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DIGITAL TECHNOLOGY INNOVATION: MYTHICAL CLAIMS ABOUT REGULATORY EFFICACY

Robin Mansell

This paper examines myths envisaging a "balancing" of commercial, state and citizen interests through a market-led adjustment process underpinned by regulatory interventions in digital technology markets. It considers how these myths operate to downplay or conceal a persistent commitment to digital innovation that privileges the interests of technology companies and states. The key assumptions of the prevailing imaginary of technology innovation—emphasising investment in artificial intelligence and commercial datafication with harms mitigated by regulatory "guardrails"—are contrasted with an alternative imaginary that pays attention to uneven power relations and their consequences for the protection of citizens' fundamental rights. Drawing upon Gramsci's insights into the role of myth, the paper emphasises the need to examine the implementation of regulation and its outcomes if we are to understand how myth operates by concealing outcomes that leave the prevailing imaginary robustly intact. In arguing that myth suppresses possibilities for resistance to the capitalist exploitation of digital technology innovation, the conclusion discusses why a reframing of digital technology innovation processes and their regulation is essential if digital systems are to operate in ways that are consistent with human autonomy, dignity and democracy.

KEYWORDS Digital technology innovation; regulation; myth; artificial intelligence; datafication

Introduction

Online connectivity yields enormous quantities of data. Companies appropriate these data for monetisation purposes and governments seek access to these data for a variety of purposes, usually linked to national security. Artificial intelligence (AI) applications and data analytics techniques increasingly permeate decision making in public and private life. Technology innovation which enables datafication frequently is positioned as an engine of human progress and of economic growth (EC 2021). It is claimed that the benefits of AI breakthroughs and other digital innovations in the West achieve the "right balance between legitimate business interests [or government interests] and the fundamental rights" (High Level Industrial Roundtable 2019, 2). In China "an open, fair, equitable and non-discriminatory scientific environment" for digital innovation is expected to be beneficial for all (Xi 2021, np). For the global South, capturing both the economic and social value of private and public data is positioned as a high priority (World Bank 2021).

Digital technology innovation is depicted as a "force for good in society" (EC 2021) with the expectation that it will support responses to crises such as health pandemics, climate change, financial downturns, viral mis or disinformation and more. In the mainstream literature on technology innovation, revolutionary or disruptive change is positioned as resulting from the rational choices of millions of individuals expressing their demand in the market, albeit with "guardrails" to protect against risks of harm (Bauer 2022). Thus, the pathway for digital innovation is imagined[1] and normalised as that which promotes economic growth, while simultaneously securing the privacy, freedom of expression, and non-discriminatory treatment of human beings.

Critical assessments of this view of technology innovation are long standing and they point to threats accompanying innovations in computerised information processing (Wiener 1948; Council of Europe 1968; Beniger 1986). Racial and gender discriminations resulting from data processing and anti-democratic social norms embedded in software code have been of concern for decades (Roberts 2019; Birchall 2017; Lyon 1986). In contemporary times, threats associated with AI systems[2] and the massive scaling up of datafication processes using algorithms and machine learning techniques are well documented with contemporary developments being positioned as amplifying crises in the political, social, and economic spheres (Mansell and Steinmueller 2020; Zuboff 2019; Van Dijck, De Waal, and Poell 2018). Critics of the deployment of digital innovations emphasise the power of technology companies to "shape the infrastructures, architectures, and spaces of social life" (Ghosh and Couldry 2020, 1). The argument in this paper is applicable generally to innovations in digital infrastructures and services, but since AI systems are in the vanguard of recent developments, AI is taken as exemplary of how developments in the digital sphere are imagined and governed.

Despite criticisms of digital technology companies' disproportionate power and characterisations of innovations in digital technology as a "social disease" (Miller 2021), relatively little attention is given to how a prevailing imaginary of technological innovation – an imaginary that privileges commercial market-led innovation shaped by the preferences of autonomous individuals—undermines the efficacy of the regulatory "guardrails" that are introduced. In this paper, I ask what imaginaries (and myths) condition the efficacy of regulatory "guardrails"? I suggest that the efficacy of digital governance initiatives is undermined by two prominent myths – the first is that the interests of state, corporate and consumer/citizen actors in a capitalist marketplace can be *balanced*; the second is that *adjustment* to technology innovations should be achieved mainly through market-driven processes that are expected to guarantee equitable and fair outcomes for consumers and citizens (in the long term).

This paper first discusses the prevailing imaginary of the digital technology innovation process which is informed by research in the science, technology, and innovation field. This is contrasted with an alternative imaginary of digital innovation which acknowledges that a balancing of corporate, state, and civil society interests as an outcome of the commercialisation of innovation, even with regulatory "guardrails," cannot be expected to avert multiple harms associated with the deployment of AI systems and commercial datafication processes. The second section of the paper focuses in on two key myths that are deeply embedded in the prevailing view of the technology innovation process – balancing and market-led adjustment – explaining how these operate in a selection of regulatory initiatives that are being taken in response to concerns about harms associated with digital innovation. In the conclusion, the likelihood of these myths being unconcealed in

the absence of research focusing specifically on regulatory implementation and efficacy is discussed. I call for renewed emphasis on research aimed at revealing why state and commercial interests in digital innovation for profit remain entrenched, despite claims on the part of digital sphere policy-makers to support citizens' fundamental rights.

Imaginaries About Technology Innovation

In the context of digital technology—and specifically AI—innovation, the prevailing view is that commercial markets are the most effective drivers of economic growth. Science-based industry is assumed to contribute to improvements in productivity and competitiveness and, for example, investment in AI research and development is expected to be respectful of consumer choice. AI and other innovations in advanced digital technologies are positioned as exogenous shocks to the market – as "disruptive technologies" (Schwab 2017). The role of the state is to promote "commercialised invention" which is assumed to be a force for "good" (Schot and Steinmueller 2018). Consumer choice is treated as being sovereign with customers being free to choose what they do online and make desirable choices. What is "desirable" is, as Tirole (2017, 57) says, a question about which most economists who study the technology innovation process have little say. Issues of justice, equity and human rights are not considered in this dominant imaginary framing because they are not explicit in the theoretical premises of market and technology innovation dynamics.

In this framing, consumers are expected to "adjust" to the exogenous shock of technology innovation. The state's role is limited to *ex post* responses to market failure or to a mix of *ex post* and *ex ante* regulatory interventions aimed at facilitating the market adjustment process. The adjustment itself is assumed to occur in a commercial environment in which there is an equal distribution of power and at least a mindfulness about societal values (Heldt and Dreyer 2021). Regulators are expected to balance users' rights with national or regional technology market expansion goals. Furthermore, regulatory interventions should be limited to the minimum necessary to address risks, without unduly hindering technology development.

Criticisms of this prevailing imaginary of technology innovation involve an effort to ensure that all public action, in addition to market dynamics, that influences the innovation process is taken into account (Borrás and Edquist 2019). This modification of the prevailing imaginary acknowledges that the benefits of technology innovation are not conferred equitably, but it remains committed to market-led commercialisation and the efficacy of regulatory implementation is rarely considered (Edquist 1997). In some strands of work in this tradition, there is a turn to promoting entrepreneurship and "learning and adaptation" to ensure that technological innovations do not become "locked into suboptimal circumstances" (Mazzucato 2016, 141), but the market mechanism remains the principle means of achieving progress.

A different imaginary of technology innovation is similarly concerned with "adjustment", but it differs in its emphasis on societal issues such as poverty alleviation, concerns about inequality and the sustainability of outcomes. It acknowledges that "balancing" actor interests is neither automatic, nor the typical outcome of technology innovation and its commercialisation (Freeman and Soete 1997). Treating technological innovation as a "social transformation," rather than as a simple shock requiring market transformation, this view attends to the need for "pluralistic political and social arrangements which

deliberately tolerate organised criticism and opposition and the expression of alternative approaches" (Freeman 1992, 29). In this framing of technology innovation, it is acknowledged that the societal and individual adjustments required to benefit from digital technology innovation are hard to achieve and that adjustment often involves resistance to innovations (Freeman and Perez 1988). This imaginary acknowledges that asymmetries of power are a constant feature of the commercial marketplace and that such asymmetries operate to privilege interests in profit and market expansion over societal interests in securing the autonomy and dignity of citizens. With a more complex understanding of how the marketized innovation process operates, the analytical focus is on regulatory regimes and institutions, ideas, and customs; that is, on the rules, norms and values that condition technological and societal transformation with an understanding that these are difficult to change in the face of power asymmetries (Freeman and Soete 1997, 411).

In this view, there is a commitment to fundamental human rights and social solidarity in the face of technological innovation (Schot and Steinmueller 2018, 1562). This approach favours experimentation, learning and reflexivity with the aim of introducing new combinations of rules and norms and it acknowledges that "marginal changes in existing systems are likely to be ineffective" (Schot and Steinmueller 2018, 1563). It also assumes that concurrent technology innovation imaginaries (or pathways) can co-exist. Thus, for example, in this framing it would not be assumed that monetising technology innovations such as generative language models—OpenAI's ChatGPT (Generative Pre-trained Transformer)—is inevitable because there is no assumption that balancing actor interests will be achieved within the capitalist market. Instead, the focus in this alternative framing is on opportunities to change the rules and norms (regulations) in line with protecting fundamental rights and values concerning what is deemed to be acceptable technology and what is not.

These prevailing and alternative imaginaries of technology innovation embrace contrasting assumptions or myths about the efficacy of digital technology regulation. In the dominant framing, adjustments may be made to deal with the shocks of technology innovation in the form of regulatory interventions, but these are intended to recalibrate commercial market functioning with the assumption that more efficiently functioning markets will protect consumer interests. In the alternative framing of technology innovation, adjustment is concerned with both individual and societal interests and with normative assessments of the rules and norms that are needed to avert harms and injustices associated with new technologies. A simplistic, mechanistic imaginary of commercial market operation is abandoned. In the next section, I turn to a consideration of how myths about balancing and adjusting to technology innovation operate to conceal or downplay the likelihood that regulatory outcomes will privilege the interests of technology companies and states over those of citizens.

Mythical Regulatory Processes and Outcomes

Gramsci suggested that regression into myth is common during crises (Woodley 2012) partly because myth works to sustain an illusory sense of mastery of events or processes – for instance, that regulation will be successful in mitigating harms associated with technology innovation. Thus, in this view, myths about balancing interests and market-led adjustment to recent developments in AI-enabled datafication can be expected to sustain the prevailing imaginary of a progressive modernity where workable "guardrails" are, or will

be, put in place. When a myth comes to be perceived as reality or "fact," it confers power and authority. It operates to naturalise developments such as innovations in digital technology that then go unquestioned: "myth hides nothing: its function is to distort, not to make disappear" (Barthes 1957, 120). This suggests that balancing and adjustment myths will foster the neglect of attention to regulatory implementation and its outcomes. This is because, in line with the prevailing technology innovation imaginary, marketisation is assumed to be in the interests of individuals, at least in the long term. Thus, while regulation may be applied to constrain the power of technology companies to some extent, it also results in power-enhancing outcomes for companies or states (Busch et al. 2021). When a myth enables the prevailing imaginary of technology innovation to be treated as "fact," this diminishes opportunities for scrutiny of whether harms of digital innovation are being mitigated through regulatory interventions. Thus, the outcomes of regulation that are misaligned with the goal of upholding citizens' fundamental rights are concealed or receive relatively less attention than the goal of boosting data economies. Several instances of regulatory intervention in response to digital innovation are discussed in this section to highlight the work of myth.

Digital Innovation and Competition

Regulators turn increasingly to competition policy and antitrust measures to stimulate investment in AI systems and algorithms, arguing that interventions will assure that digital markets are contestable, i.e. competitive. The prevailing imaginary of technology innovation is echoed in claims about the virtues of a "level competitive playing field" which is assumed to operate in the interests of all actors, in contrast to highly concentrated (or monopolistic) markets in which a few dominant platform companies have accumulated very substantial market power. Measures are being introduced in the West (and to some extent in the East) to tackle the "bottleneck" or "gatekeeper" power of dominant technology companies. For example, there is a profusion of bills in the United States aimed at stimulating "free and fair" competition (US 2020). In the European Union, competition is being encouraged by imposing behavioural and other restraints on large technology companies through the Digital Services Act and the Digital Markets Act (EC 2022a,b). The myth is that in a vigorously competitive landscape "consumer sovereignty" will flourish, enabling "free choice" for technology users with the expectation that consumers will be positioned to choose to use digital services enabled by AI systems that are beneficial for them without being harmed.

Individuals are expected to acquire the information they need to adjust their behaviour in their own interests. Investment in digital literacy is positioned as a "guardrail" to enhance individual agency online, notwithstanding the reality that "we cannot teach what is unlearnable, and people cannot learn to be literate in what is illegible" (Livingstone 2018, np). The mythical "fact" is that technology innovation will proceed for social "good," and that regulation will ensure that companies face new incentives, for instance, to provide enhanced guarantees of data privacy (Edlin and Shapiro 2019). The myth that a balancing of interests results from strengthened market competition ensures that inequalities arising from power asymmetries and the persistence of an unlevel competitive digital market are concealed. Novel means of AI-enabled data extraction and non-transparent nudging of behaviour can continue largely unabated at the behest of companies and states.

Technological Neutrality and Technological Fixes

The myths of balancing and automatic market-led adjustment to technology innovation are visible in claims that as digital technology advances and underpins algorithm-based decisions, technology design will be consistent with desirable protections for technology users. In the prevailing imaginary, technology innovation is deemed to be neutral with outcomes shaped by a market which encourages technological "fixes" to mitigate harms. For example, privacy legislation such as the European Union's General Data Protection Regulation (GDPR) (EC 2016) is normalised as providing an effective means of ensuring that online users are in control of their data. Technology design is claimed to put users in control with "a real choice" and to uphold human rights because a mythical "market symmetry" between service providers and users is assumed (Lehtiniemi and Haapoja 2020). Proposals for individuals to be paid for their data and concepts such as "trust by design" and privacy "by design and default" are deployed to suggest that there will be an equitable balancing of corporate, state and citizen interests. Similarly, "safety by design" is expected to balance the rights of children and adults to privacy or freedom of expression with company priorities and market expectations (EC 2022b). The myths help to ensure that derogations from design and regulatory expectations are concealed, for example, when online messenger and email service providers are required to scan private message content in real time to counter child pornography (EC 2020b). The myth of balance, achieved through designed-in protection, helps to downplay a reality in which people remain subject to corporate or state co-optation to participate in online environments.

Market Transparency

Consistent with the dominant imaginary of technology innovation, it is assumed that if enough information is available to regulators, risks associated with digital innovations will be reduced. The myths of balancing and market-led adjustment sustain a belief in an unambiguous (social) science that can accurately assess the benefits and harms of AI systems and other digital applications. This diverts attention away from weaknesses of available tools and methods, for example, for detecting algorithmic self-preferencing or bias (Ada Lovelace Institute 2020). Claims about market transparency then conceal instances where harms associated with online interaction have yet to be grounded in conclusive empirical research and help to downplay claims that a high level of algorithmic transparency is not feasible to achieve (Amoore 2020; Rieder and Hofmann 2020). The myth that markets can be regulated to achieve transparency deflects attention away from incentives and technology characteristics that limit disclosure of business operations to regulators.

For example, regulations may require the technology companies to meet specified criteria and be held to account by independent audit, but auditors must be able to access relevant data with explanations about databases, algorithms, and content takedowns. In the dominant imaginary, the expectation is that there will be a solid evidentiary basis. The myth is that companies will ensure that relevant information is forthcoming and that this will enhance transparency assuming that procedures and evidentiary requirements are clear. It is expected that market dynamics (and the threat of fines) will ensure that companies respond to regulators' requests with an ethos of "justice, transparency, democracy and inclusivity" (Noula 2021, np). Benchmarking tools may be devised indicating how many breaches of, for example, data protection rules have been reported, the

types of monitoring and surveillance that are occurring and how many takedowns of illegal content have occurred. However, transparency reports yield little sense of whether the underlying incentives guiding the behaviours of companies and states are being rebalanced in favour of the protection of citizens and it is assumed that companies will present an evidentiary base that is reliable.

Claims to transparency help to conceal instances where there is little or no basis for claims that the implementation of technology will do no harm. The prevailing imaginary with its simple model of innovation, imputing cause and effect, deflects attention away from instances where, for example, harms associated with online interactions have no conclusive evidentiary basis in research. The myth of a balancing of interests conceals both the probabilistic nature of evidence and the existence of multiple, conflicting, interpretative frameworks (Livingstone 2010). Yet claims that market transparency can be achieved sustain the expectation that a solid evidentiary basis will be available. The consequences of the adversarial nature of regulatory proceedings and delays in addressing contested issues recede into the background even as harmful technology is brought to market (Privacy International 2021). Claims that a balancing of economic goals with public values can be achieved based upon a risk calculus which can provide uncontested guidance about digital technology harms enable monitoring of corporate or state measures to mitigate harms to be presented as being an effective response to concerns about the biases of AI-supported commercial datafication process.

Regulatory Independence

Consistent with the prevailing imaginary of digital technology innovation is the notion that politics plays no role in regulatory implementation. This helps to sustain the myth of market-led adjustment to technology innovation with harms mitigated by "guardrails", uninfluenced by politics or lobbying. In democracies, rules and checks and balances are assumed to distance regulatory agencies from state intervention and from corporate lobbying, but the myth of balancing of actor interests suppresses attention to instances of erosions of independence and the working of asymmetrical power. In the digital technology innovation and governance context, asymmetries of power between policy makers, the technology companies and citizens arise for multiple reasons including "revolving doors" between the public and private sectors (Alfonsi 2019; Popiel 2018), and enormous spending by companies such as Meta, Amazon, Alphabet and Apple on lobbying efforts to forestall or shape regulatory interventions. In addition, governments seek to influence digital governance by excluding the voices of citizens from deliberations on regulatory interventions as in the case of Council of Europe's discussion of an international treaty on AI (Bertuzzi 2023). Some argue that corporate efforts are unsuccessful since, at least in the European Union, a digital governance leadership position is now acknowledged (Tarrant and Cowen 2022) and the notion of a balancing of interests remains central to the assumed efficacy of regulatory interventions. However, instances of the erosion of regulatory independence are often present as in the United Kingdom's proposed Online Safety Bill (UK 2022) which permits the Secretary of State to direct the regulator to ensure that the Government's strategic priorities are reflected in the implementation of regulations applicable to digital platforms.

Regulatory resource constraints are downplayed when the assumption is that market-led adjustments will create incentives for corporate good behaviour. These constraints can restrain "independent" regulators from achieving the goals that are set for them. It is known, for instance, that the increasing costs of data protection, including the costs of growing staff levels, mean that some governments do not have the resources to handle the volume of cases (EC 2020a; Naughton 2020). GDPR implementation has been found to be fragmented at the level of national implementation (EC 2020a) and there is uncertainty about how European Union Member States will implement competition policy and regulatory requirements that are expected to incentivise reform of the large technology company practices (Bertuzzi 2021). When the potential for divergent legal interpretations and regulatory processes is neglected, it is difficult to challenge the efficacy of regulation.

Sometimes asymmetries of power are acknowledged by those working within the dominant technology innovation imaginary framing. This is apparent in the case of assessments of the capacities of lower income countries to introduce regulatory protections in response to the behaviours of technology companies. In this case, an independent "well-designed data governance framework" is called for, with passing recognition that this is an "aspirational vision" that cannot be implemented in practice due to human and financial resource constraints (World Bank 2021). High profile cases of data breaches, hosting of illegal information, or negative outcomes associated with biased algorithms may be pursued by regulators, but the fact that millions of people are left unprotected in practice can be downplayed with multiple instances of harm being documented as in Meta/Facebook's role in ethnic cleansing of Rohingya Muslims in Myanmar or the role of social media companies in fostering misinformation, hate and violence in Brazil, India and the United Kingdom (Banaji and Bhat 2022). In these instances, the prevailing imaginary embracing the myths of balanced interests and the benefits of market-led adjustment helps to downplay the need for effective implementation of regulations.

Datafication "For Good"

The myths of balancing and market-led adjustment also sustain an imaginary of datafication "for good" in a competitive market. For example, the European Union's Digital Markets Act asserts that "tracking and profiling of end users online is as such not necessarily an issue" as long as it is done in a transparent way and penalties and fines are assumed to be "effective, proportionate and dissuasive" (EC 2022a). In some instances, certainly, regulatory outcomes do favour citizen interests. In Germany, for instance, the Hamburg Data Protection regulator banned Google from listening to Google Home recordings on evidence of corporate listening to intimate conversations when users had not activated the device (Orme 2019). In France, the French Data Protection Authority ruled that facial recognition technology could not be used in French high schools on GDPR grounds (Christakis 2020). In the United States, Everalbum Inc.'s use of customer photos to train facial recognition algorithms led to a Federal Trade Commission ruling that the company needed to obtain customer permission to use the data (Lyons 2021). However, instances of *ex post* harm mitigation are not aimed at slowing or redirecting technological innovation in any fundamental way. The goal remains advancing technology innovation and mitigating harms if they arise and a conclusive evidence-based case is made for adjusting norms

and rules through legislative means or regulatory oversight. The priority remains increasing investment in an AI-enabled digital infrastructure and commercial datafication systems. As Nieminen (2016) argues, regulatory interventions "patch the gaps" left by global regulators which have little or no control over the providers of digital technologies.

Ethical Digital Systems

The myths of balancing and market-led adjustment to technology innovation similarly underpin efforts by the technology companies to demonstrate their ethical credentials. Facebook's commitment to ethical deployment of AI (Ochigame 2019) or Google's responsible practices for AI development (Google 2018) are instances of the self-regulatory measures taken by the technology companies in this area. By 2021, 46 countries had signed up to the OECD's AI principles with the aim of unleashing AI innovation in a trustworthy environment (OECD 2019). Yet regulation to oversee AI uses in digital applications is addressed mainly to civilian uses and applications deemed to be "high risk," not to military purposes. The Convention on Certain Conventional Weapons (CCW) addresses lethal autonomous weapons systems (Gill 2018), but there is no legally binding treaty that would ban unethically deployed systems. Nevertheless, "space surveillance as a service" is well underway with developer companies keen to sell data to anyone who is willing to pay, notwithstanding efforts to regulate AI systems. These companies provide border agencies with advanced capabilities, supported by AI systems, perpetuating a dominant rationality that seeks to maximise control and surveillance (Chouliaraki and Georgiou 2022). AI systems are being used to assist in illegal "pull backs" in the Mediterranean of asylum seekers (Ahmed and Tondo 2021), and civil applications are supporting cybercrime in cases such as the Israeli company, Candiru's sale of spyware to monitor journalists and activists (Mehrotra 2021). In the European Union, ethical principles to guide innovation in AI systems are, or soon will be, in place, in some instances banning applications, but the myth that the interests of state, corporate and civil society actors will be balanced and that adjustments to technology innovation will be beneficial for all in the longer term continues to be strongly entrenched.

Conclusion

Myth works exceedingly well to ensure that, when treated as "fact," the fruits of technology innovation can be assumed to be beneficial for individuals and society and to be implemented consistent with the efficacy of regulation, thereby achieving a balancing of corporate interests in monetising data for profit, state interests in data surveillance, and civil society interests in preserving their fundamental rights. However, if "just the act of requiring us to live our lives while continuously being tracked from corporations is itself an undermining of human dignity" (Couldry and Mejias 2019), then the myths of balanced power relations and beneficial market-led adjustment succeed in concealing that digital innovation remains aligned with the dominant imaginary of technology innovation. The goal of this imaginary is the advancement of profitable digital technology implementations, the benefits of which accrue principally to the producer-owners of technology systems. Despite claims to respect citizens' fundamental rights, regulatory measures in this context will necessarily be insensitive to citizen interests as, for example, when such

measures promote the introduction of AI systems in the commercial market prior to the capacity to verify their operational biases. Known and unknown forms of discrimination and disadvantage can persist, accompanied by an imaginary that technology companies will engage in "social engineering" (Heldt and Dreyer 2021) that achieves a balanced set of goals, even if the efficacy of the "guardrails" has not been demonstrated or there are only incremental moves to restrain some of the most visible and harmful business strategies and practices.

The work of myth conceals the "fact" that the technology companies, themselves, are unable to control much of the problematic behaviour on their sites (Bay and Fredheim 2019) and that regulatory "guardrails" do little to alter their incentives to profit from uses of data. Regulatory initiatives may reshape some features of business strategies as novel ways of using digital technology—including AI systems—are brought to the market. Nevertheless, proponents of an alternative imaginary of technological innovation, with its emphasis on reducing risks and harms, for example, by introducing non-marketised digital systems, restraining or outlawing certain technology implementations, and privileging norms and rules compatible with human dignity and democracy, can be dismissed as being radical and unworkable under the capitalist mode of production. The result is that regulatory interventions responding to disquiet about technology company and state practices operate in an "epistemic blind spot" (Kretschmer, Furgat, and Schlesinger 2021). Although there are substantial variations in regulatory approaches around the world, especially in respect to the efficacy of digital governance aimed at human rights protection (Kerr, Musiani, and Pohle 2019) and the United Nations is calling for respect for human rights in relation to digital innovation (UN 2020), fundamental changes in the rules and norms governing technology innovation and its implementation remain subordinated in the face of the search for profit and the growth of data economies.

The myths about balancing interests and beneficial outcomes of commercial market-led adjustments need to be exposed alongside efforts to implement digital systems in ways that make citizens' interests the priority (Cammaerts and Mansell 2020; Mansell and Steinmueller 2022). One means of doing so is by unconcealing how the innovation process itself and the regulatory "guardrails" persist in privileging a marketized digital system. This requires an expanded effort to track the efficacy of the implementation of digital governance initiatives through research that goes beyond the mapping of regulatory initiatives to reveal how myth conceals outcomes aligned principally with the dominant technology innovation imaginary.

Efforts to manage data in the citizen's interest, proposals for public service or commons-based media and a shift to the provision of digital infrastructure as a public utility (Fuchs 2014; Schiller 2020) are helpful possibilities for developing an alternative technology innovation imaginary where concerns for justice and equity as well as sustainability are given a high priority. But for an alternative imaginary of digital innovation to flourish, such initiatives must become a more predominant mode of digital system provision. This requires more than investment; it requires approaches to the deployment of these systems that are consistent with human autonomy and dignity. The workability of alternative digital systems (with and without the use of AI systems) that make fundamental rights and the requirements of democracy a top priority needs to be demonstrated on a large scale if they are to become sufficiently widespread to give citizens a "real choice" (Ghosh and Couldry 2020). This is unlikely without simultaneously exposing the myths of balancing and commercial market-led adjustment to digital innovation and how the dominant

imaginary is reproducing exploitative capitalist relations. It also requires that the alternative imaginary's values and practices start to become the norm.

If the myths discussed in this paper are not more widely dispelled, the future will be characterised by "technological somnambulism" (Winner 2014) into a world characterised by the proliferation of mis or disinformation, hate speech, hidden and discriminatory algorithmic biases, and extensive mass population surveillance. It has been possible within the framing of the dominant technology innovation imaginary for governments to respond to a perceived datafication "crisis" and this is giving rise to many regulatory initiatives with new "guardrails." However, as Fraser comments,

> what looks like a crisis to an outside observer does not become historically generative until participants in the society see it *as* a crisis … [and] they intuit that the pressing problems they experience arise not despite but precisely *because of* the established order and cannot be solved within it. (Fraser 2022, 132 emphasis in original)

Greater attention to analysis of the efficacy of regulation applied to digital innovations yielding improved evidence of misalignments of regulatory outcomes with citizens' interests has at least the potential to enable participants in the digital realm to understand that the "established order" itself needs to change. My argument is that one small step towards resisting the established order is a greater focus on revealing the misalignments of regulatory implementation and its outcomes, without neglecting scrutiny of formulations of regulatory norms and principles that are being embedded in legal and regulatory institutions' texts that continue to display alignment with the dominant technology innovation imaginary.

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NOTES

1. An imaginary is understood here following Charles Taylor's account of the "social imaginary" (Taylor 2004; Mansell 2012) which focuses particularly on the deeply embedded norms and values which predominate in societies.
2. There are numerous definitions of AI. For this paper, AI encompasses software-based technology combining data, algorithms and computational power. The European Commission describes AI as "a family of technologies" that operate "by improving prediction, optimising operations and resource allocation, and personalising service delivery." These technologies are deemed to be associated with benefits and risks and there is a commitment to a "balanced approach" (EC 2021, 1, 39)

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REFERENCES

Ada Lovelace Institute. 2020. *Examining the Black Box: Tools for Assessing Algorithmic Systems*. London: Ada Lovelace Institute. https://www.adalovelaceinstitute.org/report/examining-the-black-box-tools-for-assessing-algorithmic-systems/.

Ahmed, Kaamil, and Lorenzo Tondo. 2021. "Fortress Europe: The Millions Spent on Military-Grade Tech to Deter Refugees." *The Guardian*, December 6. https://www.theguardian.com/global-development/2021/dec/06/fortress-europe-the-millions-spent-on-military-grade-tech-to-deter-refugees.

Alfonsi, Carlotta. 2019. "Taming Tech Giants Requires Fixing the Revolving Door." *Kennedy School Review* 19: 166–170. https://ksr.hkspublications.org/2020/02/18/taming-tech-giants-requires-fixing-the-revolving-door/.

Amoore, Louise. 2020. *Cloud Ethics: Algorithms and the Attributes of Ourselves and Others*. Durham, NC: Duke University Press.

Banaji, Shakuntala, and Ramnath Bhat. 2022. *Social Media and Hate*. London: Routledge.

Barthes, Roland. 1957. *Mythologies*. Translated by Annette Lavers. New York: Noonday Press.

Bauer, Johannes M. 2022. "Toward New Guardrails for the Information Society." *Telecommunications Policy* 46 (5): 1–15. doi:10.1016/j.telpol.2022.102350.

Bay, Sebastian, and Rolf Fredheim. 2019. *How Social Media Companies Are Failing to Combat Inauthentic Behaviour Online*. Riga: NATO Strategic Communications Centre of Excellence. https://stratcomcoe.org/publications/how-social-media-companies-are-failing-to-combat-inauthentic-behaviour-online/33.

Beniger, James R. 1986. *The Control Revolution: Technological and Economic Origins of the Information Society*. Cambridge, MA: Harvard University Press.

Bertuzzi, Luca. 2021. "EU Countries Embrace Platform Regulations, But Divisions Remain." *Euractiv.Com*, November 25. https://www.euractiv.com/section/digital-single-market/news/eu-countries-embrace-platform-regulations-but-divisions-remain/.

Bertuzzi, Luca. 2023. "US Obtains Exclusion of NGOs from Drafting AI Treaty." *Euractiv.Com*, January 17. https://www.euractiv.com/section/digital/news/us-obtains-exclusion-of-ngos-from-drafting-ai-treaty/.

Birchall, Clare. 2017. *Shareveillance: The Dangers of Openly Sharing and Covertly Collecting Data*. Minneapolis: University of Minnesota Press.

Borrás, Susana, and Charles Edquist. 2019. *Holistic Innovation Policy: Theoretical Foundations, Policy Problems, and Instrument Choices*. Oxford: Oxford University Press.

Busch, Christoph, Inge Graef, Jeanette Hofmann, and Annabelle Gawer. 2021. "Uncovering Blindspots in the Policy Debate on Platform Power." Final Report of the European Expert Group for the Observatory on the Online Platform Economy. Brussels. https://digital-strategy.ec.europa.eu/en/library/expert-group-eu-observatory-online-platform-economy-final-reports.

Cammaerts, Bart, and Robin Mansell. 2020. "Digital Platform Policy and Regulation: Toward a Radical Democratic Turn." *International Journal of Communication* 14 (2020): 1–19.

Chouliaraki, Lillie, and Myria Georgiou. 2022. *The Digital Border: Migration, Technology and Power*. New York: NYU Press.

Christakis, Theodore. 2020. "First Decision Ever of a French Court Applying GDPR to Facial Recognition." *AI-Regulation, MIAI*. 27 February 2020. https://ai-regulation.com/first-decision-ever-of-a-french-court-applying-gdpr-to-facial-recognition/.

Couldry, Nick, and Ulises A. Mejias. 2019. *The Costs of Connection: How Data Is Colonizing Human Life and Appropriating It for Capitalism*. Stanford, CA: Stanford University Press.

Council of Europe. 1968. *Human Rights and Modern Scientific and Technological Developments*. Strasbourg: Parliamentary Assembly, PACE - Recommendation 509 (1968), Council of Europe. https://assembly.coe.int/nw/xml/XRef/Xref-XML2HTML-EN.asp?fileid=14546&lang=en.

EC. 2016. *Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the Processing of Personal Data and on the Free Movement of Such Data (General Data Protection Regulation*. Brussels: European Commission, OJ L 119/1. https://eur-lex.europa.eu/eli/reg/2016/679/oj.

EC. 2020a. *Data Protection as a Pillar of Citizens' Empowerment and the EU's Approach to the Digital Transition - Two Years of Application of the General Data Protection Regulation*. Brussels: European Commission SWD(2020) 115 final. https://ec.europa.eu/info/sites/info/files/1_en_act_part1_v6_1.pdf?utm_source=POLITICO.EU&utm_campaign=10cd56c923-EMAIL_CAMPAIGN_2020_06_24_10_35&utm_medium=email&utm_term=0_10959edeb5-10cd56c923-190069369.

EC. 2020b. *Temporary Derogation from Certain Provisions of Directive 2002/58/EC as Regards the Use of Technologies by Number-Independent Interpersonal Communication Service Providers … for the Purpose of Combatting Child Sexual Abuse Online*. Brussels: European Commission COM(2020) 568 final. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020PC0568.

EC. 2021. *Proposal for An Artificial Intelligence Act*. Brussels: European Commission, COM(2021) 206 final. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021PC0206&from=EN.

EC. 2022a. *Regulation on Contestable and Fair Markets in the Digital Sector (Digital Markets Act)*. Brussels: European Commission COM(2020) 842 final. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32022R1925&from=EN.

EC. 2022b. *Proposal for a Regulation on a Single Market for Digital Services (Digital Services Act)*. Brussels: European Commission COM(2020) 825 final. https://eur-lex.europa.eu/legal-content/en/PIN/?uri=COM:2020:825:FIN.

Edlin, Aaron, and Carl Shapiro. 2019. "Opinion: Why Breaking up Facebook Would Likely Backfire." *The Mercury News* (blog). 19 September 2019. https://www.mercurynews.com/2019/09/19/opinion-why-breaking-up-facebook-would-likely-backfire/.

Edquist, Charles, ed. 1997. *Systems of Innovation: Technologies, Institutions and Organizations*. London: Pinter.

Fraser, Nancy. 2022. *Cannibal Capitalism: How Our System is Devouring Democracy, Care and the Planet – and What We Can Do About It*. London: Verso.

Freeman, Christopher. 1992. "Bernal and the 'Social Function of Science'." In *The Economics of Hope: Essays on Technical Change, Economic Growth and the Environment*, edited by Christopher Freeman, 3–30. London: Pinter Publishers.

Freeman, Christopher, and Carlota Perez. 1988. "Structural Crises of Adjustment, Business Cycles and Investment Behaviour." In *Technical Change and Economic Theory*, edited by Giovanni Dosi, Christopher Freeman, Richard Nelson, Gerard Silverberg, and Luc Soete, 38–66. London: Pinter.

Freeman, Christopher, and Luc Soete. 1997. *The Economics of Industrial Innovation, Third Edition*. London: Pinter A Cassel Imprint.

Fuchs, Christian. 2014. "Social Media and the Public Sphere." *TripleC: Communication, Capitalism & Critique. Open Access Journal for a Global Sustainable Information Society* 12 (1): 57–101. doi:10.31269/triplec.v12i1.552

Ghosh, Dipayan, and Nick Couldry. 2020. *Digital Realignment: Rebalancing Platform Economies from Corporation to Consumer*. Cambridge, MA: Mossavar-Rahmani Center, Harvard Kennedy School. https://www.hks.harvard.edu/centers/mrcbg/publications/awp/awp155.

Gill, Amandeep S. 2018. "The Role of the United Nations in Addressing Emerging Technologies in the Area of Lethal Autonomous Weapons Systems." *UN Chronicle* LV (3–4): np. https://www.un.org/en/un-chronicle/role-united-nations-addressing-emerging-technologies-area-lethal-autonomous-weapons.

Google. 2018. "Responsible AI." https://cloud.google.com/responsible-ai.

Heldt, Amélie, and Stephan Dreyer. 2021. "Competent Third Parties and Content Moderation on Platforms: Potentials of Independent Decision-Making Bodies from a Governance Structure Perspective." *Journal of Information Policy* 11: 266–300. doi:10.5325/jinfopoli.11.2021.0266

High Level Industrial Roundtable. 2019. *A Vision for the European Industry Until 2030: Final Report*. Brussels: European Commission, High Level Industrial Roundtable. https://op.europa.eu/en/publication-detail/-/publication/339d0a1b-bcab-11e9-9d01-01aa75ed71a1.

Kerr, Aphra, Francesca Musiani, and Julia Pohle. 2019. "Practicing Rights and Values in Internet Policy Around the World." *Internet Policy Review* 8 (1): 1–12. doi:10.14763/2019.1.1395.

Kretschmer, Martin, Ula Furgat, and Philip Schlesinger. 2021. "The Emergence of Platform Regulation in the UK: An Empirical-Legal Study." Glasgow: CREATe Working Paper 2021/6. https://www.create.ac.uk/blog/2021/06/02/the-emergence-of-platform-regulation-in-the-uk-an-empirical-legal-study/.

Lehtiniemi, Tuukka, and Jesse Haapoja. 2020. "Data Agency at Stake: MyData Activism and Alternative Frames of Equal Participation." *New Media & Society* 22 (1): 87–104. doi:10.1177/1461444819861955

Livingstone, Sonia. 2010. *E-Youth: (Future) Policy Implications: Reflections on Online Risk, Harm and Vulnerability*. London: Keynote address presented at e-Youth: balancing between opportunities and risks, 27-28 May, University of Antwerp. http://eprints.lse.ac.uk/27849/1/eYouth_(future)_policy_implications_(LSERO_version).pdf.

Livingstone, Sonia. 2018. "Media Literacy: What Are the Challenges and How Can We Move towards a Solution?" *Media@LSE*. 25 October. https://blogs.lse.ac.uk/medialse/2018/10/25/media-literacy-what-are-the-challenges-and-how-can-we-move-towards-a-solution/.

Lyon, David. 1986. "From 'Post-Industrialism' to 'Information Society': A New Social Transformation?" *Sociology* 20 (4): 577–588. doi:10.1177/0038038586020004007

Lyons, Kim. 2021. "FTC Settles with Photo Storage App That Pivoted to Facial Recognition." The Verge. 11 January. https://www.theverge.com/2021/1/11/22225171/ftc-facial-recognition-ever-settled-paravision-privacy-photos.

Mansell, Robin. 2012. *Imagining the Internet: Communication, Innovation and Governance*. Oxford: Oxford University Press.

Mansell, Robin, and W. Edward Steinmueller. 2020. *Advanced Introduction to Platform Economics*. Cheltenham: Edward Elgar Publishing.

Mansell, Robin, and W. Edward Steinmueller. 2022. "Denaturalizing Digital Platforms: Is Mass Individualization Here to Stay?" *International Journal of Communication* 16 (2022): 461–481.

Mazzucato, Mariana. 2016. "From Market Fixing to Market-Creating: A New Framework for Innovation Policy." *Industry and Innovation* 23 (2): 140–156. doi:10.1080/13662716.2016.1146124

Mehrotra, Kartikay. 2021. "Citizen Lab: Spyware by Israel's Candiru Used to Target Activists." *Bloomberg*, July 15. https://www.aljazeera.com/economy/2021/7/15/citizen-lab-spyware-by-israels-candiru-used-to-target-activists.

Miller, Toby. 2021. *A COVID Charter, A Better World*. New Brunswick, NJ: Rutgers University Press.

Naughton, John. 2020. "Data Protection Laws Are Great. Shame They Are Not Being Enforced." *The Guardian*, 2 May. https://www.theguardian.com/commentisfree/2020/may/02/data-protection-laws-are-great-shame-they-are-not-being-enforced.

Nieminen, Hannu. 2016. "Digital Divide and Beyond: What Do We Know of Information and Communications Technology's Long-Term Social Effects? Some Uncomfortable Questions." *European Journal of Communication* 31 (1): 19–32. doi:10.1177/0267323115614198

Noula, Ionna. 2021. "This Is a Coup." *Media@LSE* blog. 15 January. https://blogs.lse.ac.uk/medialse/2021/01/15/this-is-a-coup/.

Ochigame, Rodrigo. 2019. "The Invention of 'Ethical AI': How Big Tech Manipulates Academia to Avoid Regulation." *The Intercept*. 20 December. https://theintercept.com/2019/12/20/mit-ethical-ai-artificial-intelligence/.

OECD. 2019. *Recommendation of the Council on Artificial Intelligence*. Paris: OECD/LEGAL/0449. https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449.

Orme, James. 2019. "German Regulator Bans Google from Listening to Google Home Recordings for Three Months across Europe". *Techerati*. 1 August. https://www.techerati.com/news-hub/german-regulator-bans-google-from-listening-to-google-home-recordings-for-three-months-across-europe/.

Popiel, Pawel. 2018. "The Tech Lobby: Tracing the Contours of New Media Elite Lobbying Power." *Communication, Culture and Critique* 11 (4): 566–585. doi:10.1093/ccc/tcy027

Privacy International. 2021. "UK Investigatory Powers Tribunal Finds the Regime for Bulk Communications Data to Be Incompatible with EU Law." *Privacy International*, 23 July. http://privacyinternational.org/news-analysis/4597/uk-investigatory-powers-tribunal-finds-regime-bulk-communications-data-be.

Rieder, Bernhard, and Jeanette Hofmann. 2020. "Towards Platform Observability." *Internet Policy Review* 9 (4): 1–28. doi:10.14763/2020.4.1535.

Roberts, Sarah T. 2019. *Behind the Screen: Content Moderation in the Shadows of Social Media*. New Haven, CT: Yale University Press.

Schiller, Dan. 2020. "Reconstructing Public Utility Networks: A Program for Action." *International Journal of Communication* 14 (2020): 4989–5000.

Schot, Johan, and W. Edward Steinmueller. 2018. "Three Frames for Innovation Policy: R&D, Systems of Innovation and Transformative Change." *Research Policy* 47 (9): 1554–1567. doi:10.1016/j.respol.2018.08.011

Schwab, Klaus. 2017. *The Fourth Industrial Revolution*. New York: Portfolio Penguin.

Tarrant, Andy, and Tim Cowen. 2022. "Big Tech Lobbying in the EU." *The Political Quarterly* 93 (2): 218–226. doi:10.1111/1467-923X.13127

Taylor, Charles. 2004. *Modern Social Imaginaries*. Durham, NC: Duke University Press.

Tirole, Jean. 2017. *Economics for the Common Good, Translated by Steven Rendall*. Princeton, NJ: Princeton University Press.

UK. 2022. *Draft Online Safety Bill 121 2022-23 [as Amended]*. Presented to Parliament by the UK Minister of State for Digital and Culture, London, 28 June. https://bills.parliament.uk/bills/3137/publications.

UN. 2020. "Roadmap for Digital Cooperation." Geneva: United Nations Report of the Secretary-General.

US. 2020. "Investigation of Competition in Digital Markets, Majority Staff Report and Recommendations." US Subcommittee on Antitrust, Commercial Law and Administrative Law of the Committee of the Judiciary, Washington DC.

Van Dijck, José, Martijn De Waal, and Thomas Poell. 2018. *The Platform Society: Public Values in a Connective World*. Oxford: Oxford University Press.

Wiener, Norbert. 1948. *Cybernetics: Or Control and Communication in the Animal and Machine*. Cambridge, MA: MIT Press.

Winner, Langdon. 2014. "Technologies as Forms of Life." In *Ethics and Emerging Technologies*, edited by Ronald L. Sandler, 48–60. London: Palgrave Macmillan.

Woodley, Daniel. 2012. "Between Myth and Modernity: Fascism as Anti-Praxis." *European Journal of Political Theory* 11 (4): 362–379. doi:10.1177/1474885112448884

World Bank. 2021. *World Development Report 2021: Data for Better Lives*. Washington, DC: The World Bank. https://www.worldbank.org/en/publication/wdr2021.

Xi, Jinping. 2021. "President Xi Jinping's Speech at Davos Agenda is Historic Opportunity for Collaboration." World Economic Forum. 25 January. https://www.weforum.org/events/the-davos-agenda-2021/sessions/special-address-by-g20-head-of-state-government-67e386f2d5.

Zuboff, Shoshana. 2019. *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*. New York: Public Affairs.

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