSTRATION BY JAHNAVI KOGANTI

Christina Colclough

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Towards Workers' Data Collectives

The commodification of workers as a consequence of increased digital monitoring and surveillance is well underway. Through advanced predictive analytics, work and workers across the world are becoming datafied to the detriment of fundamental, human, and workers' rights. This essay argues that trade unions must expand their services to include collective control over workers' and work data through the formation of what I term Workers' Data Collectives. However, to do so, unions urgently need to address regulatory gaps and negotiate for much improved workers' data rights in companies and organizations. Without these two goals for the collectivization of data and an alternative digital ethos backed by new regulatory institutions, I argue, union and worker power will be significantly diminished leading to irreparable power asymmetries in the world of work.

Introduction: The asymmetric datafication of society and work

Currently, the United States and China together account for 90 percent of the market capitalization of the world's 70 largest digital platforms.[1] These platforms, in turn, are superpowers dominating markets and societies. Microsoft, followed by Apple, Amazon, Google, Facebook, Tencent, and Alibaba account for two-thirds of the world's total market value. At the same time, roughly 50 percent of the world's population still do not have access to the internet.[2] The majority of this population is in the developing world. The companies mentioned above — collectively referred to as Big Tech — are utilizing the lack of public programs to expand internet coverage in these areas by offering platform-controlled internet access.[3] These programs have been criticized for data leaching and de facto internet control, squeezing out of local businesses, exertion of censorship, and impeding on the freedom of individuals.[4,5] It is not for no reason that many, myself included, speak of a de facto digital colonialism. But data colonialism isn't just a tech company endeavor. Chinese companies have exported artificial intelligence surveillance technologies to more than 60 countries including Iran, Myanmar, Venezuela, Zimbabwe, and others with dismal human rights records. Reports also claim that Chinese companies supply AI surveillance technology to 63 countries, 36 of which have signed up for China's politically-led Belt and Road Initiative.[6]

Data is being extracted from the actions and non actions of citizens across the world at a never-ending rate. Your smartphone's 14 sensors track your internet activity, your use of e-services, your credit card payment information, your shopping habits, what apps you use and when, what you do, where you go, how you go there, your surroundings, and much more. All of this data is used to profile you and make predictions about you. These extraction systems remain obscure, hidden under the hood, while engaging in constant surveillance and making predictions about what you will or should do, what information should or shouldn't be made available to you. But it's not only about you. The probability analyses and inferences affect people *like* you — those alive now and those not yet born.

Now, think of all that data (picture it as a constant information flow you are knowingly or unknowingly giving away about yourself), and ask what influence it can or might have on your work and career? It is not difficult to put a profile together on the type of worker you are: investable or less so?

Job announcements are made almost exclusively online now. Will an algorithm predetermine your suitability and accordingly hide from or show you an available job? Probably. Research[7] has shown that even when employers try to reach all audiences with a potential ad, the audience is mediated by — to use one example — Facebook's algorithm. It is often the algorithm, rather than the employer, that decides whether you are a likely candidate and if the job announcement should be made available to you. Isn't this an infringement on our liberty to form and shape our own life? What kind of power are we allowing these companies to wield in the process?

This may sound like science fiction or an episode out of 'Black Mirror' but it isn't. At work, our companies are also becoming

data miners and creators. Applicant Tracking Systems, that is, software used by companies to assist with human resources, recruitment, and hiring are estimated to be used by 98 percent of Fortune 500 companies.[8] Candidates can be screened, sourced, assessed, interviewed, and vetted by artificial intelligence systems.[9] On the job, you can be subject to algorithmic systems that measure your productivity or efficiency, schedule your workday, monitor the breaks you take, and those you don't. Algorithms can plan the exact route you should take on the warehouse floor, or on the road between clients.

The increasing number of workers working remotely in the aftermath of the Covid-19 pandemic, has only increased corporate demand for surveillance and monitoring software.[10] Some of these tools enable stealth monitoring, automated and periodic screenshot taking, video feeds, audio recording, keyboard tracking, optical character recognition, keystroke recording, or location tracking. Naturally, this often deep and intrusive surveillance[11] raises serious concerns about workers' privacy. It also begs that we ask: What is happening with the data that is being mined? Who has access to it? What is it used for? Should this data be mined in the first place? What about workers' rights to be who they are and safeguard their privacy rights? How do we ensure that our workplaces are diverse and inclusionary? Are algorithmic systems in compliance with human rights and anti-discrimination laws? Are companies selling datasets to the multi-billion dollar sector of predictive analyses that include personal information about their workers? We must ask these questions and improve our collective agreements so that they protect our human rights, our freedom of speech, freedom of thought, of assembly, and of being human. Through collective agreements, we can create an alternative digital ethos free from surveillance capitalism and predictive analyses.

> A good place to start is right here, right now, by asking: what rights do workers have over data?

A good place to start is right here, right now, by asking what rights do workers have over data? It is a question not sufficiently raised and discussed. But the value or importance of workers' data is undeniable. In European Parliament amendments[12] of the now adopted General Data Protection Regulation (GDPR), there were far more substantive articles on workers' data protection. In California, an amendment to the data protection law — the California Consumer Privacy Act (CCPA) — to exempt workers' data from its scope was met partially through an exemption that lasts until 2021.[13,14] In other countries, employees are either directly excluded from data protection regulations (Australia[15], Thailand[16]) or employers require employees' informed consent to process data. However, as the GDPR clearly states, given the power asymmetry between workers and companies, informed consent should not be regarded as a legal basis for processing employee data.[17,18] In other words, if your employment depends, directly or indirectly, on providing consent to data processing, you have little choice but to comply.

In the above, we have established that workers' data is gathered and generated by companies, and that these data can be used in corporate decision-making, and transferred, sold, or used by third parties. We have also discussed that these data can directly influence your work and career prospects, and affect workers like you. Yet, as a worker, you have few, if any, rights in relation to these data and how they are used. The power asymmetry is thus growing between you and the companies which seem to know or infer information about you that can directly affect your life. For workers to maintain any control over their working lives, this power divide needs to be bridged. But we need to go further and ask: what if workers themselves controlled workplace data, drew insights from them, and used them to campaign for better working conditions, inclusive and diverse labor markets, fundamental rights, and new laws? The following sections will explore how we could make this happen.

Step 1: Establishing workers' (data) rights

To date, very few collective agreements include specific articles on workers' data rights. So we need to first ask, what should these data rights cover? The figure below depicts what I call the data life cycle at work and provides the grounds on which unions should intervene to improve workers' rights.

The **data collection phase** covers both internal and external data collection tools, sources of the data, whether shop stewards and employees have been informed about the intended tools, and whether they have the right to refute or block (parts of) said tools and their data sources. In addition, unions should demand that the shop stewards, on behalf of a worker or group of workers, gain access to the data/datasets and inferences that include employee data or personally identifiable information.

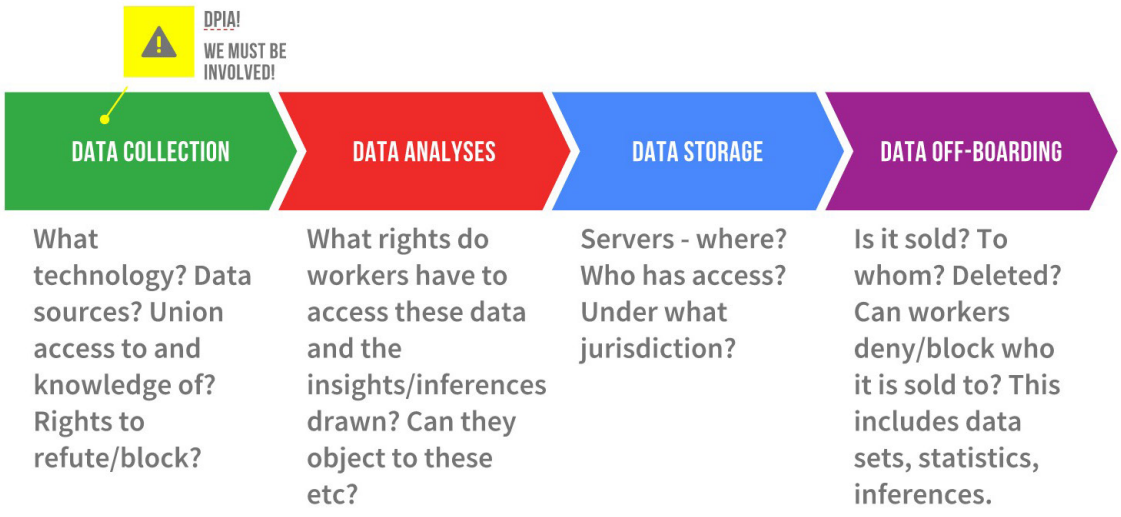

Figure 1: the Data Life Cycle at Work, by Christina Colclough

In the **data analyses phase**, unions must cover the gaps in current regulation and ensure rights with regards to the inferences — profiles, statistical probabilities, etc. — made using algorithmic systems and datasets. Workers should have greater insight into, access to, and rights to rectify, block or even delete inferences made about them. Since these inferences can be used to determine work scheduling and wages (if linked to performance metrics), or can leveraged by human resources to decide who to hire, promote, or fire, access to them is key to the empowerment of workers.

Data storage might at first glance seem boring, but it is actually really important, and will become even more so if current e-commerce negotiations within and on the fringes of the World Trade Organization (WTO) are actualized.[19] These discussions go far beyond facilitating the buying and selling of online goods and services and propose the following: a) prohibiting data localization, which means that data, by law, cannot be required to be stored under the jurisdiction of the home country; b) establishing corporate right to transfer data across borders and store such information wherever they want, including in data havens; c) banning governments from demanding disclosure of source codes and algorithms, even in cases where it may be necessary for security reasons.[20]

To put it simply, these proposals say that data must be allowed to be moved across borders to what, we can expect, will be areas which have the least privacy protection. They will then be used, sold, rebundled, and sold again in whatever way corporations see fit. The recent European Court of Justice ruling[21] which invalidates the EU-US Privacy Shield can be seen as a slap in the face of proponents of unrestricted flow of data, but the demand is nonetheless still on the table.

> **The need to negotiate workers' rights acquire great urgency in light of the e-commerce negotiations within the WTO.**

Finally, the **data off-boarding phase** is also one where workers and unions must be vigilant. Off-boarding refers to the deletion of data, but also the selling or passing on of data and inferences/profiles/datasets to third parties. Unions should negotiate for much better rights with regards to: a) knowing what data/datasets/inferences are off-boarded, b) who they are off-boarded to, and c) objecting to the off-boarding to third party(ies) and even blocking it. The need to negotiate these rights acquire great urgency in light of the e-commerce negotiations within the WTO (but also in other plurilateral trade negotiations). As Shoshana Zuboff asserted in her speech at Rightscon 2020[22]:

> "...human futures markets *[predictive analytics]* need to be criminalized, they need to be made illegal. They cannot stand. Human futures markets have predictably anti-democratic consequences. Those consequences are already clear. The economic imperatives of surveillance capitalism are a direct result of the financial incentives in those markets." *(my insert)*

With successful data life cycle negotiations we will move towards collective rights in a datafied world. If workers have rights to

these data, they will also have the right to decide what to do with them, for instance, share or pool them towards beneficial ends. It is to this we now turn.

Step 2: Forming the workers' data collective

Before I jump into describing my data collective dream, let's dwell a bit on the state of play in various forms of data collectives. There is a growing body of literature on data trusts, data commons, open data, and, more broadly, data stewardship. A commonality between these ideas is that they seek to empower the majority, and not just a few, through access to and (partial) control over aggregates of data. Another commonality is that the legal structures and institutions to empower groups of individuals through the collectivization of data are currently not really in place.[23] The idea of an empowering structure is really still that — an idea. There are existing examples of open data. Most are provided by private companies (for example, Facebook's Data for Good, Google's BigQuery which hosts a range of public and private datasets, Sage Bionetworks' open data for the advancement of human health), some by international organizations (like the United Nations), and others are publicly-funded research projects (such as DECODE).

Whereas open data *can* be beneficial for groups, they are not explicitly constructed to be. Data trusts, however, for the most part, are constructed to be beneficial for the collective, as Sean McDonald, one of the world's leading experts on data trusts, notes in this article[24], and as Sylvie Delacroix and Neil D. Lawrence advocate in much of their work.[25]

We have, in sum, a growing desire to make data beneficial to the collective, but not necessarily clearly-defined laws and institutions to facilitate this. So let me remain in the sphere of ideas and ideology and define the purpose and function of what I see could be an interesting and empowering data collective for workers.

What's in the workers' data collective?

A successful negotiation of the data life cycle in favor of stronger data rights will put all workers in a position to make decisions on data that are personal and/or personally identifiable. For example, your work data including education, skills, age, gender identification, wages, job responsibilities, contract, location during the work day, speed of work, time spent at work, length of commute etc., should be for you to pool into a collective structure that is aimed at representing your best interests. The cooperative Driver's Seat is an example par excellence of pooling said data.

In addition, you could add to the collective, at least in principle and until they are banned, the inferences your company (private or public) has made on you — are you identified as a productive worker and on what grounds.

The app WeClock that was developed in the lab I was leading, adds a further source of work-related data that you could pool into the collective. This app gives you plenty of insights into your daily work conditions. How much time do you spend on your feet? Do you get any breaks? How much work is creeping into your private life as you send emails or answer company Slack messages after hours, and much more.

Now imagine that many of your colleagues

did the same and pooled their data into the collective. The Workers' Data Collective would then be in possession of lots of work-related data. New data as they come in, and old data as they get supplemented by the new.

Governing the collective

Data in itself is not useful. It needs to be structured. The purpose of this structuring, that is, what it is structured for, will be determined by the statutes of the Workers' Data Collective. Let's imagine the collective has a policy to combat wage theft — a multi-billion-dollar[26] crime against workers. Data could be structured to find patterns in worked hours relative to paid hours. Or, the collective could be mandated to track and combat discrimination. The purposes can change over time, just as resolutions are voted for in democratic organizations. The Governing Board, known in data trust language as the trustees or settlers, will be voted in. It will be responsible for taking decisions about the collective's data in the best interest of those who have submitted their data to the collective. The Governing Board members could be selected among data holders, but do not have to be. They could be a third party — a team of data collective governance experts.

The overall *aim* of the collective could, for example, be to ensure Rewarding Work[27] for all workers. The statutes will determine how this should be done and through which policies; whether datasets can be sold for the benefit of the collective, and/or whether external access to the aggregated or even raw data can be granted, and if so, under what conditions. The statutes will stipulate the decision-making structure and the roles of the collective's staff — those tasked to structure and analyze the data and those with legal, communications, administrative, and engagement skills. It is here that workers and their unions could put into action the principles of data minimization, ethical data handling, human rights before profit. The data collective must also have strict data governance policies and practices in place to protect the integrity and rights of those who have donated their data to the collective. This is necessary not least in order to prevent a third party from obtaining data from the collective without its direct agreement. The trust will need elaborate cyber security systems to ensure ethical and fair sharing of data and data security for all participants. It will also need to document all of the above.

> The Data Collective will have a well-defined aim, purpose and governance structure.

With this framework in place, a Workers' Data Collective will have a well-defined aim, purpose, and governance structure. These details should be made clear to workers who are considering putting their data into the collective, and so should the redlines for what the collective will not allow. One redline could be that no access to data be granted to union busting firms, their intermediaries, or known partners. Another redline could disallow predictive analytics. The Governing Body could be tasked with the responsibility of ensuring that these redlines are respected. It will also be necessary to have internal methods of redress in place to ensure that the data collective is complying with the given aims and purposes.

To hold the various trusts accountable to the law, a public regulator tasked to oversee some aspects of data trusts must be established. This authority should have a dispute resolution mechanism to resolve issues within the data collective, such as a breach of rules and redlines. It also should have a data collective auditing mandate, and a law enforcement obligation. For data collectives with a transnational membership, the auditing and enforcement authority should be transnational and consist of national authorities. Here we can draw inspiration from the European Data Protection Board[28] — an independent data protection authority whose purpose is to ensure consistent application of the GDPR. The International Labour Organization (ILO) would be a natural home for such an independent body.

The benefits of collectivizing data

In the above, we have established a two-step process towards empowering workers across the world in the digital economy. We need stronger workers' rights to data and sound structures that will allow us to collectivize that data. To realize these benefits, behavioral, legal, and technical changes will need to be made. We will need to overcome our own lethargy, form new habits, establish new laws and new authorities at the national and global level. We will need new governance structures, technological solutions for secure data portability,[29] and conscious choices about which collectives we will entrust with our data. These are daunting requirements. So what are the benefits?

To begin with, this will allow us to create an alternative digital economy where data is regarded as an infrastructure similar to roads, railway lines, water supplies, and energy. We will vastly reduce Big Tech's control over our minds, emotions, actions — past and future. We might well succeed in actualizing Shoshana Zuboff's demand that human futures markets be made illegal. We will ensure that information that is ours becomes *responsibly* useful to us. Trade unions across the world will get an additional and timely purpose, and we could expect greater mobilization towards this. We will undo the colonizing effects of the current e-commerce discussions and the skewed digital hegemonies and support, not hinder, the development of empowering digital transformations.

> By negotiating the data life cycle, unions and workers will become much more familiar with the potentials, challenges and power of digital tools.

On a more practical level, we will pool resources such that we actually have access to persons with the skills and knowledge to protect our data on the one hand, and analyze it to our benefit, on the other. Digital storytelling and visualizations are a powerful means to campaign for change. At the MIT Media Lab, Dan Callaci analyzed and compared data from a WeClock trail in New York to show how often, on the same day, workers were within six feet of one another (see Figure 2). Used in the context of the pandemic, this could show the relative risk for workers at the workplace.

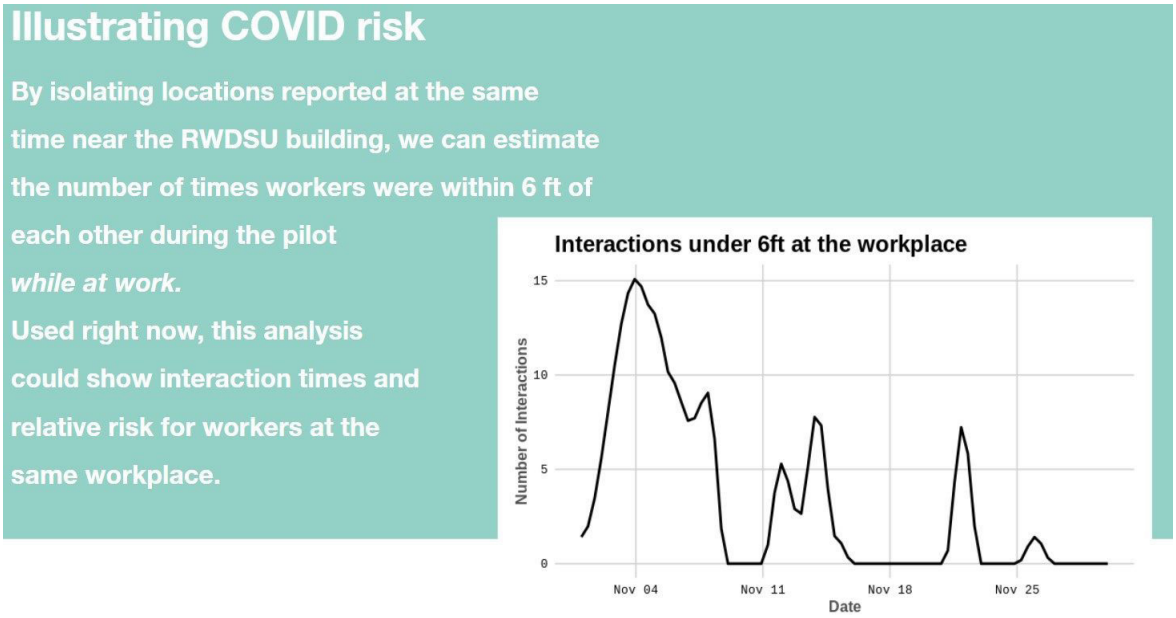

Figure 2: Dan Callaci's analysis of workers' data from a WeClock trail in New York.

The benefits do not stop there. The Workers' Data Collective, like Driver's Seat, could be used to test and challenge corporate algorithms. It will empower us as individuals and communities if we know who has our data and for what purpose(s).

The data collective could democratize the digital economy and empower workers to form and shape the world of work, advocate for regulatory change, and find remedies for persistent injustices. This will allow us to stop being "users" of digital technology, steered, controlled, and manipulated by algorithms and, instead, reclaim our humanity. This includes, not least, our human rights, our freedom of association, assembly, expression, thought, belief, and opinion. Many data protection regulations across the world, even those aimed exclusively at consumers, are weak. We must fight for a digital ethos that is responsible and puts our rights above profit-seeking surveillance tools and predictive analytics. In the world of work, unions must be the guardians of this alternative ethos, and themselves become stewards of good data governance. Here an ILO Convention advocating for workers' data rights will not only be an act of solidarity with workers in weaker institutional environments, but also a necessary step to prevent digital colonialism.

Existing power asymmetries will only widen if workers and their unions do not build capacity in the fields of data, algorithmic systems, and their governance. By negotiating the data life cycle, unions and workers will become much more familiar with, and insightful about, the potentials and challenges as well as the power of digital tools. For our ultimate aim of creating worker-owned and run data collectives, unions need to embrace this learning. Unions must work together smartly to build capacity.

Furthermore, by extending these rights across all parts of the value or supply chain, all workers and countries will be able to develop their own digital transformations without *a priori* being stripped of the

ability to localize their data due to trade agreements.

I understand if you are now thinking: where do we start, and who will get the ball rolling? Here, we may be in luck as help is at hand. Let's turn to the credit unions.

Credit unions as workers' data collectives?

A 2019 white paper 'Data Cooperatives: Digital Empowerment of Citizens and Workers'[30] that I co-authored, explored the existing trust relations between credit unions and their members. Credit unions act as fiduciaries towards their members and, in some constituencies, are already chartered to securely manage their members' digital data as well as to represent them in a wide variety of financial transactions, including insurance, investments, and benefits.

Over 100 million people are members of a credit union in the United States today. Over 6 million in Europe.[31] Worldwide there are over 57,000 credit unions in 105 countries representing 217 million members.[32]

In Europe, many trade unions owned or controlled credit unions at least up until the global financial crisis. In the UK, the financial crisis and the consequential social and economic dismay renewed interest from the union movement to support and establish credit unions.[33] Could credit unions be revitalized as Workers' Data Collectives?

In our white paper, we argue:

> "...it is technically and legally straightforward to have credit unions hold copies of all their members' data, to safeguard their rights, represent them in negotiating how their data is used, to alert them to how they are being surveilled, and to audit the companies using their members' data."

Many trade union-associated credit unions share the same membership pool. For those that do, the institutional structure, the fiduciaries, and the size to start building a Workers' Data Collective will already be in place.

Psst... It's not only about workers

To emphasize, my vision is that many such data collectives will simultaneously exist. For workers and for many others. You, as an individual, can choose to pool your data into one or several data collectives. One might be a local collective for your community promoting climate sustainability. Another could be for health data with the goal to improve diagnosis and treatments. Some might prefer a capital gains trust, or one with the mission to improve competitiveness in local and regional markets. The point is, we will share our data with collectives which are trustworthy and whose aims and purposes align with ours.

This can, rightly, result in a battle of ideologies, but that, in turn, could enhance democracy and democratic participation. The task will be to avoid false inflation of individual data collectives. For this, we need the audit trail and authorities mentioned above. We will certainly also need public and transparent governance reporting as well as new laws and enforcement authorities. But with the Covid-19 pandemic wreaking havoc on our societies, economies, and health, we have the opportunity to think bold, think big, and change the very destructive path we are heading down.

End reflections

This essay has presented a multi-step vision for a Digital New Deal for workers and for citizens. Fixing data and privacy rights is not an end in itself. We will need to draw a new map for the digital economy and society. We will need to demand from our politicians that they think big — constructively. The current exploitation by Big Tech is not a fad. It won't go away unless forced to by law. The vision outlined above, is neither utopian nor unattainable. But it will require responsible and dedicated actions on our side. Now.

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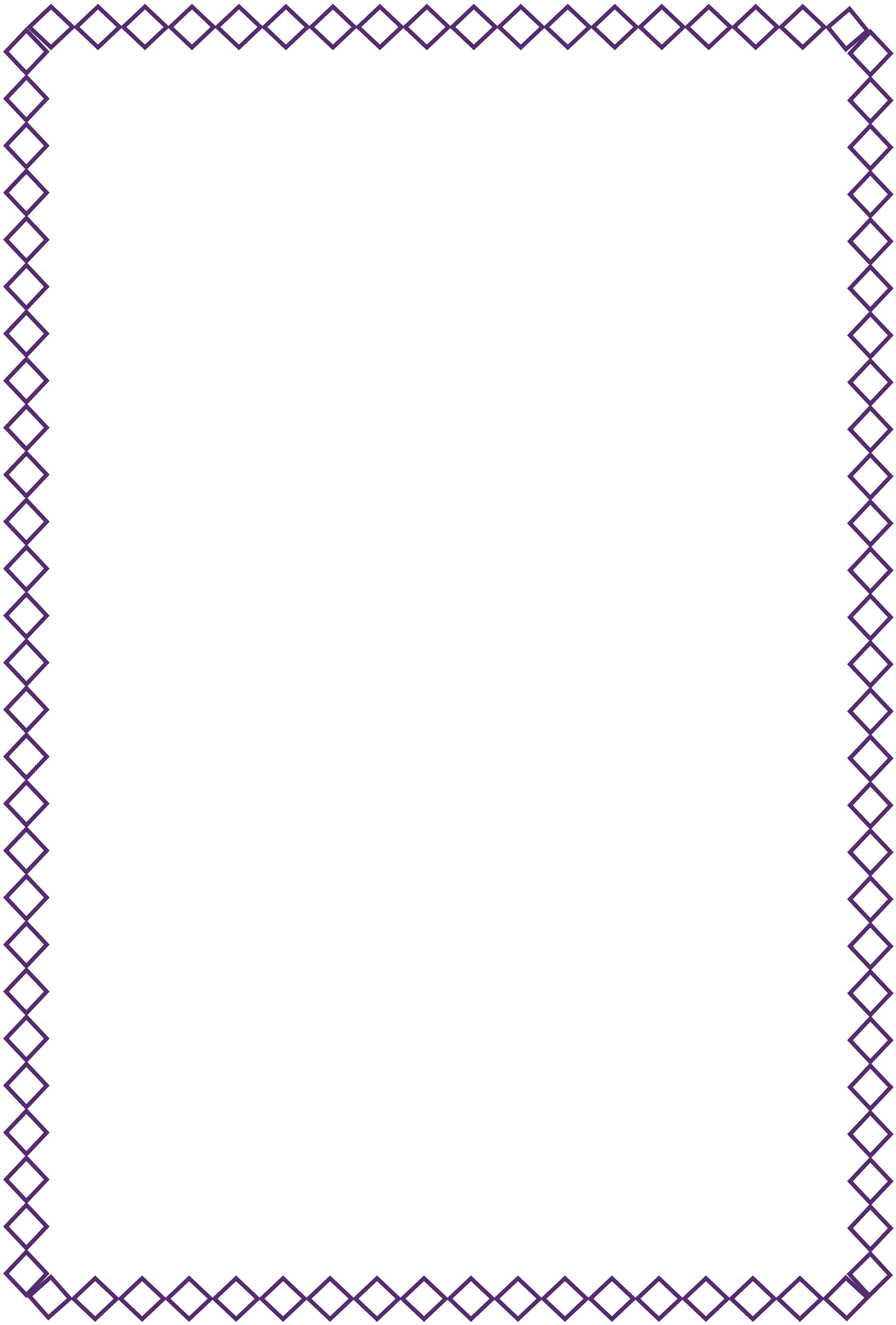
ILLUSTRATION BY KEVIN ILANGO



Mariana Valente & Nathalie Fragoso

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Data Rights and Collective Needs: A New Framework for Social Protection in a Digitized World

All social programs employ some 'legibility' scheme, to make citizens visible, readable, and verifiable to the state. Today, this trait is combined and enhanced by the datafication process. Social protection systems around the world are becoming increasingly computerized and reliant on beneficiaries' data for related decision-making. Digital technologies that are capable of collecting and verifying large amounts of data are employed to this end, impacting the exercise of both digital and social rights. In this essay, we will address the differential impacts of the datafication of social protection on marginalized populations, using examples from existing literature and our own research. We then engage with existing reflections on social protection and datafication to highlight the importance of a data justice framework for the current global political and economic context.

Introduction

Sixteen-year-old Ana, who belongs to a minority religious and ethnic group, was forced to flee her home in a Latin American country when violent conflict broke out. She and her family crossed the border into a neighboring country in the Americas. Once there, her parents applied for refugee status and social protection benefits and waited for an official response.

After a six-month wait, law enforcement officials visited their home — which they share with another immigrant family — armed with a database of all asylum applications, with details like the number of accompanying children, ethnicity, and religion of the applicants. Typically, this data is crossed-checked against additional information obtained from social media handles and biometrics collected at the border for intelligence purposes. This task is performed by a private company that is in partnership with another (also private) corporation that specializes in facial recognition technologies, and to this end, owns and manages a database of images of over 300 million citizens worldwide.

When Ana's face was scanned at the border as part of immigration procedures, the system could not find her in the database — although it did find her brother Luiz, a successful gamer with a substantial online presence. But now, Ana's face is also part of the database that, among other things, is used by the police for crime-solving. Her facial features are recorded and linked to her fingerprints, her name, and other identifiable information. This is the same database that, according to a media report, law enforcement officials relied on to 'mistakenly' arrest a black man when the facial recognition system tied to the database returned a false positive.

> **All social programs make use of some legibility scheme to make citizens visible, readable, and verifiable to the state by putting them into simplified and standardized categories.**

To an extent, Ana is aware that data about her is being collected and stored — she had to answer several questions posed by multiple border officials. But she does not know the details of how this information will be treated, and whether or how she can access it. She is not aware, for instance, that the data thus collected is shared with multiple government agencies and private stakeholders, or that her social media information is being collected and used. She has no idea that the biometric data collected from her can be used for crime investigations. She does not know that people who have not come in contact with immigration and social protection services are less represented in all these databases. All she knows is that this information will be used by the government to decide whether her family is eligible for a conditional cash transfer program; it will determine her immigration status and her ability to go to school in the country where she now lives.

Ana's situation is hypothetical but based on real-life incidents. It raises many questions about data, digital technologies, and access to social protection programs. In this essay we are concerned with what happens to social protection programs when they become datafied.

In *Seeing Like a State* (1998), J. Scott introduces the concept of 'legibility' to analyze how states use information about their citizens to achieve certain goals. He outlines a process in which states simplify and standardize citizens' data for purposes of social control, thereby dissolving local and contextualized understandings. Signifiers and measures which are ubiquitous today, were historically, more often than not, created and enforced by modern states. Permanent surnames, for instance, were almost everywhere a state project to fix an individual's identity, link them to a group, and promote the status of male family heads. They were useful for taxation, property rolls, and censuses. Cadastral mapping of land holdings and standardized weights and measures were part of elaborate and costly state campaigns. These attempts to classify and assimilate — aimed at making objects 'legible' to the state — were often met with localized and grassroots resistance. They stood in direct opposition to local practices which were multiple and diverse, and served a community that understood them.

Legibility also implies that things are overly simplified. In contemporary societies, the complexities of social life are necessarily flattened out, for instance, when states classify citizens' economic situations into income tax bands. To be sure, some such standards are necessary for centralized planning and monitoring — and colonial powers have employed them extensively. However, such categorization also has a direct impact on how legal and administrative measures apply to people and situations, and they also, in turn, shape reality (Scott, 1998).

All social programs make use of some legibility scheme. They aim to make citizens visible, readable, and verifiable to the state by putting them into simplified and standardized categories. Cash transfer programs, for instance, reduce the complexity of individual situations in a given territory to the category of 'poverty' or 'extreme poverty'. Similarly, digital technologies that are capable of collecting and cross-checking large amounts of data relate, at different levels, to legibility, visibility, and readability. The treatment of this data, which frequently takes the form of big data, is often conducted by third parties: private sector, academic, or non-profit institutions.

> **Data justice is a framework for data revolution that goes beyond a merely technical approach to one driven by a social justice agenda.**

As Linnet Taylor and Dennis Broeders argue,[1]

an earlier landscape characterized by "data for development" collected and treated primarily by the state, is now being replaced by a "messier, more distributed landscape of governance where power accrues to those who hold the most data" — these are largely private entities. In this new landscape, the authors point out, citizens are frequently unaware of the data that they are providing to these entities. And perversely, citizens are also being made visible or legible by data of unknown (or questionable) reliability, biased by conditions such as internet connectivity or previous exposure to specific policies. This means that their ability to access social protection programs is tied to data that may be unreliable, collected without prior consent, and often under the control of private agencies. These factors, the authors argue, should compel us to look beyond the framework of legibility.

> Visibility can also create new risks and exaggerate particular power imbalances.

In this context, a growing body of literature, especially in development studies, has been looking at people's interactions with digital data through the perspective of data justice — or data injustice, for that matter. Taylor (2017) defines data justice as "justice in the way people become visible, represented, and treated as a result of the production of digital data". It is a framework for data revolution that goes beyond a merely technical approach to one driven by a social justice agenda.

Data justice is better understood when tied to a sister diagnosis — that of 'datafication'. According to Heeks and Shekhar,[2] datafication can be defined as the increasing use and impact of data on social life. When processes that relate to and are conducted by people, become increasingly computerized and reliant on data, we can say that a process of datafication is underway. When it comes to social protection or development policies and their increasing use of technology, we might also be speaking of data being made available on populations that had hitherto been digitally invisible.

Visibility, however, can be ambiguous. While some argue that it is central to de-bureaucratization, modernization, and citizenship consolidation[3], visibility can also create new risks and exaggerate particular power imbalances. People subjected to various kinds of social stigma, groups that are routinely discriminated against, and citizens who bear the status of informality or illegality, may be justifiably fearful of becoming visible — whether digitally or otherwise.

Datafication requires a data justice perspective because its potentially negative consequences are felt most severely by those who are already disadvantaged by existing inequalities along the lines of race, class, gender, socio-economic status, and other social markers. The datafication of social protection, in particular, needs a data justice approach so that it is grounded in principles of social justice.

In this essay, we will address the differential impact of datafication on marginalized populations by drawing on examples from existing literature and our own research. Next, we will engage with existing reflections on social protection and

datafication to highlight the importance of a data justice framework for the current global political and economic context.

1. When data decides

The Brazilian Bolsa Família Program is the world's largest conditional cash transfer program.[4] As of June 2020, it covered over 14 million families (or 43 million people) in poverty and extreme poverty.[5] Although the program was introduced with the objective of providing social security as a universal right, it was gradually accepted as a focalized program — targeted at sections of the population that are understood as being the most in need. Over time, it was co-opted as a hegemonic welfare model, aligning with the guidelines of the World Bank and the Inter-American Development Bank (IDB), and furthering the neo-liberal project of successive Brazilian governments of the 1990s.

The selection of families for the program is automated, based on data stored in the Single Registry (CadÚnico). This federal registry informs all federal programs aimed at the low-income population, *except* for pension schemes. As of May 2020, 35 percent of the Brazilian population was part of the Single Registry. The extent of this database, both in terms of the number of citizens and the amount of data available on them, is aimed at finding vulnerabilities and fighting multidimensional poverty. It allows for the identification and assistance of populations to be targeted by public policies on basic sanitation, employment, and housing.

Data from the Registry is also shared between the agencies running the Bolsa Família Program and the ministries of health and education that provide data on school attendance and health duties relating to children in the family.

> The Brazilian Bolsa Família Program is the world's largest conditional cash transfer program, which was co-opted as a hegemonic welfare model over time.

Besides, it is a conditional cash transfer program linked to certain education and health outcomes: for instance, children must be enrolled in school, have regular attendance, and be given all the necessary vaccinations. Beneficiaries continue to be covered by the program only if they remain compliant. It is worth noting that, although by law the benefit program is meant for the family, it is provided preferentially to women who are more than 90 percent of its beneficiaries.

The person responsible for the family unit is required to provide 77 different pieces of information for the Single Registry, with varying degrees of detail and sensitivity. There are training manuals to guide the interviewer, but nothing in them relate to data rights or informational self-determination. The interviewer is asked to make the beneficiary's responsibilities clear, including providing factual information under penalty of criminal liability and maintaining up-to-date information, but there is no

clarity provided on the state's obligations with respect to the data thus collected.

Nowhere is it mentioned, for instance, that public service concessionaires, which are private companies, get access to the full Single Registry database, purportedly for informing programs on tariff benefits. In the past, this vast repository of data, evidently of interest to third parties with commercial, electoral, and social control interests, has been compromised several times, leading to substantial damage. On a few different occasions,[6] beneficiaries received WhatsApp messages promising new benefits, which turned out to be a scam and and introduced some kind of malware into their cellphones, or they were directly reached by electoral campaigns.

It is also not mentioned that a beneficiary's name, social ID number, and the amounts received as social benefit are published online for the sake of transparency. Our research shows that this, together with the incentives offered by the government to report fraud, has enabled a sort of social surveillance that takes on a gendered form. Women, who form a large majority of the beneficiaries, are stigmatized and reported for not spending their money on what is expected — the household and children.[7]

the Bolsa Família Program anchored its legitimacy in the efficiency and cost-effectiveness of the permanent efforts designed to target those who need it the most. These characteristics of the program have been accentuated in the past few years. Social and political shifts have created new political majorities and a concrete trend of social welfare cuts, which materialized in the form of budgetary and financial restrictions in the New Tax Regime (EC 95/2016).[8] Recent decrees (for example, Decree 10.046/2019[9]) also facilitate data sharing for detecting fraudulent and undue benefit claims. In this context, inclusion errors in social programs have gained centrality in the public sphere — and beneficiaries' data is shared extensively across operations for general purposes as well as for specific investigations. In her Master's thesis,[10] researcher Isabele Bachtold concludes that these processes lead to "constant surveillance" and "a daily struggle to prove to be poor". To this we would add the daily struggle to continually prove oneself deserving of benefits.[11] In these ways, the datafication of social protection in Brazil has allowed for an increased legibility of vulnerable populations while also re-entrenching such vulnerabilities through increased data sharing among state organs, insufficient access control, austerity programs, and heightened state surveillance.

The datafication of social protection in Brazil has allowed for an increased legibility of vulnerable populations while also re-entrenching such vulnerabilities.

Focalization as well as verification procedures, linked to conditions for receiving benefits, are indeed constitutive features of the program. From its very inception,

Experiences in other countries allow us to observe other consequences of datafication. In India, the biometric database Aadhaar, launched in 2009, has over a billion records

and was created under the justification of allowing easier access to welfare by the target population as well as combating welfare fraud. Under the program, people below the poverty line need to confirm their identity through iris or fingerprint scans when collecting benefits. There is, however, plenty of documented evidence on how the system produces further injustices. There have been cases in which people could not have their fingerprints or irises read[12] due to hard work or malnutrition, as fingerprints degrade or disappear. Besides, the requirement that only one family member be scanned for purposes of welfare collection, the failure to consider that this person might be unavailable to make the collection, the decision to provide double authentication only by phone, often inaccessible to claimants, all presuppose a middle-class standard[13] that exacerbates burdens on the most vulnerable.

Similar problems were faced in Brazil after the implementation of facial recognition systems in public buses to verify users' identity and prevent third parties from using the free card passes granted to children under five years of age and people with disabilities, or the scholar passes given to students. The system is designed to block the card if it cannot match the person with the ID. In some cities, the system fails to identify children with disabilities,[14] as the height of the facial recognition camera prevents them from reaching it, resulting in unfairly blocked ID cards which can only be unlocked upon payment of a fee. Profiling and discrimination, surveillance and control, targeted scams,[15] and advertisements[16] are other underlying risks of datafied public policies.

2. Social protection and privacy

As these examples indicate, social protection systems across the world are becoming increasingly computerized and reliant on beneficiary data for decision-making.[17] This is especially so when such programs rely on focalization. The promise of datafication of social programs lay in being able identify and include (with some precision) those who need it, and exclude the ones who don't. For this very reason, the United Nations identified[18] in the use of data a revolutionary potential that could accelerate the journey towards sustainable development.

> Algorithmic decision-making is prone to errors, and decisions around the adoption of technologies can result in unfair exclusions.

But while it is eminently possible for governments to adhere to principles of inclusion and justice in the use of digital technologies, these are often adopted without proper considerations of risks to privacy, autonomy, and equality. Algorithmic decision-making is prone to errors, and decisions around the adoption of technologies can result in unfair exclusions. Especially in societies characterized by extreme inequalities — inevitably reflected in the data collected on their members — the management of information and its use

for decision-making must be under intense scrutiny, review, criticism, and social control.

It is not only a matter of discrimination resulting from the datafication, but *discrimination in datafication*. The technology is being incorporated first and foremost in programs and facilities that carry out public policies, and in a non-optional way. That is, the collection and processing of data are inevitable when citizens access public services and exercise their rights.

This leads to associated privacy concerns. Privacy, besides leading to autonomy and self-determination and being a right on its own, it is also a precondition for other rights such as freedom of expression and of association and assembly. It is, therefore, central to political participation. However, the burden of exercising such rights lays heavier on some communities than others, for instance, women and people of color. For this reason, their exposure to risks associated with data can cause more harm.

In 2019, the UN Rapporteur on Extreme Poverty dedicated their annual report[19] to social protection and digital technologies. The report presents several case studies showing how, in the name of fraud detection, savings, and efficiency, citizens are obliged to give up on privacy, autonomy, choice, and dignity. These problems are unfolding both in the Global North and South, and can be summarized as follows: digital technologies offer an irresistible promise because of how they can tackle fraud and eliminate friction in the awarding of benefits; however, their shortcomings and potentially negative impacts and consequences are underestimated, and the causes they serve end up with sub-optimal results in the process.

Individuals are not in a position to resist these processes. In a situation of economic deprivation, one can hardly refuse to disclose data, especially if the access to assistance depends on such disclosure. Because refusal is not plausible and consent is either not required or effectively not free, these programs must embed privacy and data protection in their legal and technical design. It is in this sense that when conceiving social protection programs, it is not enough to think of privacy as a negative right — by asking the state to abstain from the individual private sphere. Data enables and informs social assistance; and the damages caused by unfair processing of data are collective and require collective legal protection.

> In a situation of economic deprivation, one can hardly refuse to disclose data, especially if the access to assistance depends on it,

This means that data processing operations must go beyond compliance with principles such as lawfulness, fairness, transparency, purpose limitation, data minimization, accuracy, security, and accountability. They must also reaffirm the fundamental purposes of social protection, that is, ensuring dignity in the face of risks arising from a market economy. Social protection with unprotected data deepens vulnerability and aggravates inequality instead of solving it.

In the overarching analysis, when combined with austerity policies and their links to

social protection and state expenditure, the deployment of extensive data collection and processing operations may serve predominantly to exclude beneficiaries and focus less on identifying vulnerabilities. But technology and data can serve better ends. For instance, they can be used to identify sectors where there is an "assistential vacuum" so that public policies can be directed accordingly. To allow for these questions to be seen and debated, governments must strip the use of technologies from techno-determinist assumptions[20] and use a proper and transparent framework for their design and deployment. The data justice dimensions developed by existing literature are extremely helpful in this regard.

3. Data justice and the case of social protection

First of all, data justice is a call for bringing justice first. The distinctions between online and offline, analogical and digital, are becoming increasingly blurred, as analysts from different fields weigh in on these debates. Choices about procedures to collect and treat data, algorithmic decision-making, which systems to contract, and who the subjects of these systems and processes may be, are political decisions. The benefits and potentials of data should be highlighted with this perspective in view.

Second, social protection programs need to rely on diagnoses of how data systems discriminate or perpetuate inequalities, as well as discipline and control. This essay has highlighted a few such instances but more research and dialogue on this is welcome. There are a few academics, research centers and civil society organizations promoting these ties. Some examples are Fundación Karisma in Colombia, Derechos Digitales in Chile, Privacy International, the Digital Welfare State and Human Rights Project at the Center for Human Rights and Global Justice at NYU School of Law, the Research Group for Information Systems at the University of Oslo, and the Global Data Justice project at Tilburg University.

Linnet Taylor proposes a critical discussion on how a rights-based approach might not be the most appropriate to develop a transnational framework for data justice. Such a framework is needed urgently as citizens in specific jurisdictions suffer specific impacts because their data is treated somewhere else — especially when public-partnerships are at stake and transnational corporations play a role in the production or processing of data about citizens. National legislation is unable to address some of the challenges posed by these data processes. Different societies may care about privacy, for instance, without formally recognizing it as an individual right.

> A rights-based approach should be replaced by a collective and needs-based approach, accompanied by international frameworks and legislations.

A rights-based approach should, therefore, be replaced by a collective and needs-based approach; and this should be accompanied by relevant international frameworks and legislations. Besides transnational solutions,

data justice frameworks provide inputs for immediate consideration at the national level as well. Taylor proposes a framework based on three pillars: a) **visibility** (the need to be represented but also to opt out of data collection and processing); b) **digital (dis) engagement** (relating to the need to preserve autonomy and sharing data's benefits), and c) **countering data-driven discrimination**. This framework goes far beyond privacy and the existing international frameworks for data protection, such as the OECD's Fair Information Principles — although privacy is an important factor.

All these pillars involve difficult questions, as Taylor recognizes. The integration between visibility, fair representation, and autonomy is hard to reach. For instance, should people be allowed to opt out of the census, which is, despite the confidentiality of the information, an invasive moment in the relationship between the individual and the state and, at the same time, an essential part of citizenship in democracies?

Ultimately, policy-making processes should be open, inclusive, and participatory, and account for procedural justice, which is an important part of data justice. Human rights concerns must be built into the decision-making process for a new social program or reform of an existing one. Privacy, security, and data protection must be part of the standards that need to be met. Differences between contexts and legal frameworks considered, systems should be secure, audited, accountable, and transparent to citizens. They must also guarantee that human intervention is easily accessible whenever errors are identified. The dignity of beneficiaries should be paramount in data sharing, which should, in turn, be limited to what is strictly necessary.

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Richard Hill

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A New Convention for Data and Cyberspace

This essay argues that the time has come for the international community to negotiate and agree to a new treaty — a Convention for Data and Cyberspace — which would contain explicit principles for extending well-established offline legal frameworks and principles to the online world, particularly with respect to certain key domains. There would appear to be wide support for such a treaty, given that many countries have come together, in the context of trade negotiations, to constitute treaty provisions covering specific areas. However, the essay argues that trade negotiations are an inherently inappropriate forum to develop such provisions, given their secretive, undemocratic nature and their susceptibility to lobbying by large private companies. Deliberations on such a new treaty need not be a prolonged process, since the goal is merely to transpose to the online world principles that are already well accepted offline. There is a regular treaty-making mechanism, the ITU Plenipotentiary Conference, that takes place every four years. This forum could conveniently be used for the process of negotiating the kind of treaty being proposed here.

1. Introduction

Just as the proliferation of steam power and mechanization inaugurated the industrial age three centuries ago, the growing centrality of data and associated technologies are poised to dramatically revolutionize the nature of social and economic life today. As in the early years of industrialization, we once again find ourselves in the midst of a frenzied race to capitalize on these new technologies, and the frameworks that will organize and control them. The issue of international governance is thus of paramount importance. As Roger Brownsword puts it:

> "... what happened to us over the last 20 years is that, both publicly and privately, we have become increasingly reliant on information technologies (creating new kinds of vulnerability, both collective and personal), we have migrated many routine activities to on-line environments in ways that are deeply disruptive (we live for many hours each day in our on-line worlds), and we have begun to appreciate that the technological management of our activities has major regulatory implications. If we want to retain a degree of control over our futures, then we need to exert some influence over the spheres of regulatory significance — which is to say, we need to work on creating the right kind of regulatory environment not only for information technologies but also for a raft of other technologies that are enabled by information technology and that are converging to shape our futures."

While numerous efforts have been made to achieve such a regulatory environment in the national context, the nature of the internet and information technology, as well as the economic activities built around them, require more broad-based interventions. This, unfortunately, has been made difficult by the vested interests of hegemonic powers, as well as the contested terrain of international law. Indeed, as I have noted before[1], the current order of global governance is arguably similar to that of feudal Europe, where multiple arrangements of decision-making including the Church, cities ruled by merchant-citizens, kingdoms, empires, and guilds co-existed with little agreement on who held charge over a given territory or subject.

> **Internet governance has evolved under the rubric of what is called 'the multistakeholder model'.**

Within this tangled system, internet governance has evolved under the rubric of what is called 'the multistakeholder model'. Couched in a discourse that promotes egalitarian values and greater participation, this model[2] has, in reality, been employed as a means to circumscribe the power of national governments (and intergovernmental organizations) vis-à-vis private transnational corporations. It has fostered not only a strikingly undemocratic regime, but also one that has been dominated by the geopolitical and economic interests of the United States. Be it for the vast unilateral surveillance apparatus that it has built, or the added advantage of its Silicon Valley behemoths, the US has continually worked to ensure that the governance of internet-based technologies remains firmly in its control even as it has

postured towards allowing others — but not other governments — to take charge. Furthermore, recent developments in international negotiations point towards accelerated efforts to have large parts of the international community 'locked in' to agreements that mandate a liberalized regime involving little regulatory oversight and free flow of data across borders.

This essay argues that the international community needs to not accede to these prevailing trends. There is ample scholarship produced over the years that explores alternative modes of internet governance which may be built upon to craft a democratic and thoughtful regulatory framework that addresses the needs and concerns of a wide variety of actors.

rest of the international community can come together, it is possible to force them into a reasonable agreement.

The time has come to initiate negotiations for a new treaty — let us call it a Convention for Data and Cyberspace — as a first step towards ushering in a rational and equitable global internet governance regime. It will contain explicit principles for extending well-accepted offline law to the online world, with specific emphasis on key domains. Given the current international environment, there ought to be considerable support for such an initiative. Moreover, there is sufficient consensus on fundamental legal principles in offline law to have them form a foundation for ordering the governance of the digital world.

> **A new treaty on data and cyberspace will contain explicit principles for extending well-accepted offline law to the online world, with specific emphasis on key domains.**

Many in the international community are beginning to realize the importance of regulatory provisions for the digital sphere, and are more open to discussing them in the context of trade negotiations. While the recognition that such issues must be discussed in an intergovernmental forum is a positive sign, trade negotiations are an inherently inappropriate forum for such talks given their secretive, undemocratic nature and their susceptibility to lobbying by large private companies. Of course, there is likely to be inertia and pushback from the powers that be. But this is precisely because they have a lot to lose from any 'fragmentation' of the internet that shuts them out from access to large markets and sources of data. If the

The essay will begin by outlining fifteen key areas (sections 1.1 to 1.15) of well-established offline law that are undeveloped or not deployed at all in the digital realm, briefly touching upon the key points that need to be considered when developing and transposing these legal frameworks. Section 2 will argue for a new treaty and make concrete proposals for what it may look like. Finally, drawing on the pioneering work of the Just Net Coalition (a network of civil society organizations from around the world), sections 3.1 to 3.11 will set out the principles and provisions that could constitute this treaty and form the bedrock for a new epoch in internet governance.

The fifteen key areas mentioned above are:

1. Democratic control over key online issues and decisions
2. Infrastructure, such as access to the internet, email, and directories
3. Freedom from unwarranted restrictions on freedom of speech (censorship is delegated to unaccountable private companies)
4. Provision of reliable information and protection against defamation
5. Privacy of communications
6. Protection of personal data
7. Security standards required to correct market failures due to information asymmetries and externalities
8. Curbing abuse of dominant market power that arises because of network effects and economies of scale
9. Refraining from producing, procuring, and/or stockpiling dangerous technologies that will inevitably fall into the hands of ill-intentioned actors
10. Equitable taxation of digital services
11. Equitable distribution of the value-added of a newly-discovered natural resource: Data
12. Equitable application of labor laws for online work
13. Equitable application of consumer protection laws for online transactions
14. Equitable distribution of the value of intellectual property rights
15. Efficacy and safety of new technologies such as artificial intelligence

1.1 Democratic control over key online issues and decisions

The importance of democratic control over internet governance at the national level was recognized more than 20 years ago. As Zoe Baird notes:

> "In the early years of internet development, the prevailing view was that government should stay out of internet governance; market forces and self-regulation would suffice to create order and enforce standards of behavior. But this view has proven inadequate as the internet has become mainstream. A reliance on markets and self-policing has failed to address adequately the important interests of internet users such as privacy protection, security, and access to diverse content. And as the number of users has grown worldwide, so have calls for protection of these important public and consumer interests. It is time we accept this emerging reality and recognize the need for a significant role for government on key internet policy issues."

Similar considerations hold at the international level too. Indeed, as the UK Conservative Party put the matter in its 2017 Manifesto:

> "The internet is a global network and it is only by concerted global action that we can make true progress.
>
> We believe that the United Kingdom can lead the world in providing answers. So we will open discussions with the leading tech companies and other like-minded democracies about the global rules of the digital economy, to develop an international legal framework that we have for so long benefited from in other areas like banking and trade. We recognize the complexity of this task and that this will be the beginning of a process, but it is a task which we believe is necessary and which we intend to lead.
>
> By doing these things — a digital charter, a framework for data ethics, and a new international agreement — we will put our great country at the head of this new revolution; we will choose how technology forms our future; and we will demonstrate, even in the face of unprecedented change, the good that government can do."

These statements implicitly recognize that current arrangements for the governance of the internet (the so-called multistakeholder model) are not adequate.[3] Unfortunately, there has been little progress to date with respect to establishing democratic control.[4]

1.2 Infrastructure, such as access to the internet, email, and directories

The state has always been implicated in the creation of large scale social and economic infrastructure. Many nations and empires, for instance, have built and maintained roads in order to facilitate communication networks such as the postal service. The early development of the internet was funded by governments as well.[5]

It is thus surprising that most governments do not mandate, by law or regulation, that affordable internet access, including email and basic directory services, be made available to all. Given that all governments ensure (or strive to ensure) affordable access to roads, water, electricity, sewage disposal,

physical mail, etc., why shouldn't they ensure (or strive to ensure) affordable access to the internet and email? Indeed, a 2018 United Nations (UN) resolution implicitly urges states to ensure universal and affordable access.[6]

We can also question why states should implicitly, and without democratic control, delegate the rollout of affordable internet access infrastructure to private companies, particularly dominant social media platforms. No justification is forthcoming on this point. Yet, this is a worrisome and growing trend. Indeed, as one researcher puts it, "That corporations which are already gatekeepers of internet content are increasingly becoming caretakers of its backbone infrastructures raises questions of transparency, accountability, and undemocratic concentration of power."[7]

1.3 Freedom from unwarranted restrictions on freedom of speech (censorship is delegated to unaccountable private companies)

It is universally accepted that freedom of speech is a basic right, and that the right applies equally online.[8] There is also universal "concern about the spread of disinformation and propaganda on the internet, which can be designed and implemented so as to mislead, violate human rights and privacy, and incite violence, hatred, discrimination, or hostility".[9]

It has long been understood that, in a democratic society, restrictions on freedom of speech can only be imposed by law, and that government actions to restrict freedom of speech must be subject to review by impartial and independent tribunals.[10]

However, dominant social media platforms exercise de facto censorship based on unilaterally imposed "standards of conduct". Since platforms are private entities, they can publish — or not — what they see fit, without any judicial oversight (except for allegations of copyright infringement, defamation, or other illegal activities).[11]

The current regime, particularly in the US, is perceived as giving too much power to social platforms to control what is or is not published, in effect restricting freedom of speech.[12]

1.4 Provision of reliable information and protection against defamation

As noted above, the current regime results in the publication of a great deal of misleading or downright incorrect information. Further, the limited liability of intermediaries makes it difficult to remove defamatory material: since the dominant platforms are based in the US, a "victim" must file a lawsuit in the US in order to force a platform to remove such material. This is not consistent with offline law, according to which victims of defamation can, under certain conditions, file lawsuits in their own country.

1.5 Privacy of communications

It is universally accepted that online privacy is important and that technical solutions such as encryption can be a critical means to ensure such privacy.[13] There is also universal concern about "the arbitrary or unlawful collection, retention, processing, and use or disclosure of personal data on the internet".[14]

Existing international law is out of date and does not provide sufficient protection for the privacy of communications.[15]

1.6 Protection of personal data

It is universally recognized that unlawful or arbitrary collection of personal data is a highly intrusive act, which may violate the right to privacy.[16] There is also a universal concern about "the negative impact that surveillance and/or interception of communications, including extraterritorial surveillance and/or interception of communications, as well as the collection of personal data, in particular when carried out on a mass scale, may have on the exercise and enjoyment of human rights."[17] That surveillance is carried out not just by governments (in the interest of national security) but also by private companies for commercial purposes,[18] and such private surveillance may have negative national security implications.[19]

Members of the Council of Europe, and some other states, have addressed this issue by adopting the Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data. The European Union has gone further, adopting the General Data Protection Regulation (GDPR).

But apart from these regional instruments, existing international law is out of date and does not provide sufficient protection for data privacy.[20]

1.7 Security standards required to correct market failures due to information asymmetries and externalities

Security experts have long recognized that the lack of information and communication technology (ICT) security creates a negative externality.[21] For example, if an electronic commerce service is hacked and credit card information is disclosed, the users of the service will have to change their credit cards. This is a cost both for the end user and the credit card company. However, that cost is not visible to the e-commerce service. Consequently, the service does not have an incentive to invest in greater security measures. Furthermore, users do not have the information or the technical expertise required to determine whether any particular product or service has adequate security. That is, there is an asymmetry of information in which the supplier knows more than the customer.[22]

Such market failures can only be corrected by regulatory action, specifically, by imposing liability on suppliers of insecure devices and/or mandating minimum security standards. This is the case for airplanes, automobiles, electrical appliances, pharmaceuticals, etc. Why should it not be the case for ICTs?[23]

1.8 Curbing abuse of dominant market power that arises because of network effects and economies of scale

It is an observed fact that, for certain services (for example, internet searches, social networks, online book sales, online hotel reservations, etc.) one particular provider becomes dominant.[24] If the dominance is on account of better services, then market forces are at work and there is no need for regulatory intervention.

However, if the dominance is due to economies of scale and network effects,[25] then a situation akin to a natural monopoly might arise, leading to abuse of dominant market power.[26] For example, platforms might abusively use personal data to set high prices of goods for certain customers,[27] a

dominant national provider might impede the operation of an international competitor,[28] a dominant company may excessively influence governments,[29] or a dominant search engine might provide search results that favor certain retail sites.[30]

In such cases, regulatory intervention is certainly required. Yet, enforcement of national competition law is inadequate,[31] particularly in the US,[32] and there is no international competition law.[33]

1.9 Refraining from producing, procuring, and/or stockpiling dangerous technologies that will inevitably fall into the hands of ill-intentioned actors

Some recent, and very dangerous, cyberattacks were based on malware that was stockpiled by a government (for its own potential cyberwarfare), but fell into criminal hands.[34] This is not acceptable. As stated in 2017 by the Microsoft president:[35]

> "The time has come to call on the world's governments to come together, affirm international cybersecurity norms that have emerged in recent years, adopt new and binding rules, and get to work implementing them."
>
> "Such a [set of binding rules set forth in a] convention should commit governments to avoiding cyberattacks that target the private sector or critical infrastructure or the use of hacking to steal intellectual property. Similarly, it should require that governments assist private sector efforts to detect, contain, respond to, and recover from these events, and should mandate that governments report vulnerabilities to vendors rather than stockpile, sell, or exploit them."

1.10 Equitable taxation of digital services

At present, multinational companies in general, and ICT companies in particular, minimize (or even avoid) tax payments by structuring their operations to take advantage of the differences in tax laws in different countries.[36] As a result, many ICT companies pay little or no tax. Since most activities are moving online, this can result in a significant loss of revenue for states, impeding their ability to provide basic services to their citizens. Further, it is important to recall that large companies are the main beneficiaries of various forms of state aid: subsidies, state-funded research and development, initiatives to favor exports, infrastructure such as roads and electricity, etc.

1.11 Equitable distribution of the value-added of a newly-discovered natural resource: data

It is obvious that personal data has great value when collected on a mass scale and cross-referenced.[37] Indeed, the monetization of personal data drives both internet services and the provision of so-called free services such as search engines.[38]

Yet, at present, there are no laws or regulations that would ensure an equitable distribution of the value-added of data. On the contrary, the entire value-added is captured by a handful of dominant companies.[39] This is not sustainable.

A recent study[40] discusses the nature of digital production and digital economy,

the political economy of the key resources in the digital economy — data and digital intelligence derived from data, the public sector's legitimate role in the new landscape, and lists important areas for engagement by public sector workers. Furthermore, according to longstanding international law, states have the sovereign right to safeguard and control the exploitation of their natural resources in the interest of citizens.

1.12 Equitable application of labor laws for online work

It is obvious that many types of work are moving online, either partly or entirely, and certain types of traditional work (such as taxi driving) are being transformed by online platforms.[41] There is general agreement that labor laws must continue to be applied even as the economy transitions to more online work.[42]

1.13 Equitable application of consumer protection laws for online transactions

In most countries, consumers have recourse to a fast and inexpensive national dispute resolution mechanism if they are dissatisfied with a product or service. But they rarely have effective recourse if the product or service was bought from a foreign vendor through the internet.[43]

1.14 Equitable distribution of the value of intellectual property rights

Current intellectual property laws are dysfunctional and do not achieve their stated goals.[44]

1.15 Efficacy and safety of new technologies such as artificial intelligence

More and more aspects of daily life are being controlled by automated devices, and in the near future, such devices will take over many services that are today provided manually, such as transportation. To do that, automated devices will have to make choices and decisions.[45] It is important to ensure that these choices and decisions comply with our ethical values. In this context, it is worrisome that some modern artificial intelligence algorithms cannot be understood, to the point where it might be impossible to find out why an automated car malfunctioned.[46]

At present, some actions have been proposed at the national level,[47] but there does not appear to be adequate consideration of these issues at the international level.

As the above discussion shows, in certain key domains, current international law is not sufficiently explicit, meaning it does not map, with sufficient clarity, offline law to the online world. Based on these observations, the following section will explain why a new treaty is needed and how it could be negotiated.

2. The need for a new treaty

It has long been understood (and formalized in modern times in the 1648 Treaty of Westphalia) that there are, or should be, international rules restricting and/or guiding the ways in which states interact with themselves and with their citizens. Such rules are referred to as international law. The scope and density of international law has increased steadily over time, leading

to fundamental advances such as the abolition of slavery and colonialism, the explicit formulation of fundamental human rights, and the formation of international agencies dedicated to the development of international law.

There are numerous treaties (the main source of international law) that relate to the rights and obligations of states regarding ICTs.[48] However, as noted above, there are areas in which current international law is inadequate.

and without sufficient input from civil society and citizens.

It is likely that certain hegemonic powers (the US in particular) would oppose the negotiation of a new treaty along the lines outlined below. However, civil society and enlightened states could come together to negotiate a treaty without the US, as they have done in the past for banning nuclear weapons and certain types of conventional weapons, protection of geographic origin of products, etc.

There are numerous treaties that relate to the rights and obligations of states regarding ICTs, however, there are areas in which current international law is inadequate.

This gap has recently been explicitly recognized by most developed and some developing countries, which have joined together in the context of trade negotiations to develop treaty provisions that address some of the issues outlined above.[49] However, the proposals that are being put forward are largely intended to enshrine the current situation, which favors dominant internet companies.[50]

Several states too are initiating national processes that address some of the key issues outlined above. In that light, it would appear that states would be willing to support the initiation of a process to negotiate a new international treaty, specifically to address these matters. Such a treaty should not be an outcome of trade-related negotiations, because these issues are not directly linked to trade, and because trade negotiations are conducted in secret

Once there is broad agreement on the content of a new treaty, its formalization would not necessarily be a long-drawn-out affair, as existing treaty-making mechanisms could be deployed to this end. In particular, the Plenipotentiary Conference held every four years — the next one will be in 2022 — by the International Telecommunication Union (ITU), could convene a World Conference on International Telecommunications (WCIT; the last one was held in 2012). WCIT could address many of the issues outlined above. Issues that are outside the scope of the ITU could be addressed in other forums such as ILO, UNCITRAL, UNCTAD, WIPO, etc.

Such a new treaty — a Convention for Data and Cyberspace — should be inspired by the Delhi Declaration[51] and by the Digital Justice Manifesto.[52]

3. The contents of the new treaty

The proposed new treaty would contain provisions along the following lines.[53]

3.1 Human rights

- Parties shall adopt a binding instrument specifying that any restrictions to freedom of speech, freedom of communication, or privacy, on grounds of security concerns or otherwise, must be for strictly defined purposes and in accordance with globally accepted principles of necessity, proportionality, and judicial oversight. (See for example specific proposals by the Just Net Coalition.)[54]

3.2 Data

- In order to ensure the protection of personal data, thus increasing consumer trust, Parties shall accede to Convention 108 of the Council of Europe and the 2018 protocol amending that convention (CM(2018)2 of May 18, 2018).
- Parties shall ensure that national laws regarding personal data conform to the provisions of Convention 108 as amended in 2018, and shall apply those provisions to cross-border data flows.
- Parties shall enact a national data policy which includes, in addition to personal data protection, provisions to ensure equitable distribution of the value derived from the monetization of data.

3.3 Competition

- Parties shall enact a national competition/antitrust law which is not restricted to preventing consumer harm.
- Parties shall develop and accede to global antitrust rules and an international enforcement mechanism for such rules.
- Parties shall enact data-sharing legislation.

3.4 Taxation

- Parties may impose local presence and/or data localization requirements in order to facilitate the enforcement of tax laws.
- Parties shall develop and accede to global taxation rules and an international enforcement mechanism for such rules.
- Parties may impose customs duties on data flows, in particular, when such flows are eroding existing tax bases and/or when alternate types of tax bases are insufficient to generate required tax revenues.

3.5 Access to the internet

- Parties shall accede to the 2012 version of the International Telecommunication Union's *International Telecommunication Regulations*.
- Parties shall transpose to national law the provisions of ITU-Recommendation D.50, *International Internet Connection*.
- Each Party shall administer its procedures for the allocation and use of scarce telecommunications resources, including frequencies, telephone numbers, internet protocol addresses, internet domain names, and rights-of-way, in an objective, timely, transparent, and non-discriminatory manner, in public interest.

3.6 Micro, small, and medium enterprises (MSMEs)

- Parties shall ensure that MSMEs have affordable access to internet connectivity, international payment platforms, and international physical delivery services.
- Parties shall establish an international clearing house to facilitate and simplify mutual recognition of national e-signatures on customs and other legally required signed documents.
- Each Party shall ensure that retail platforms do not themselves supply goods or services offered for sale on the platform.

3.7 Artificial intelligence

- Parties shall adopt a model law or a treaty on ethical principles for artificial intelligence.

3.8 Access to technology

- Each Party shall ensure that enterprises around the world have access to modern technology on affordable, objective, timely, transparent, and non-discriminatory terms.
- Parties are encouraged to procure open source software for government use.
- No provisions of trade-related agreements shall be construed as preventing the procurement of open source software for government or private use.
- Access to source code may be mandated under national law for specific purposes, such as verification of compliance with national laws and regulations (competition, taxation, safety, environment, etc.).

3.9 Consumer protection

- Parties shall enact national law or regulations mandating minimum security requirements for ICT devices, in particular, those interconnected to form the Internet of Things (IoT).
- Parties shall enact national law or regulations to prohibit unsolicited commercial emails (spam) and shall establish effective enforcement mechanisms, including at the international level.
- Parties shall transpose to national law the provisions of ITU-Recommendation E.157, *International Calling Party Number Delivery*, and shall have enacted national laws prohibiting the misuse of international telephone numbers (see ITU-Recommendation E.156, *Guidelines for ITU-T Action on Reported Misuse of E.164 Number Resources*).

3.10 Employment and working conditions

- Parties shall take appropriate measures to address the employment issues arising from e-commerce, including by implementing relevant recommendations of the International Labour Organization.

3.11 Security

- Parties shall refrain from hacking personal accounts or private data held by journalists and private citizens involved in electoral processes.
- Parties shall refrain from using ICTs to steal the intellectual property of private companies, including trade secrets or other confidential business information, and to provide competitive advantage to other companies or commercial sectors.
- Parties shall refrain from inserting or requiring "backdoors" in mass-market commercial technology products.
- Parties shall agree to a clear policy for acquiring, retaining, securing, using, and reporting of vulnerabilities that reflects a strong mandate to report them to vendors in mass-market products and services.
- Parties shall exercise restraint in developing cyber weapons and ensure that any that are developed are limited, precise, and not reusable; Parties shall also ensure that they maintain control of their weapons in a secure environment.
- Parties shall agree to limit proliferation of cyber weapons; governments shall endeavor not to distribute, or permit others to distribute, cyber weapons and to use intelligence, law enforcement, and financial sanctions tools against those who do.
- Parties shall limit engagement in cyber offensive operations to avoid creating mass damage to civilian infrastructure or facilities.
- Parties shall endeavor to assist private sector efforts to detect, contain, respond, and recover in the face of cyberattacks; in particular, they shall enable the core capabilities or mechanisms required for response and recovery, including Computer Emergency Response Teams (CERTs); intervening in private sector response and recovery would be akin to attacking medical personnel at military hospitals.
- Parties shall facilitate the establishment of an international cyberattack attribution organization to strengthen trust online.

- Parties shall, individually and in cooperation, develop and apply measures to increase stability and security of international telecommunication networks and in the use of ICTs in order to achieve effective use thereof and avoidance of technical harm thereto, as well as to maintain international peace and security, the harmonious development of ICTs, and to prevent ICT practices that may pose threats to international peace and security.[55]
- In case of ICT incidents, Parties shall consider all relevant information, including the larger context of the event, the challenges of attribution in the ICT environment, and the nature and extent of the consequences.
- Parties shall not knowingly allow their territory to be used for internationally wrongful acts using ICTs.
- Parties shall consider how best to cooperate to exchange information, assist each other, prosecute terrorist and criminal use of ICTs, and implement other cooperative measures to address such threats.
- Parties shall not conduct or knowingly support ICT activity contrary to their obligations under international law, that intentionally damages critical infrastructure, or otherwise impairs the use and operation of critical infrastructure to provide services to the public.
- Parties shall take appropriate measures to protect their critical infrastructure from ICT threats, taking into account General Assembly Resolution 58/199 on the creation of a global culture of cybersecurity and the protection of critical information infrastructures, and other relevant resolutions.
- Parties shall respond to appropriate requests for assistance by another State whose critical infrastructure is subject to malicious ICT acts; they shall also respond to appropriate requests to mitigate malicious ICT activity aimed at the critical infrastructure of another State emanating from their territory, taking into account due regard for sovereignty.
- Parties shall take reasonable steps to ensure the integrity of the supply chain so that end users can have confidence in the security of ICT products; they shall prevent the proliferation of malicious ICT tools and techniques and the use of harmful hidden functions.
- Parties shall encourage responsible reporting of ICT vulnerabilities, and share associated information on available remedies to such vulnerabilities, to limit and possibly eliminate potential threats to ICTs and ICT-dependent infrastructure.
- Parties shall not conduct, or knowingly support, activity to harm the information systems of the authorized emergency response teams (sometimes known as computer emergency response teams or cybersecurity incident response teams) of another State; a Party shall not use authorized emergency response teams to engage in malicious international activity.

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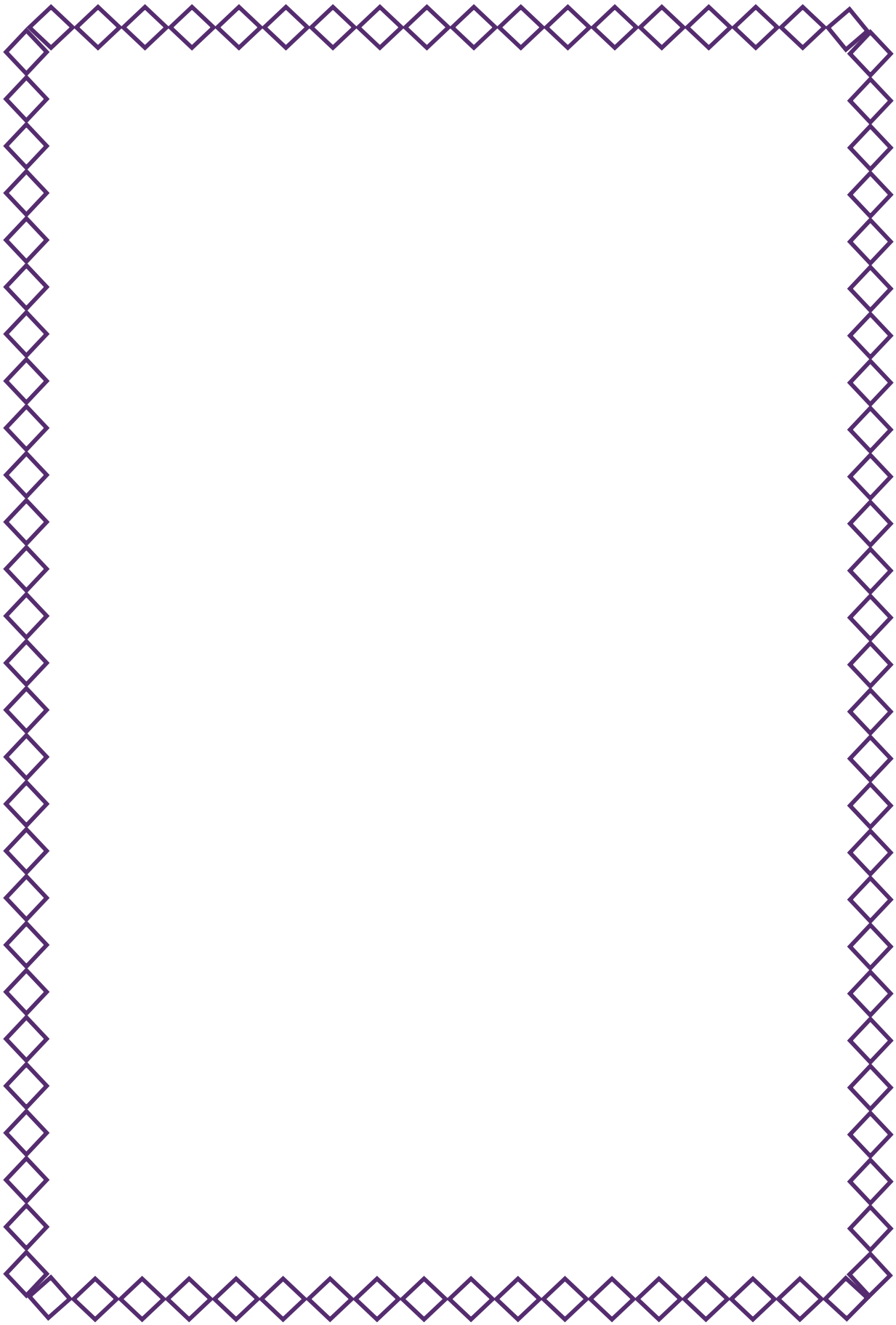
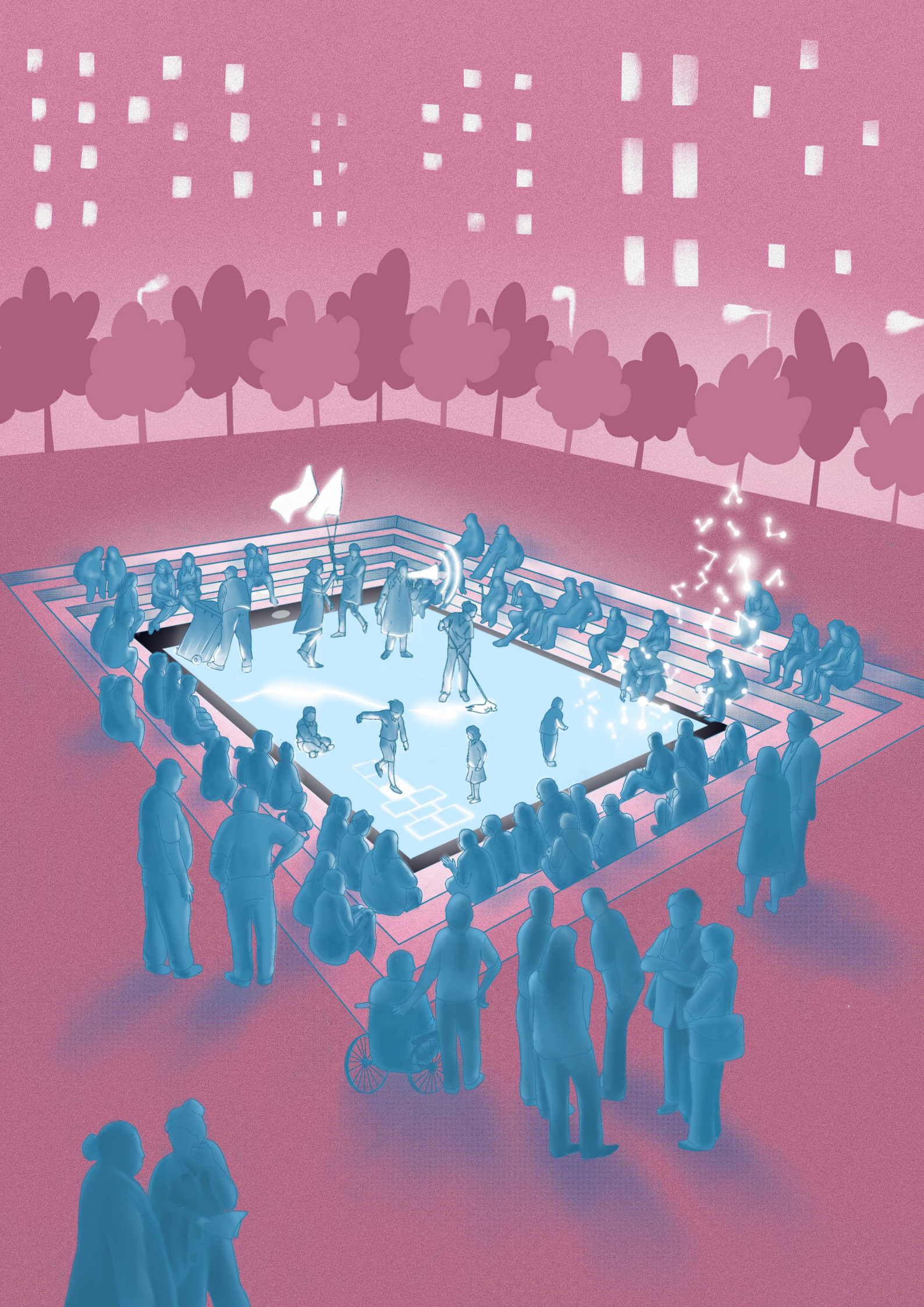
Richard Hill is currently a civil society activist in the area of ICTs, including internet governance and data privacy. He has participated in numerous civil society, intergovernmental, and multistakeholder discussions and has published blogs and peer-reviewed articles. He was formerly a senior official at the International Telecommunications Union.

ILLUSTRATION BY KEVIN ILANGO





Roberto Bissio

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The Coming Shift in Internet Governance

The internet could not exist without the common protocols and procedures for its constituent networks to link and transfer data between each other. How these protocols are decided upon is key to shaping a service that is currently used by nearly half of humanity. Yet, the 'governance of the internet' is not only about connecting devices, but also about what people are allowed, expected, or solicited to use these devices for. At the point when these protocols were first created, the internet was intended to be used solely for research and education, with any personal or commercial benefit being forbidden. This was the case until 1992, when previously fettered corporate greed became the driver of the 'internet boom'. Eventually, Section 230 of the Communications Decency Act, approved in 1996 by the US Congress, created the (rather weak) legal basis for social media and the gig economy by allowing on the internet activities which remained prohibited in the brick-and-mortar (and printed paper) world. The US ownership of the internet through ICANN and US-based monopolistic platforms is creating a 'governance bottleneck' precisely when the Covid-19 pandemic has made the internet an indispensable global public good. The time is ripe to usher in a new era for the internet.

Introduction

Back in 1989, in order to open my first dial-up account to access the internet at the vertiginous speed of 300 baud (bits per second, slower than the speed at which we read, but six times faster than telex!), I had to sign a written commitment to only use that powerful tool for research or educational purposes. I was to definitely not waste valuable bandwidth in "extensive use for private or personal business" and refrain from any "use for for-profit activities".

That was in Montevideo, Uruguay. The service provider was the public university but the conditions were imposed by National Science Foundation Network (NSFNET), the connectivity backbone of the National Science Foundation of the United States, which encompassed all connecting networks, irrespective of where they were located in the world.

As a journalist in a Latin American country just emerging from over a decade of military dictatorship, the lure of the internet, for me, lay in the possibility of accessing an enormous wealth of information and the promise of expanding freedoms. Yet, even when I was working for an NGO and profit was not my motivation for using the internet, it seemed odd that entry into this utopic 'cyberspace' required prior acceptance of a series of restrictions imposed by a foreign power.

1. A network for altruistic cooperation

The Internet Protocol and other data communication protocols identified by acronyms such as TCP, UDP, DNS, and BGP were initially developed in 1985 to connect the 'supercomputer centers' of five US universities funded by the National Science Foundation. NSFNET operated the 'backbone' — the actual cables allowing for high speed data communication from coast-to-coast between the five nodes — and then provided access, at no cost, to other universities and regional networks, and eventually, to any other network that was employing these protocols (although those residing abroad had to pay the whole cost of the international connection).

The TCP/IP protocol, initially developed on the Advanced Research Projects Agency Network (ARPANET) of the US Department of Defense, only determined **how** computer networks would be connected, but the 12 points of the Acceptable Use Policy (AUP) of NSFNET also clearly spelled out **what** users could or could not do. The AUP (of which I was required to sign a summarized Spanish translation) started by declaring that use of the network for any purpose other than "open research and education in and among US research and instructional institutions (...) is not acceptable". Communication with foreign peers for accepted purposes was legitimate "as long as any network that the foreign user employs for such communication provides reciprocal access to US researchers and educators" (Article 2).

Essentially, the internet started off being about researchers having remote access to supercomputers funded by taxpayers' money, through similarly subsidized data links. If a researcher or an educator were to derive any personal or commercial benefit from the use of these public resources, that would have been tantamount to a misuse of such resources, and become the subject of a scandal.

In reality, the AUP was not so much about policing individual usage, but determining which networks could or could not be connected to the backbone. A for-profit private institution could get connected for educational or research purposes, but a for-profit network charging for its services, or a network with businesses as clients, would not be eligible.

> The internet started off being about researchers having remote access to supercomputers funded by taxpayers' money.

The issue became more problematic when miniaturization brought computing out of big universities, state agencies, or corporations, and into individual homes and garage-based enterprises. In 1982, the home computer became *Time* magazine's "machine of the year". Empowered by these tools, users soon pressed to join 'the network'. The number of email addresses quadrupled between 1985 and 1989 to one million. By 1991, the number had further tripled to three million.

Many private networks sprang up to meet this demand, often developing their own protocols and new uses such as chatrooms and newsgroups. It was at this point that the AUP started being perceived as an obstacle. This was also a time when the US was celebrating its victory in the Cold War, an outcome frequently attributed to the country's technological advantages. A new Scientific and Advanced-Technology Act was voted in by the US Congress in 1992, based on the rationale that "the position of the United States in the world economy faces great challenges from highly trained foreign competition".[1] At the end of a series of measures to improve scientific and technological education, the Act included a cryptic amendment to the 1950 law regulating the National Science Foundation, now authorizing it "...to foster and support access by the research and education communities to computer networks which may be used substantially for purposes in addition to research and education in the sciences and engineering, if the additional uses will tend to increase the overall capabilities of the networks to support such research and education activities". The undefined "additional uses" of the internet would now be understood to include all kinds of for-profit traffic and activities.

2. Greed is good

That little amendment tore down the firewalls between commercial and non-commercial uses of the internet. The AUP continued to be the policy behind the NSFNET nodes, but the Network started to allow its backbone to channel traffic generated by commercial service providers without any control of its use. Thanks to this hidden subsidization of a new activity, the number of email addresses jumped to 25 million in 1996 and the Internet Protocol became the standard for computer-mediated communications, displacing alternative formulas such as the French Minitel, which attached a "dumb terminal" (screen and keyboard) to fixed telephone lines.

A sizeable proportion of the US population was already 'online' in 1996, when Congress approved another small amendment that would shape the evolution and

governance of the present-day internet and become the origin of many of its most persistent problems — from fake news to the informalization of work through the gig economy. In this amendment to the Communications Decency Act (CDA), a Section 230 was added, stating that, "No provider or user of an interactive computer service shall be treated as the publisher or speaker of any information provided by another information content provider." The section boosted the internet by guaranteeing to digital publishers an immunity that does not exist in the material world.

Extreme messages are systematically given precedence over nuanced postings because the algorithms have 'learnt' that those messages get the most 'likes' or are reproduced faster and wider.

The consequences of Section 230 are evident in how the internet ecosystem has developed over the years. Social media, especially the most widely-used platforms like Facebook, Twitter, and the Google-owned YouTube have been exposed and criticized in recent years for channeling hate messages, propaganda, and disinformation, sometimes to the extent of influencing political processes in major countries and contributing directly to massacres, as in the well-documented case of the Rohingyas in Myanmar. The intentional and coordinated activity of 'trolls' (humans or automated message-generators called bots) exacerbates a trend already embedded in the algorithms that decide which messages are highlighted and made more visible. Extreme messages are systematically given precedence over nuanced postings because the algorithms have 'learnt' that those messages get the most 'likes' or are reproduced faster and wider. The obvious objective of such behavior is to maximize advertisement revenue, and the act of 'opening up the internet' to commercial activities usually gets a rap on the knuckle in this scenario. This, despite the fact that advertisements have been the main source of revenue for commercial radio and TV in many countries for decades, without generating similar problems.

What placed digital social media companies in a unique position, allowing them to evolve into platforms serving billions of users and simultaneously misusing the confidence vested in them by users, is the particular legal environment created by Section 230 and how it redefined publishing. The French Assembly established in 1789 stated that "the free communication of thought and opinion is one of the most precious[2] rights of man". But even in countries without actual censorship laws, the publisher of printed materials remains limited by provisions regarding copyright, questions of libel, obscenity, national security or "responsibility provisions". Freedom of speech does not allow one to cause panic by screaming "FIRE" in a crowded theatre and the publisher of a

recipe can be sued for damages if it results in poisoning. On the other hand, entities which are simply carriers of (someone else's) content cannot be blamed in any way for that content. For instance, the phone company is not responsible for obscene or threatening calls made through their lines.

When internet services started to be offered to the public, email could easily be likened to postal services: both were 'carriers', not responsible for the content of the messages they transmitted. But a publicly readable digital bulletin board made the digital service providing it liable as a 'publisher'.

In 1995, Prodigy Communications Corporation, an online service, which offered subscribers news, shopping games, and bulletin boards, was sued for libel after an anonymous user accused a banker of engaging in fraudulent acts. The Supreme Court of the State of New York ruled that Prodigy was "a publisher" — not simply a "carrier" — and therefore liable "because it had exercised editorial control by moderating some posts and establishing guidelines for impermissible content". If Prodigy had not engaged in any content moderation, it might have been granted free speech protections afforded to some distributors of content, like bookstores and news stands.[3,4]

Section 230 was meant to protect the perceived competitive advantage of the US in the digital realm by supporting emerging, and at the time rather experimental, platforms like Prodigy. It gave the digital publisher an immunity unavailable to those that published on paper. It also formed the legal basis for social media companies being able to generate enormous profits from content freely contributed on their platforms by the public they supposedly serve, without being liable for it.

Globally, in 1998, when the commercial uses of the internet were starting off, the World Trade Organization (WTO) decided to ban countries from applying customs duties on electronic transmissions. This e-commerce moratorium is still in effect, even after a research paper published by the United Nations Conference on Trade and Development (UNCTAD) in 2019 estimated that the potential tariff revenue loss to developing countries due to the moratorium was $10 billion in 2017.[5,6]

The e-commerce moratorium — India, South Africa, and other developing countries will push for it to be lifted during the coming WTO Ministerial Conference in 2021 — does not say anything about the content of electronic transmissions. But it does mean that countries find themselves practically unable to enforce their own publishing laws on social media companies operating from the US, and have to either accept the criteria laid down in Section 230 or ban these platforms altogether (and thus be seen as exercising censorship).

> **Section 230 is the legal basis of not just Facebook or Twitter, but all platforms that are part of the gig economy.**

Section 230 is the legal basis of not just Facebook or Twitter, but all platforms that are part of the gig economy. It allows ride-hailing and food delivery platforms like Uber, DoorDash, etc. to claim that they do

not actually hire the driver or the person delivering food to your home (which would make them responsible as employers), but only channel 'information' (the availability posted by the bicycle owner) to the pizza parlor looking to reach its customers. While a hotel chain is responsible for what it offers it guests, Airbnb is not liable for any claim made by hosts because it is a 'platform' for information providers who happen to have free rooms in their homes. Monopolies earning billions were thus created under an obscure appendix of a Decency Act, whose other articles were soon blocked by the courts for infringing on free speech.

In 2000, the European Union introduced an E-commerce Directive along similar lines as Section 230, limiting the liability of "information society services". However, courts have different interpretations of what that means. In 2017, the Court of Justice of the European Union granted to Airbnb the status (and benefits) of an "information society service" while in another ruling it decided to classify Uber as a "service in the field of transport", with different responsibilities.[7] However, the adoption by Europe of similar rules as US did not produce the desired effect of stimulating similar or competing European platforms. Facing the evidence of multiple problems caused by unfair competition and monopolistic practices, the Europeans started to discuss more stringent regulations and a comprehensive review was announced in 2020 as part of a new EU Digital Services Act package.[8]

3. The censored president

On October 6, 2020, two separate events coincided in inaugurating a new chapter in internet governance. First, the antitrust subcommittee of the US House of Representatives issued a 449-page report stating that "companies that once were scrappy, underdog startups that challenged the status quo have become the kinds of monopolies we last saw in the era of oil barons and railroad tycoons." The report concludes that "these firms have too much power, and that power must be reined in and subject to appropriate oversight and enforcement."

Directly targeting the four GAFA companies — Google, Amazon, Facebook, and Apple — the report makes a case for breaking up Big Tech, as was done in the past with Standard Oil or ATT when they gained monopoly power. There is no bipartisan agreement on the precise measures to be taken, with the Democrats pushing for a new law and some Republican members of the subcommittee preferring to rely on existing antitrust legislation, but the very recognition of this problem at the highest echelons of decision-making is a major step.

As this report was made public at the Hill, from the White House president Donald Trump tweeted a one liner: REPEAL SECTION 230!!!

A day prior, Twitter had blocked Trump's account after the president publicly posted the email address of a journalist, in violation of the platform's policy forbidding the sharing of private information without the consent of the affected person. Trump's preferred tool of communication with the public remained blocked until the offending tweet was removed.

The Democratic presidential candidate Joe Biden has also gone on record calling for the revocation of Section 230 on grounds

that “it [Facebook] is not merely an internet company. It is propagating falsehoods they know to be false”.

Implicitly, Trump wants these platforms to be neutral carriers and thus unable to censor him, while Biden seems to want a responsible publisher that checks the facts and is liable for known falsehoods. If Section 230 is repealed, an internet platform could be one or the other, but not both at the same time.

and employees, or of sellers and buyers of products and services will have to become more transparent and easier to regulate and be taxed by governments as anonymity is reduced or disappears altogether.

Workers, small businesses, responsible publishers, and governments will be the winners in this scenario. Huge platforms that are now widely recognized as damaging monopolies would suffer, yes.

What might Section 230, the "backbone of internet governance", be replaced with in the near future? The short answer and the best case scenario: nothing.

Irrespective of the outcome of the 2020 US presidential elections, it would not be far-fetched to expect that Section 230, the “backbone of internet governance” will change substantially in the near future. If that happens, what would it be replaced with? The short answer and the best case scenario: nothing.

Without Section 230 (and other equivalent legislations), the legal framework for publishing or carrying messages on the internet would be the same as in the offline world, meaning that publishers will have to be responsible for what they publish, and carriers will have no liability for, no say in, and no ownership over the content they carry. Online versions of trusted publications will be more valuable, and advertising will return from a few global platforms to local content producers. There will be some friction in short-term small value contracts negotiated through electronic means, meaning that the respective roles of workers

And they will most likely argue that such a change is an attack on liberties. But the limits on what can be said or advertised already exist, and offline regulations have also been implemented in the online world. For example, the FOSTA-SESTA[9] bills passed by US Congress in 2018 (promoted by Republican legislators but voted for, among other democrats, by Senator Kamala Harris) makes web platforms liable if they carry ads for prostitution, even though consensual sex work is not illegal in all US states. Following this legislation, sites that do not usually moderate content, such as Craigslist or Reddit, were forced to discontinue their personal ad sections in the US, even as they carried them in their websites for other countries. It is arguable if the FOSTA-SESTA acts actually reduce prostitution or only confine it to the ‘deep web’, but by making websites liable for content published by a third party, they do bore a hole in the flank of Section 230 and the (excessive) guarantees it provides to publishers.

With human rights caught between the corporate self-regulation practiced by the monopolistic platforms and the authoritarian regulation supported by many politicians to counter fake news, a group of Latin American researchers and civil society organizations have proposed a "third way". They call for an "asymmetric regulation" where the bigger the platforms are, the more responsibilities they should undertake.[10]

Ultimately, under human rights law, governments are the duty bearers and it is up to them to "respect, protect and fulfil" those rights, while the role of business is to "comply with all applicable laws and to respect human rights" an obligation that comes with "appropriate and effective remedies when breached".[11] No self-regulation can substitute the need for a legal norm, even when, these norms are established by the same governments which renege their human rights duties.

In the triangle formed by civil society, state, and the market, people hold rights, governments bear duties, and corporations are granted privileges. These privileges can only be justified if corporations meet expected outcomes and should be taken away when the collateral damage outweighs the expected benefits, or privileges are abused to build monopolies.

The Covid-19 pandemic made the internet an essential tool around the world, with the *Financial Times* arguing that "internet access is both a human right and a business opportunity".[12]

With a view to ensuring access to information as a right, in August 2020 the Argentinian government froze the tariffs of paid TV, internet, and fixed and mobile phone services, declaring them "essential and strategic competitive public services". While keeping these services in private hands, the government recovered its authority to regulate them closely.[13] On October 7, 2020, the House of Representatives in Colombia unanimously approved a bill declaring the internet an "essential public service" with the same legal status as the provision of drinking water, sanitation, or electricity. This recognition of universal access to the internet as a right should, over time, lead to government interventions to ensure accessible and competitive prices.

4. But... the internet (still) belongs to the US

Covid-19 has forced governments to ensure wider access to the internet in order to make "social distancing" possible. This push brings us closer to the aspiration of the internet as a "global public good". But the reality is that, in many ways, the internet is still owned by the US.

> The reality is that, in many ways, the internet is still owned by the US.

As mentioned earlier, the US government directly owned or funded the supercomputers linked by the Internet Protocol and the lines that carried the data. Gradually, those operations were transferred to the private sector. However, through the Department of Commerce, the US Government still controlled the assignation of a unique number (known as IP address) to every device connected to the internet and a unique name for some of them. Thus, the

internet user can type www.socialwatch.org and a Domain Name Server will drive the connection to http://52.117.222.8 which is the IP number of the computer hosting the desired webpage. The Internet Assigned Numbers Authority (IANA) hosts the root zone database that ensures the coherence of the system.

To understand the governance relevance of running IANA, think of the following example: In November 2019 the CEO of VPN.com, an internet corporation, wrote to President Trump[14] requesting, in addition to the existing sanctions against Iran, "to terminate all access to .ir domains by removing the .ir domain delegation from the DNS root zone until these sanctions are lifted." The same letter explains that "the primary impact of this action would eliminate all web access and e-mail service to .ir domains. This would cause massive economic and communication disruption to Iran across more than 1,131,300 .ir domains."

The good news, from an internet governance point of view, is that the US president does not have the power to impose such a decision any more, after former president Barack Obama transferred all of IANA functions from the US Commerce Department to the Internet Corporation for Assigned Names and Numbers (ICANN) in October 2016. The bad news is that the "multistakeholder governance" of ICANN — where corporations, governments, and end users have a say — is far from being genuinely multilateral, democratic, or fair. A non-profit organization incorporated under the laws of the State of California, ICANN is still a US institution, subject to the authority of US courts and federal executive agencies like the Office of Foreign Assets Control.

Following the Snowden revelations of 2013, and the increasing distrust of the US government by others such as China and Russia as well as its allies in the EU and Latin America, Obama in 2014 announced the intention to transition key internet domain name functions "to the global multistakeholder community". The US Congress, in a bipartisan resolution, added that it would not accept a proposal to replace the role of the US government on the internet "with a government-led or an inter-governmental organization solution".

The fact that the government of one country could unilaterally, and at whim, wipe out another from the internet is a huge obstacle in transforming the internet into a global public good.

Irrespective of the merit of the proposed sanctions, in international law, such measures against a country can only be imposed by the Security Council of the United Nations. The fact that the government of one country could unilaterally, and at whim, wipe out another from the internet and wreak havoc just by deleting a registry in a database is a huge obstacle in transforming the internet into a global public good.

ICANN was requested to produce a proposal

that could ensure "the security, stability, and resiliency of the internet DNS" (domain name system) and "maintain the openness of the internet". But, after two years of consultations, it was never defined what "openness of the internet" means.

Civil society proposed, and the human rights community celebrated as a victory, the new bylaws of ICANN which state that "respecting internationally recognized human rights as required by applicable law" is one of the "core values" of the organization. But a long caveat after that affirmation explains that "this Core Value does not create, and shall not be interpreted to create, any obligation on ICANN" and it "does not obligate ICANN to enforce its human rights obligations, or the human rights obligations of other parties, against other parties." A (forthcoming) legal analysis by the Harvard Business Law Review concludes that "the new aspirations in the Bylaws are drafted in a way that they carry little, if any, legal weight", and "amount to little more than a veneer intended to bolster ICANN's public image".[15]

On October 1, 2016, the US Department of Commerce officially stopped performing any internet-related functions and the responsibilities held until then by the National Telecommunications and Information Administration (NTIA), was passed on to ICANN. What was initially announced as a new model of global multistakeholder governance ended up being described in the official website of the NTIA as a "privatization of the DNS", since those functions previously performed by a public agency subject to congressional oversight are now in the hands of a private entity. As arbiter of the internet domain names, ICANN invoices 140 million dollars a year to the registrars that, in turn, rent the use of those names to the public. Most of the income pays for a staff of 400, earning on average $200,000 a year.

If there was hope for forging international confidence in the neutrality and fairness of ICANN back in 2016, that is much less likely now, after four years of the Trump administration during which the world has seen the US unilaterally abandon signed international commitments like the Paris Agreement on Climate, withdraw from the World Health Organization in the middle of the Covid-19 pandemic, and openly disdain treaty entities that the US itself pushed for, like NATO or the WTO.

5. A new internet era?

During the transition debates leading up to the establishment of ICANN, there was an alternative arrangement proposed in the form of an entity created by an international treaty and subject to the Vienna Convention on the Law of Treaties. This proposed international entity would have been founded by sovereign parties and would have had extraterritorial immunity even if it was headquartered in the US. US law does not apply within the perimeters of the UN headquarters in New York and Swiss law does not apply inside the building of the WTO in Geneva. Headquarters of international organizations have similar statuses as those of foreign embassies. The mechanisms of international law — immunity, and extraterritoriality — have evolved in this way precisely to make trade and diplomacy possible and to create entities outside of the jurisdiction of any single government.

Many stakeholders and advisors commented during the transition that, for the internet

to be free of undue government pressures and respect and promote human rights, ICANN should have extraterritorial status and immunity from government prosecution. This would have been possible only if it was an international organization created by a treaty.

Becoming such an entity doesn't mean that governments will run it. An international organization can have non-state actors as members and decision-makers. For example, the International Labour Organization is tripartite, with governments, workers, and employers of each member country sitting as equals in its assembly. The status of an international organization is also compatible with the condition imposed by the US Congress that ICANN not be "government-led". This is the case with the International Criminal Court (ICC), whose statutes protect the independence of its judges from any government interference. Yes, a treaty-making process can be cumbersome and take decades, but it can also be quite fast and efficient. The ICC was negotiated and ratified in less time than it took to rewrite the ICANN bylaws through a multistakeholder process.

representatives of communities affected by ICANN's policies, including the half of humanity that is not yet connected to any internet service. Currently, only those actors directly interacting with ICANN participate in consultations and while governments and civil society are represented, it is the big corporations that have the major say.

The alternative proposals were deemed "unrealistic" four years ago. Even passing on the reins of the internet from the US government to an NGO was criticized by a group of Republican legislators led by Texas Senator Ted Cruz as a "radical proposal". "Like Jimmy Carter gave away the Panama Canal, Obama is giving away the internet," Cruz said.[16] An official statement by (then presidential candidate) Donald Trump backed that view: "Congress needs to act, or internet freedom will be lost for good, since there will be no way to make it great again once it is lost."[17]

Once in the White House, Trump attacked other Obama-era legislations but not the new status of ICANN. No attempts were made to reverse the transition and, in 2018, the privatization was pushed further by an

> **A treaty defining the governance of the internet as a global public good could also define the composition of an external body to which it is to be accountable.**

Ideally, a treaty defining the governance of the internet as a global public good could also define the composition of an external body, completely independent of ICANN, to which it is to be accountable and whose composition can be deemed to represent the "global public interest". This can include

NTIA decision to stop controlling the prices set by ICANN "in line with the public policy priorities of the Trump administration".[18] As a result, ICANN negotiated a new agreement with Verisign, the firm that registers the .com domains, allowing it to gradually double its prices over the next 10 years.

The ICANN transition became a *fait accompli* and disappeared from US debates. But while other issues (like Section 230) seem more urgent, Trump's attempts to extend the US-China trade war into the realm of the internet, the Huawei boycott, or the TikTok ban in the US, do not bolster confidence in the future neutrality and impartiality of a US-based entity at the heart of internet governance.

The unsolved governance problems of the internet thus seem to converge and press for urgent changes. In less than 40 years, the nature of the internet shifted several times, metamorphosing from a cooperative endeavor among researchers and educators to a profit-led incubator of daring initiatives which later transformed into oppressive monopolies. These shifts were induced by political decisions about how to govern the internet and its usage. A new shift is due to start now. And this time, it cannot result from some arcane, opaque regulation. Instead, it must be the subject of an informed, transparent, and inclusive global debate and legitimate international decision-making.

From stakeholders to rightsholders

After a period of empasizing the role of stakeholders in international governance, a new momentum towards focusing more on *rightsholders* is apparent in the "Escazú Agreement" on "Access to Information, Public Participation and Justice in Environmental Matters", adopted on March 2018 and currently just one ratification short of entering into force.

The purpose of the Agreement, which is a legally binding treaty for its signatories in the Latin American and Caribbean region, is "to guarantee the full and effective implementation in Latin America and the Caribbean of the rights of access to environmental information, public participation in the environmental decision-making process and access to justice in environmental matters". In order to ensure those rights, "each Party shall encourage the use of new information and communications technologies, such as open data, in the different languages used in the country, as appropriate. In no circumstances shall the use of electronic media constrain or result in discrimination against the public."[19]

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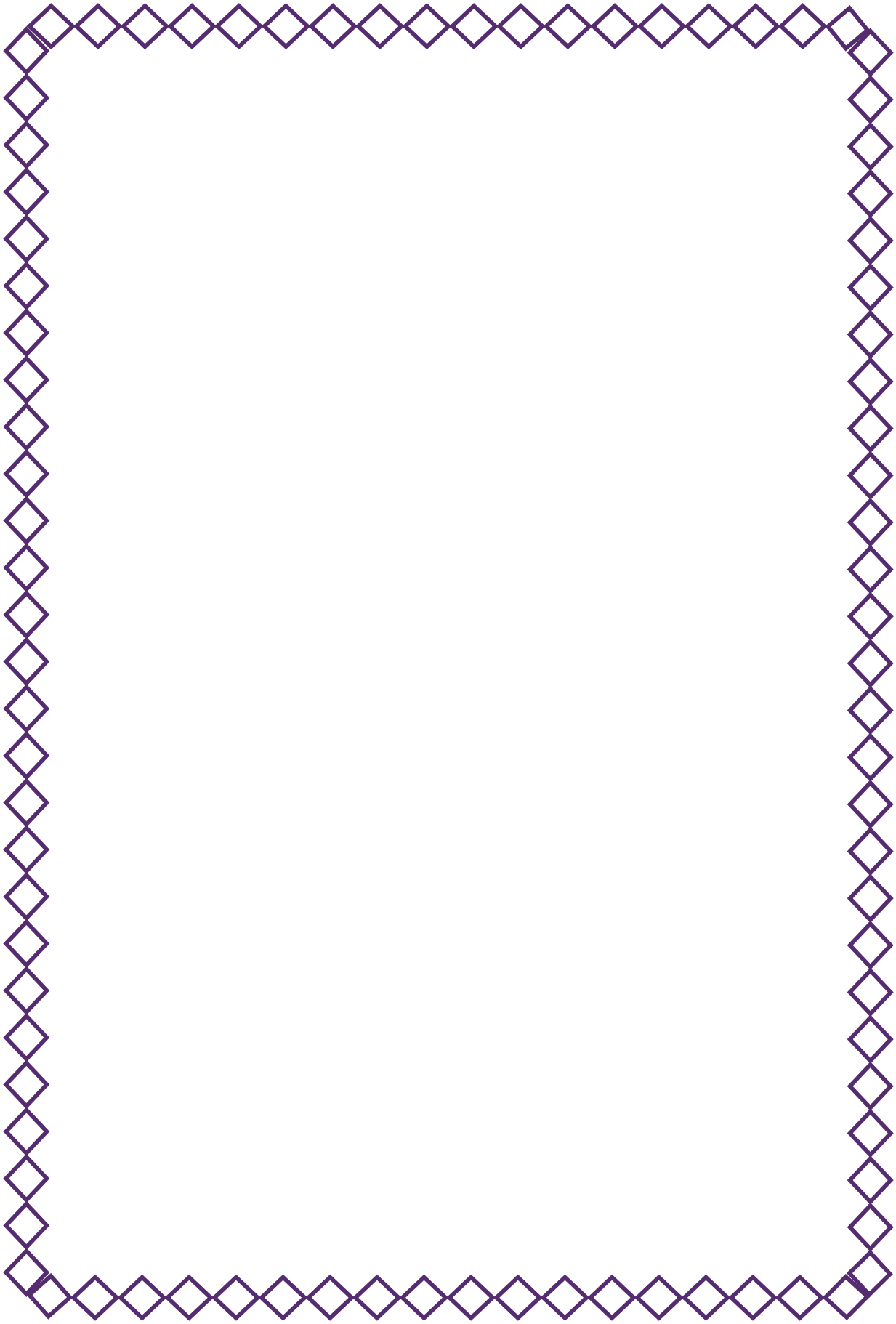


HUMAN RIGHTS
REGULATION
ACCOUNTABILITY
DECOLONIZATION
CONSENT
PRIVACY
ECONOMIC BENEFITS

Jun-E Tan

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Imagining the AI We Want: Towards a New AI Constitutionalism

Artificial intelligence (AI) technologies promise vast benefits to society but also bring unprecedented risks when abused or misused. As such, a movement towards AI constitutionalism has begun, as stakeholders come together to articulate the values and principles that should inform the development, deployment, and use of AI. This essay outlines the current state of AI constitutionalism. It argues that existing discourses and initiatives centre on non-legally binding AI ethics that are overly narrow and technical in their substance, and overlook systemic and structural concerns. Most AI guidelines and value statements come from small and privileged groups of AI experts in the Global North and reflect their interests and priorities, with little or no inputs from those affected by these technologies. This essay suggests three principles for an AI constitutionalism rooted in societal and local contexts: viewing AI as a means instead of an end, with an emphasis on clarifying the objectives and analyzing the feasibility of the technology in providing solutions; emphasizing relationality in AI ethics, moving away from an individualistic and rationalistic paradigm; and envisioning an AI governance that goes beyond self-regulation by the industry, and is instead supported by checks and balances, institutional frameworks, and regulatory environments arrived at through participatory processes.

1. Introduction

The ability of machines to learn from the past and make predictions about the future promises vast improvements to our individual and collective lives. With artificial intelligence (AI), we are able to rapidly detect patterns and anomalies in data, discover new insights, and inform decision-making. Better public health and transportation, more efficient services and increased accessibility, climate change mitigation and adaptation, etc. are part of a long list of the potential benefits of AI.

Governments and companies, eager to deploy and employ these technologies, often cite these potential benefits to frame the adoption of AI as a matter of inevitable progress. The possibilities of 'AI for good' are endless, we are told, as long as we provide the machines with enough data to churn. The technology is neutral, we are assured, and AI experts are working on perfecting these systems, complete with ethical considerations, so that negative impacts are minimized. Yet, as more AI-enabled systems are rolled out and adopted, accounts of unintended consequences and intentional abuse continue to accumulate at an alarming pace.

Cautionary tales of the unintended consequences of AI abound — machines exacerbating racial biases,[1] exam grading algorithms turning out to be hugely erroneous,[2] and automated social protection schemes failing society's most vulnerable, leading to death by starvation in extreme cases.[3] Then there are egregious cases of intentional abuse — state and non-state actors leveraging AI capabilities to surveil entire populations,[4] manipulate voter behavior,[5] or produce highly realistic manipulated audio-visual content (also known as deepfakes) that can undermine the foundations of trust in society.[6]

Amidst these promises and anxieties, a movement towards AI constitutionalism has begun in recent years, as stakeholders from the market, state, and civil society put forth visions of what ethical AI should constitute and how these technologies should be governed. By AI constitutionalism, we mean the process of norm-making or the articulation of key values and principles which guide the design, construction, deployment, and usage of AI technologies. The concept is inspired by the more established body of work on digital constitutionalism, defined by Dennis Redeker and his colleagues as "a constellation of initiatives [including declarations, magna cartas, charters, bills of rights, etc.] that have sought to articulate a set of political rights, governance norms, and limitations on the exercise of power on the Internet",[7,8,9] which are not only important for political and symbolic reasons, but also for shaping laws and regulations in the digital era.

> **The process of shaping norms is exceedingly important as it entails a reckoning with our collective values.**

Indeed, the process of shaping norms is exceedingly important as it entails a reckoning with our collective values. Norms are a sort of moral compass that guide us towards an imagined future. Especially in the context of AI, a nascent technology whose

direction and implications are not yet fully known, some big picture questions need to be discussed. What are our goals and principles as a society? Where do we draw the line between possible trade-offs and values that are sacred and must be protected at all costs? What behaviors do we reward or sanction? And depending on the answers to these questions, what types of AI should we build (or not build) to aid our progress as a civilization?

In this essay, I outline the current state of AI constitutionalism, and provide arguments about why existing discourses and initiatives in this space will not lead us towards a future that is cognizant of human dignity and sustainable development. Based on these arguments, I imagine a new AI constitutionalism that imbues technological discourses with socio-political relevance, thus opening up discussions rooted in specific applications and contexts. Finally, I put forth three principles that should guide future initiatives in AI constitutionalism:

1. AI must be viewed as a 'means' instead of an 'end',
2. AI ethics must emphasize relationality and context, and
3. AI governance must go beyond self-regulation by the industry.

2. AI ethics: Why it is not enough

In the last five years, the area of AI ethics has become increasingly active, with stakeholders at various levels and in different geographic locations issuing policy statements or guidelines on what ethical AI is or should be. Together, these provide a fertile ground for analyzing the underlying priorities and assumptions that mark the current state of AI constitutionalism and shape the character of norm-making in the field.

Anna Jobin and her colleagues at ETH Zurich gathered at least 84 institutional reports or guidance documents on ethical AI in their 2019 analysis of the global landscape of AI ethics guidelines and principles.[10] Most of these documents come from private companies (22.6 percent), government agencies (21.4 percent), academic and research institutions (10.7 percent), and intergovernmental or supranational organizations (9.5 percent). Prominent examples at the government level include the OECD AI Principles and the European Commission's Ethics Guidelines for Trustworthy AI. Corporations, civil society, and other multistakeholder groups have also come up with their own non-legally binding positions and manifestos. Examples include Google's AI principles,[11] the Universal Guidelines for Artificial Intelligence developed by The Public Voice,[12] the Tenets of Partnership on AI to Benefit People and Society,[13] and the Beijing AI Principles.

There is some convergence in the values or principles that emerge as paramount in these ethical AI guidelines and statements. In Jobin and her colleagues' analysis, the most commonly articulated principles are those of transparency, justice and fairness, non-maleficence (causing no harm), responsibility, and privacy. Six others appear less frequently, and in the following order: beneficence (promoting good), freedom and autonomy, trust, dignity, sustainability, and solidarity. However, despite the convergence in the values that are prioritized by existing AI policy documents, the picture becomes increasingly complex when we look beyond

the terms themselves, and focus on their interpretation and implementation. At this point, some divergence or lack of consensus begins to emerge.

Most articulations on AI ethics tend to focus on narrow technical problems and fixes. An evaluation by Thilo Hagendorff from the University of Tübingen[14] of 22 ethical AI guidelines, finds that the most popular values (such as accountability, explainability, and privacy) tend to be the easiest to operationalize mathematically, while the more systemic problems are overlooked.

backgrounds" according to Daniel Green and his colleagues[15] — which set the scope and direction of AI constitutionalism. Green and his colleagues' critical review of seven high-profile value statements in ethical AI finds that the discourse is in line with conventional business ethics but sidesteps the imperatives of social justice and considerations of human flourishing. Technology is framed as an inevitable step towards progress; its application is taken for granted regardless of the context. In other words, being ethical only entails "building better"; "not building" is not an option.

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These systemic problems, Hagendorff suggests, include the weakening of social cohesion (through filter bubbles and echo chambers, for instance), the political abuse of AI systems, environmental impacts of the technology, and trolley problems (in which there is no clear decision on which choice is more ethical; for instance, having to choose between killing a pedestrian or the driver of an autonomous vehicle). Moreover, very little attention is paid to the ethical dilemmas plaguing the industry itself — the lack of diversity within the AI community or the invisible and precarious labor that goes into enabling AI technologies, such as dataset labeling and content moderation.

Discussions on AI ethics are also based on certain assumptions and framings — "moral

Furthermore, scrutiny of the ethicality of AI technologies is restricted to the design level, and does not extend to the business level. A design-level approach to ethical AI, for instance, looks only at reducing the racial bias of facial recognition software, without questioning the ethics of deploying this technology for mass surveillance in the first place. Another implicit assumption is that ethical design is the exclusive domain of experts within the AI community (for instance, tech companies, academics, lawyers). Product users and buyers are just stakeholders who "have AI happen to them". Seemingly ironclad values and principles start to show cracks when these assumptions are questioned. What can we expect from ethical AI that is techno-deterministic and does not take a critical view of what the

technology is used for? For whom and in whose interest are AI technologies being built and deployed?

> Ethics whitewashing is a real concern as corporations eschew regulations and put forth self-formulated ethical guidelines as sufficient for AI governance.

More challenges emerge as we move away from the substantive content of AI ethics discourses and start putting principles into practice. First, AI ethics is, at best, seen as good intentions with no guarantee for good actions, and at worst, criticized as deliberate attempts to ward off hard regulations. Ethics whitewashing is a real concern as corporations eschew regulations and put forth self-formulated ethical guidelines as sufficient for AI governance. In practice, ethical considerations come in only after the top priorities of profit margins, client requirements, and project constraints have been resolved.[16] It is difficult to rely on the goodwill of corporations which have arguably co-opted the academic field of AI ethics in an attempt to delay regulations.[17] The existence of ethical guidelines does not guarantee that companies will be ethical. There are well-documented instances of companies resorting to ethics dumping and shirking wherever convenient, most obvious in the precarious work conditions of content moderation workers in the Global South.[18]

Mainstream discussions on AI ethics assume that technologies exist in a vacuum, devoid of context. These assumptions are often made by a very small and privileged group of people in the Global North,[19] who do not see the need to engage people outside of their own community even though the tools they build significantly impact the world at large. When AI technologies are designed and deployed without attention to context, systemic harms are amplified, and entire populations, especially in the Global South, can be rendered more vulnerable.[20]

Above all, discussions on ethics remain just that — discussions — not legally binding and enforceable. AI ethics, in its current state, does not lead to ethical AI. If we are serious about making technology work for the people and the planet, our efforts towards AI constitutionalism need to look beyond dominant discourses. This is what I attempt to do in the following section.

3. Towards a new AI constitutionalism

Already, there is mounting resistance against corporations and their maneuvering of ethical self-regulation. Carly Kind, Director of the Ada Lovelace Institute, observes a "third wave" of AI ethics, following a first wave comprising of principles and philosophical debates, and a second wave focusing on narrow, technical fixes. Kind argues that the third wave of AI ethics is less conceptual, more focused on applications, and takes into account structural issues. Research institutes, activists, and advocates have mobilized to effect changes in AI design and use, with some successes such as legislations and moratoria on the use of algorithms for applications such as test grading and facial recognition.[21] An emerging

body of work on "radical AI" aims to expose the power imbalances exacerbated by AI and offer solutions.[22]

The Covid-19 pandemic has laid bare these structural imbalances and triggered a renewed rush towards digitalization, with its associated concerns. Against this backdrop, we have also seen a shift towards a more critical view of AI and its implementation. It is precisely at this point that a new AI constitutionalism, or at least a significantly upgraded one, is needed and possible. We must seize this moment to take control of the narrative and determine what is important for our collective future, and how AI can help us achieve this vision. This is particularly urgent for communities that lie outside of the AI power centres, whose views remain underrepresented in global norm-making and standards-setting, and whose contexts may not be understood by those building the technologies and making the ethical decisions that underpin them. Some groups have already rallied together to collect and compile principles important to their communities, such as the Digital Justice Manifesto put together by the Just Net Coalition[23] (a global network of civil society actors based mostly in the Global South), and the CARE Principles for Indigenous Data Governance by the Global Indigenous Data Alliance.[24]

Societal constitutionalism is a process of constitutional rule-making that starts from social groups like civil society, representatives from the business community, or multistakeholder coalitions. As noted by Redeker et al.,[25] the process can be seen in three phases: "an initial phase of coming to an agreement about a set of norms by a specific group; a second phase in which these norms become law; and a third phase in which reflection about this builds up to achieving constitutional character". Thus far, most of the norm-making in AI has been top down, coming from high-level policymakers, transnational Big Tech firms, or small groups of elites at national levels, reflecting the priorities of these groups. This is insufficient not only from a democratic point of view, but also because the vast applications of AI across different fields, from agriculture to zoology, necessitates the inputs of field experts who understand local contexts and implications.

> **A reimagination of AI constitutionalism should take societal considerations into account.**

A reimagination of AI constitutionalism should move the discourse from a purely technological approach to take societal considerations into account. It needs to move from the realm of the abstract to focus on application. Governance norms, political rights, and limitations of power within the field of AI should be democratically deliberated at different levels of a nested societal system and within different political jurisdictions (e.g. city, state, national, regional, international levels). This would allow all stakeholders and interest groups (e.g. professional associations, business associations, civil society networks, grassroots communities) to contribute meaningfully to the governance of AI from their own vantage points. This collective bottom-up approach, I propose, should be underpinned by the following considerations:

3.1. AI as a means to an end (and not an end in itself)

One prevalent assumption about AI is that it is an inevitable step towards progress, that AI technologies, if built well, can solve any problem. The tech industry's optimism in this regard is echoed by the state. As a result, AI becomes an end in itself instead of a means to an end. Technological determinism is reflected in the willingness of governments to keep the AI regulatory environment minimalist, in order to not stifle innovation. In the rush to remain competitive in a high-tech, machine-enabled future, governments have outlined national AI strategies to promote research, talent, and investments in the sector, while remaining noncommittal about safeguarding against potential human rights violations.[26] The possibilities of 'AI for good' begin to fall flat when seen from this perspective. If the objective of AI is indeed to bring social and economic benefits to the people, governments need to prioritize human rights over the needs of the industry and address the thorny issues that result from these technologies, including mass job displacements and a rapid concentration of wealth in the hands of a few.

For AI to be the means to an end, we need to first clarify our objectives and then critically assess if using AI is the best way to achieve them. In this, we can follow the lead of vision statements such as the UN Sustainable Development Goals and the Universal Declaration of Human Rights which have clearly-specified objectives, arrived at through extensive international consultations, negotiations, and agreements. The UN SDGs also come with a specific timeline (by 2030) as well as established indicators to help evaluate if the objectives have been met. Additionally, we can draw on relevant national[27] and sectoral policies,[28] or even organizational vision and mission statements which have often gone through contestations and consensus-building by multiple stakeholders. The use of AI needs to be grounded in such clearly-stated visions and blueprints for a better society.

Furthermore, it needs to be acknowledged that AI is only one tool in a full range of options, and not all problems should/can be solved by such technologies. In a presentation at Princeton University, titled 'How to recognize AI snake oil', Arvind Narayanan argued that while AI has become highly accurate in applications of perception (e.g. content identification, speech to text, facial recognition), and is improving in applications of automating judgment (e.g. spam detection, detection of copyrighted material, content recommendation), applications that promise to predict social outcomes (e.g. predicting criminal recidivism, job performance, terrorist risk) are still "fundamentally dubious". Justifying the use of the term 'snake oil AI', Narayanan pointed to existing studies that show that AI backed by thousands of datasets is not substantially better at predicting social outcomes than manual scoring using only a few data points. Discussions on AI constitutionalism should, therefore, be grounded in clearly-stated objectives and feasibility studies, as well as allow room for rejecting AI usage, especially when there are potential risks for stakeholder communities.

3.2. AI ethics to emphasize relationality and context

According to Sabelo Mhlambi from Harvard University, Western ethical traditions tend to emphasize "rationality" as a prized quality of personhood — along the lines of "I think,

therefore I am" — where humanness is defined by the individual's ability to arrive at the truth through logical deduction.[29] Not only is this an inherently individualistic worldview, it has also been used to justify colonial and racial subjugation based on the belief that certain groups are not rational enough, and therefore, do not deserve to be treated as humans. An AI framework that prioritizes rationality and individualism ignores the interconnectedness of our globalized and digitalized world, and serves to exacerbate historical injustices and perpetuate new forms of digital exploitation. The failure to recognize the relationality of people, objects, and events has left us hurtling towards countless crises and avoidable tragedies (such as man-made climate change exacerbated by nations' inability to coordinate a multilateral response).

relationships and the overall context and environment it interacts with. For example, evaluating AI-powered automated decision-making systems through the ethical lens of Ubuntu, Mhlambi points to a range of ethical risks. These include the exclusion of marginalized communities because of biases and non-participatory decision-making, societal fragmentation as a result of the attention economy and its associated features, and inequalities resulting from the rapid concentration of data and resources in the hands of a powerful few.[33] In contrast, current ethical AI frameworks say very little about extractive business models of surveillance capitalism or the heavy carbon footprint of training AI.

The development and deployment of AI technologies take place in a complex, networked world.

An AI framework that prioritizes rationality and individualism ignores the interconnectedness of our globalized and digitalized world, and serves to exacerbate historical injustices and perpetuate new forms of digital exploitation.

Scholars of technology and ethics have offered diverse philosophies anchored in relationality — such as Ubuntu,[30] Confucianism,[31] and indigenous epistemologies (e.g. Hawai'i, Cree, and Lakota)[32] — that view ethical behavior in the context of social relationships and relationships with non-human entities such as the environment, or even sentient AI in the future. The moral character of AI must be judged based on its impacts on social

Discussions on AI constitutionalism thus need a paradigmatic shift in ethics from the individual to the relational, and must consider issues as diverse as collective privacy and consent, power and decolonization, invisible labor and environmental externalities in AI supply chains, as well as unintended consequences (for instance, when systems interact in unpredictable ways with their particular environments).

3.3. AI governance to go beyond self-regulation by the industry

The tech ethos of "move fast and break things" becomes much less persuasive if we make the connection that an algorithmic tweak in Facebook can lead to (or prevent) a genocide in Myanmar.[34] Some friction in the system, by way of checks and balances, is necessary to make sure that any technology released is safe for society, and to guard against AI exceptionalism. Besides safety, AI can have significant systems-level opportunities and threats. An AI Security Map drawn by Jessica Newman at the University of Berkeley proposes 20 such areas — digital/physical (e.g. malicious use of AI and automated cyberattacks, secure convergence/integration of AI with other technologies), political (e.g. disinformation and manipulation, geopolitical strategy, and international collaboration), economic (e.g. reduced inequalities, promotion of AI research and development), and social domains (e.g. privacy and data rights, sustainability and ecology).[35] It is difficult to imagine that self-regulation in the AI industry would carry us through all of these different areas, across different sectoral and geographical contexts.

The World Economic Forum defines governance as "making decisions and exercising authority in order to guide the behavior of individuals and organizations".[36] As AI constitutionalism is ultimately about governance of technology, discussions should not stop at AI ethics or be left to experts. Instead, we should explore other mechanisms such as institutional frameworks and regulatory environments to bridge principles and practice. Under the broad ambit of AI constitutionalism, diverse governance issues can be debated at various policy levels — for example, cross-border data flows and data sovereignty can be discussed at the international level; hard limits against malicious use of AI and data governance frameworks can be discussed at a national level; data privacy, especially in sensitive sectors such as finance and health, can be taken up at a sectoral level.

Broad participation in AI governance can have positive spillover effects such as trust-building, pooling multidisciplinary knowledge, and capacity-building across different domains. For this, a new AI constitutionalism needs to push for stakeholder participation at various levels. Underrepresented nations need to be invited and supported in norm-making initiatives at the international level; civil society must be consulted and engaged at national and city levels. These discussions should not focus only on the technical, and the onus should be on the AI community to make the information accessible to all. As a recent report by Upturn and Omidyar Network puts it, non-technical properties about an automated system, such as clarity about its existence, purpose, constitution,[37] and impact, can be "just as important, and often more important" than its technical artifacts (its policies, inputs and outputs, training data, and source code).[38]

4. End reflections

AI constitutionalism needs to be squarely rooted in societal contexts and must make the connections between technology and the traditional fault lines of power and privilege. The resulting discourses will be complex and contested, reflecting the messy realities that the technology is embedded in, rather than the neat lists of values and principles that see the technology in a vacuum.

The values of AI ethics (such as fairness, accountability, and transparency) will take on different, more consequential meanings when applied at a societal level, challenging actors in the Global North to explore ways to decolonialize AI and distribute its benefits based on solidarity, not paternalism.

By lifting AI constitutionalism from its narrow, technological focus to the societal and application level, we will find opportunities for greater participation and a more diverse range of perspectives to shape governance norms, power structures, and political rights in the field of AI. This will make space for actors in the Global South to deliberate on our own AI-enabled future, drawing from our cultural philosophies, and governing AI through our laws and institutional frameworks. It is critical that we claim this space to govern technology, as the unprecedented advances promised by AI can only be fulfilled if it is carefully controlled. Forfeiting this space would leave us stranded with a vastly different outcome of being controlled by technology and those wielding it.

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