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Benign dataveillance? Examining novel data-driven governance systems in India a...
by Payal Arora

Abstract

This study examines novel data-driven models of governance emerging from the Global South, specifically India and China, enabled by Net-based technologies. The first model, the biometric identity scheme or 'Aadhaar' project in India consolidates citizens' digital identities to enable access to government services such as welfare benefits. The second model is China's Social Credit System. By combining the citizens' financial records, online shopping data, social media behaviour and employment history, the system will produce a personal score for each citizen. This rating system will be used to measure the citizens' trustworthiness. This research unpacks these value-embedded systems posited as digital innovations to strengthen citizenship through new forms of political participation, inclusion and representation. In doing so, we are confronted with what constitutes as "democracy" in this datafied and global era, beyond the universalisms that are on offer today.

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Introduction

Democracy is not just an ideal but also an aspiration for a just system of governance, and a model of what a 'good' society looks like. Democracy at its most basic is the rule of the majority, the rule of the commoners, and it was the most successful political idea of the twentieth century (Ball, *et al.*, 2016). However, democracy as we know it is under serious threat. The political climate today reveals how the old champions and power centers of the West such as the United Kingdom and the United States are moving towards non-inclusive and even discriminatory social policies, defying the packaged dream called democracy (Inglehart and Norris, 2016). What we see in the last decade is entrenched oligarchy in liberal democracies in the West that has resulted in what Thomas Piketty (2014) has shown us is an astonishing widening of social and economic inequality. As these nations become inward-looking, nostalgic of a fictional monochromatic past of a non-diverse state, nations beyond the West have gained credence in promoting alternative models of governance for the common good. This paper examines two new models emerging from the Global South, specifically India and China, enabled by new data-driven and digital technologies.

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The first model, the biometric identity initiative known as the Aadhaar or the Unique Identification Number (UID) project in India is an ambitious and historically unprecedented databased model of governance. Major news outlets such as the BBC endorse this effort as they report how the poor, "with no proof to offer of their existence will leapfrog into a national online system, another global first, where their identities can be validated anytime anywhere in a few seconds" [1]. The goal of the project is to provide a unique identification number to each of the 1.2 billion Indian citizens through the capturing of their fingerprints, iris scans and photographs. This consolidated digital identity will serve as a primary portal through which citizens can gain access to all social services such as welfare, banking and food subsidies for those at the margins of society. It aims to bring all of the undocumented poor into the system.

R.S. Sharma, the secretary of the Department of Electronics & Information Technology in India declared that, "digital India is not for rich people [...] it is for poor people" [2]. There is some truth to this claim. It is a fact that majority of India's citizens lack any form of identity such as a passport or a resident permit, making it difficult to disseminate welfare benefits to the masses. Intermediaries have capitalized on this by using fake identities to siphon off much of the 60 billion dollars in welfare benefits earmarked for the poor (Arora, 2019). It is no wonder that this technocratic intervention is framed as a contemporary crusader against corruption. However, numerous challenges inundate this process including possible privacy and human rights violations, the rise of fake online identities and weak institutional measures against data breaches.

The second governance model from China has a vision of a good society and a good citizen and the Chinese state is in the midst of creating a unified digital system to foster this vision. By 2020, China intends to institute the Social Credit System (Shahin and Zheng, 2018). By combining the citizens' financial records, online shopping data, social media behavior and employment history, the system will produce a 'social credit' score for each citizen. This rating system will be used to measure a citizen's trustworthiness. Each citizen will earn 'credit' through good behavior enacted online and offline. This will directly affect their access to all kinds of public services including the nation's financial credit system. In essence, it is a value-embedded system meant to encourage good behavior and discourage bad behavior. This system can become punitive as the scanning of social media accounts can sentence people to unemployment, slow Internet connectivity and travel visa bans based on non-compliance to the party's rules and values (Markey, 2016). Technology companies that do not comply with the party's ethics could be extensively fined for supporting so-called immoral and indecent content.

By looking at democracy's three core dimensions — the socio-political, the economic and the legal — and how big data intersects with them, this study analyzes the following questions in the context of India and China: *Does digitization of citizen data reduce or entrench inequality in representation and participation? Are these computing systems enabling a more level playing field by helping citizens leapfrog their economic status and circumvent traditional intermediaries of power? To what degree does this datafication ensure citizen's rights?* This paper reveals a complex narrative that goes beyond the Western conceptualization of democracy, and provokes a re-examining of this concept as governance becomes increasingly affected by an automation of decision-making.

Current media and scholarly discourses on datafication interventions tend to focus on the rising Orwellian futures that these systems can foster. These discussions, while legitimately concerned on the rising authoritariansm in both these contexts, seem to fall short in pushing for an explanation on the popularity of a number of data-driven measures instituted in the everyday governance systems. Also, they do not make the effort to situate these techno-developments in the long and complex socio-cultural legacies in both regions. Perhaps this is due to the fear that building an understanding of the full spectrum of affordances of these new systems can be misread as a justification for techno-autocracy. However, as this paper argues, by perpetuating the reductionism of these novel developments as purely oppressive instruments of the state, we will lose the opportunity to broaden our perspectives on how democracy as a project is being interpreted by diverse and emerging new world orders. By juxtaposing these emerging databased systems against the normative Western model, this study reveals the crossroads we are at when it comes to what constitutes as social inclusion, free market participation and citizen rights in this digital and global age.

Democracy and governance in this datafication era

The world is experiencing a regression in democracy. According to the "Democracy Index" from the *Economist* Intelligence Unit, 89 countries regressed in 2017 (*Economist*, n.d.). The latest Transformation Index from the Bertelsmann Foundation, another think tank, which focuses on emerging economies concluded in their report that, the "quality of democracy ... has fallen to its lowest level in 12 years" (Bertelsmann Stiftung, n.d.). These metrics are dictated by liberal democratic values that emphasize a freely elected government, strong individual and

minority rights, the rule of law and the independence of institutions (*Economist*, 2018a).

In recent years we have seen a separation of liberalism and democracy with the rise of populist driven referendums, the suppression of the press, the curtailing of minority rights, and the voting in of strongmen who promise to exercise their authority for national governance. A 2017 Pew poll of 38 countries found that a significant minority group approved of non-democratic alternatives; 24 percent were fine with military rule and 26 percent found the idea of "a strong leader" who "can make decisions without interference from parliament or the courts" appealing (Wike, *et al.*, 2017).

This begs the question: is democracy as we know it under threat? Alternatively, should we be re-questioning the parameters of democracy to better comprehend this contemporary conundrum? At the turn of the twentieth century, liberal democracy supplanted Marxism as the prevailing global ideology. Today, its position is less secure. Plattner (2015) embarked on assessing whether democracy was declining by looking closely at its legitimacy and attractiveness among citizens worldwide. The quality of governance appears to be at the forefront in this discussion as citizens who are new to this ideology remain unconvinced of democracy's capacity to build the modern state. Fukuyama contends that, "the legitimacy of many democracies around the world depends less on the deepening of their democratic institutions than on their ability to provide high-quality governance" [3]. He calls for an attending to the more prosaic aspects of state building such as public administration and policy implementation in these so called democratic systems.

Part of this has to do with the rise of China's power in the geopolitical sphere, offering other developing countries an alternative ideology and governance structure to the prescribed democratic template of the United States and Europe. In the last decade alone, China has embarked on numerous social reforms that has brought five hundred million of their citizens out of poverty (Wu, 2016). Their positioning has been amplified by the fact that India, the world's largest democracy, did not rise to the global expectations in economic growth and welfare of their citizens (Banerjee, 2013). The current Prime Minister of India, Narendra Modi, the strongman of India, has in recent years taken inspiration from the Chinese style governance to chalk a future model of statehood (Chacko and Jayasuriya, 2017).

Both nations are currently reconfiguring their governance by leveraging on the affordances of new digital technologies and their citizen's heightened enthusiasm and even faith in such systems. Today, these nations have more mobile phone users than the rest of the world combined, in spite of the fact that only a fraction of their citizens have gained access to the Internet (Statista, 2018). They both promise their citizens an improved life by using centralized databased systems to redistribute resources fairly and efficiently, to empower them to compete in the marketplace and to keep them secure.

These measures can arguably build trust among their constituents, a fundamental characteristic to foster a democratic society. As pointed out by Uslaner, "societies don't become trusting because they are more democratic. They become trusting because they distribute their resources more equally" [4]. As Przeworski puts it, democracy entails "not just rights but also conditions," which needs to be explicitly incorporated in the concept of democracy [5]. When evaluating the quality of democracy, scholars have paid disproportionate emphasis on the processes and not on the outcomes. By focusing on the outcomes including citizen's perceptions, we may be able to move beyond the narrow democratic versus authoritarian construct that has dictated the analysis of governance systems. These approaches may help broaden our notion of democracy that can "rival the minimal definition of democracy" [6].

Hence, this paper critically examines these databased interventions in these two contexts to address the pressing question of whether the notion of democracy demands a rethinking, re-framing and even reordering of criteria on what makes a 'good' society in the datafied era.

From e-governance to datafication: Concerns on inclusion, participation and rights

With the onset of social media platforms, cheap mobile data plans and phones and digitization technologies, governments have become far more enabled in reaching and influencing their citizen's behaviors and perceptions. This informational governance entails two interrelated processes: (1) new forms of governing through information, and (2) transformative changes in governance institutions due to the new information flows (Soma, *et al.*, 2016). The increased human interconnectedness through e-governance, self-organization, private governing and empowerments are identified as key elements that can contribute to institutional sustainability, the core goal for public institutions.

In the last two decades, a vast scholarship has risen on e-governance particularly outside the West as a means to leapfrog chronic barriers in inclusion and participation (Garson, 2006; Kumar, *et al.*, 2018; Linders, *et al.*, 2015). E-governance projects have managed to reach out to long neglected groups such as rural and women's groups. They have facilitated local community building for the management of common pool resources, such as fisheries and agriculture (Arora, 2016a, 2005; Masiero, 2015; Sreekumar, 2007). This has increased the bargaining power of disadvantaged groups and mitigated some of the exploitative practices of previously monopolistic markets. While much of the evidence points to improvements in communication and dissemination of public services, there have been major challenges in creating deeper structural impacts and generating trust among the citizens. Many e-governance platforms while attempting to become two-way communication portals to generate participation, have for the most part remained a top-down process.

Recently however, informational governance has undergone a significant shift as infrastructures of information have become increasingly complex and specialized with the rise of big data, giving rise to 'algorithmic governance' (Kitchin, 2017). Algorithms are sets of defined steps structured to process instructions/data to produce an output. They are increasingly being used to nudge, bias, guide, provoke, control, manipulate and constrain human behaviour, becoming 'smarter' in these functions as more data from citizens are collected and fed into their system. In other words, this creates a governance 'loop' of a system acquiring information, processing it, using it and then learning from what it has done (Pasquale, 2015). This mechanization of governance has many benefits including enhancing the efficiency, speed, comprehensiveness and fairness of the state and the market (Mayer-Schönberger and Cukier, 2013).

However, this datafication has a dark side, as they are fundamentally also technologies of surveillance, or 'dataveillance' (van Dijck, 2014). In recent years, studies have revealed that these systems have an increasing capacity to (re)produce and amplify already discriminatory practices. Their asymmetric power structures can further obscure the fostering of new divides in data access, interpretation, representation and ethics (Leurs and Shepherd, 2017). This can increase social inequality as their automating function becomes normalized. As people become sorted through these systems, the system's logic of who gets privileges and who gets blacklisted for instance are hidden. The citizen may start to slowly "disappear" as their role becomes shrunk to a 'user' and 'consumer' with the adoption of automated governance systems that may dictate how they think and act in society (Gregory and Bowker, 2016). This dehumanized decision-making can obscure accountability that would typically fall on the shoulders of government administrators and elected officials. In other words, these new bureaucratic systems naturalize a specific governance logic, undermining political struggle.

This taming of political movements has roots in neutralizing resistences to colonial empire building. Traditional surveillance architectures such as fingerprinting have historically disciplined bodies and systems to the rules of enslavement, exploitation and extraction (Arora, forthcoming). Far from enabling freedom and choice for the people, they have serviced those in power through their effective networks of knowledge. Hence, it is reasonable to argue that their inherent characteristics can undermine the legitimacy of algorithmic governance and in proxy, the state itself who proclaim to now instrumentalize these systems for the common good. This datafication can challenge the fabric of democracy as they disrupt the pathway for citizens to play a role in decision-making given the increasing opacity of these technical systems.

Besides the state, technical and scientific experts have gained new powers in the shaping of political matters as they are able to automate values that influence entire societies. This can be viewed as an

> expert Raj,(an imperium of experts) whose modes of acquiring authority, especially in global institutions, are as opaque to ordinary citizens as the self-legitimating claims of rulers in distant metropoles were to colonial subjects living in the peripheries of empire. [7]

Clearly, we have at hand a new intermediary in democracy-making that state actors have become dependent upon. Government bureaucrats need to be educated in the critical assessment of information governance infrastructures as they need to be able to explain decisions that affect their citizens. Hence, for machine learning to work for the well-being of the people, we need to institute "procedural fairness" as "our systems don't only have to work well; the population has to trust them" [8].

Amidst these concerns, it is easy to forget that humans have been relying on machines to make many decisions for them from the area of banking to insurance. Machines have been enabling institutions to assess risks and supporting the scaling of such practices for a working democracy. The introduction of machine learning may, "have changed the way that the decision is made, but it does not take away from the fact that machines have been making lots of decisions for a long time and people and society seem largely comfortable with this idea." [9] We need to juxtapose these automation systems against human decision-making that has often been

fraught with unconscious bias, hunches and errors. Machines reduce this inconsistency.

Moreover, while weighing the benefits and concerns of machine learning for governance, it is worth asking whether it is ethical to withhold these new technologies, particularly if we are denying the improvement of the citizen's life considerably. For instance, machines can process applications much faster than people can. Is it ethical to make someone wait for 30 days to receive a notification of eligibility for a service, especially if we can give them an answer in a day?

The fact is that while there are several reasons to be concerned about automating governance, there are also good reasons to see these systems as opportunities to circumvent human prejudice. This is especially true in contexts where socio-cultural biases are deeply embedded in society; here, technological platforms may evoke more trust and hope for change through smart learning especially among members of marginalized groups. Through their usage, they may be able to 'teach' or 'game' the algorithm in ways that favor them, opening up more of a chance to exercise their agency than with traditional social institutions.

In the following sections, we critically examine how the datafied governance models of India and China measure up as they each promise progress for their people.

The case of India: The biometric identity project

The biometric registration, Aadhaar or the Unique Identity (UID) project has been around since 2009. In its early stages, this project was marketed as voluntary, and geared towards the poor. It was intended to include the undocumented into the system so as to be able to correctly disseminate the social benefits to the right individuals. In 2012, it became mandatory for all citizens to have an UID, otherwise they would be denied the entitlements as well as any government services (Arora, 2016b).

There has been a number of improvements in the governance systems with the introduction of UIDs, particularly in the tackling of corruption and establishing more transparency.

> The use of technology to computerize, communicate, and monitor the movement of goods and grain, the opening of post office and bank accounts for payment of NREGA wages, the use of mobile phones to let people know when their rations limits are reached so that they may watch and collect their entitlements, the use of GPS to track the movement of vehicles carrying grain to the shops — these have already greatly improved systems. [10]

There is econometric evidence now of the impact of UID on reducing the leakages in public programs, particularly in the dissemination of fuel subsides (Barnwal, 2017). There is a national program that provides eight billion dollars in fuel subsidies for domestic cooking. Prior to UID, the welfare schemes were inundated with identity fraud. There were few ways to verify identity that were not very costly or subject to corruption by local officials who over-reported the disbursement by producing 'ghost' beneficiaries. In 2010, the number of households that drew fuel subsidy benefits was about 50 percent higher than the estimates shown by the 2011 census. With the introduction of the UID, it was found to significantly strengthen the state's ability to target program beneficiaries and purge the system of ghost beneficiaries.

Masiero (2015) in her research on the impact of UID on India's Public Distribution System (PDS) in anti-poverty programs in Kerala found that while this new technology did improve the dissemination of people's entitlements, it did not address several issues that continue to hamper its functioning. The PDS is the oldest, most widely available food security net in India, aimed at providing monthly rationed quotas to poor households. For the longest time, there have been severe leakages in these subsidies due to the 'rice mafia,' an illegal consortium of people who have been systematically diverting these PDS goods to the private market. However, the leakage problem have triggered reforms at the state level, such as establishing an allocation software program to ascertain the needs of local ration dealers and the Inspection Monitoring System of routine and recorded inspections of these ration shops to combat the illicit siphoning of PDS commodities.

The UID program was a welcome intervention that built upon these reforms to strengthen such accountability mechanisms. This system ensured that the sale of the rationed goods was diverted to the right constituents through the linking of the biometric details to real beneficiaries. While this is clearly a positive contribution to governance, there have been barriers to the efficacy of this system. Weak computational facilities, chronic power shortages, inconsistent connectivity and no legal recourse to reclaim hijacked identities that end up excluding genuine beneficiaries remain unsolved.

Corruption continues as some well-off households were able to get themselves registered as 'Below Poverty Line' (BPL) recipients, thereby benefiting from such subsidies. Ration shops complain that without this cheating they are unable to sustain themselves given the low government pay. Most importantly, tackling the rice mafia through monitoring of the ration shops is only one part of the problem. What continues the abuse of the PDS is the 'border mafia' who steal these commodities before they even reach the shops, often in complicity with a number of privacy companies. In summary, after almost a decade of UID's operationalization in India, it is worth systematically considering how this project is fairing in its goal for inclusion and participation, some of the hallmarks of a democratic system.

Obstacles to India's databased democratization

The fact is that UID continues to face considerable hurdles, partly due to the fact that they did not consider fully the country's diverse demographic and the environmental conditions within which their citizens operate. Four key areas of concern in the implementation of UID are, 1) digitizing identities, 2) data protection, security and the right to privacy, 3) market inclusion and corporate misuse and 4) political participation.

1. Digitizing identities and self-representation: Several studies have been published that have revealed the problems of relying on biometric data such as fingerprints and iris scans (Arora, 2016b; Gates, 2011; Sarkar, 2014). The system has been particularly disadvantageous to some of the people it intended to enable, that being among the low-income citizens. The quality of fingerprints of manual laborers were found to be problematic as they were faded and thereby difficult to read (Rao, 2013). An estimated 8–10 million people have cataracts due to malnourishment, serving as an obstacle to the iris scans. This has resulted in the automatic denial of services to these constituents. Nilekani, the Infosys chairman overseeing this project claims that UID has saved India over nine billion dollars by eliminating fraud. Khera (2017a) however argues that what passes as 'savings' is often the result of denial of legal entitlements for lack of Aadhaar.

For example, in rural Jharkhand, an old woman died of starvation as the system refused to recognize her right to food (Bhatia, 2018). Upon investigation it was revealed that her identity was hacked by someone who diverted her pension to an account of a person who died in 1992. It was also revealed that due to weak connectivity, there was an inconsistent flow of information which prevented some people from receiving life-saving benefits. More disturbingly, there appears to be a correlation between victims of starvation and caste as a number of them were listed to be low-income Muslims, Dalits ('untouchables') and members of remote tribes.

2. Data protection, Security and the right to privacy: When designing the UID project, there was little consideration of aspects of citizen privacy and data protection (Jayaram, 2015). This is partly due to the fact that it was only in 2017 that India gained its first privacy law that demanded solutions to data protection (Balaji, 2018). This has complicated matters of data ownership and thereby brought into question the mandatory nature of this project, especially if the law sides with the citizen's right to data ownership. The fact is that the right to privacy of information and data protection is an issue that goes beyond just the implementation of UID (Verma, 2018). For transparency reasons, state election commission Web sites have traditionally disclosed the personal information of every person registered to vote online and, in many cases, these were published along with information on caste, religion, address, photographs and financial information. Agencies scrape these databases and sell them.

Few measures were taken to secure these databases and there were no plans to counter illegal and abusive actions such as hacking, leakages, intrusive profiling, tagging, false duplicating or identity fraud and tracking. For example, the *Tribune*, an English-language daily, revealed that for eight dollars or so, its reporters had bought illegal access to the entire UID database and for an extra five dollars, they were able to print ID cards with any UID number (*Tribune* (India), 2018). It was found that 200 government entities published private UID data, and some private firms were caught using the UID data for purposes outside their licensed agreements. They made regulators custodians of data which is clearly a conflict of interest.

Part of the security issue relates to the convergence of databases. This centralization and inter-linking of multiple databases of each citizen can result in profiling and self-censorship, as well as unwanted tracking and targeted discriminatory practices (Khera, 2017b). Bringing different data silos together such as travel history, health, banking, education and employment has allowed the government to construct a profile of a citizen. This brings to question who controls the citizen's personal integrity. Further, the compromise of a person's database is essentially irreversible as you cannot change your genetic data or fingerprints in response to a leak. In 2017, 200 students in Mumbai replicated their fingerprints on a widely used resin to fake biometric attendance, bringing

to national attention the vulnerability to identity and data theft (Qazi, 2017).

In the face of these concerns, the common argument is that privacy is a luxury and an elitist concern as the vast disadvantaged communities in India are actually empowered by being included (Arora, forthcoming). Some argue that the Hindi word for privacy 'nijta' is not a colloquially used term, posing the question of whether privacy is culturally relative. Even if this may be so, the fact remains that the right to privacy is now being coded into law. Thereby, UID administrators will need to make explicit how they will secure their citizen's identities as part of this larger momentum on providing human dignity.

3. Market inclusion and corporate misuse: The government has not released explicit policy on corporate involvement in this process and to what degree could they and other third-party vendors use vast and converged databases of a citizen for private ends. For instance, foreign companies such as Accenture and L1 Identity Solutions are some of the third-party entities that were engaged in the management of these databases (*Times of India*, 2010). Accenture was found to be linked to the U.S. Department of Homeland Security Smart Borders Project and L1 Identity Solutions was found to have close links with the French government and the CIA. This puts at risk the national interest and security of the citizens as their databases could be used against them at a point in the near future.

The goal of financial inclusion has also been fraught with obstacles and concerns. The UID project established a partnership with a number of authorized user agencies including banks, mobile phone companies, insurance, hospitals and state and central government offices to streamline access to loans, licenses and other documents to ease the efforts of citizens to participate in the market economy. The problem however occurs when the institutions themselves have not modified their criteria to ease the barriers of entry, which serves as a reminder that the proof of identification is just one factor in a larger process of market inclusion. For example, banks continue to reject low-value customers in spite of the UID system as they are considered high-risk (Mehta and Kulkarni, 2016).

4. Political participation: Indian politics is immersed in giving special reservations to scheduled castes and tribes, and 'other backward castes,' groups that have been chronically discriminated against due to the caste system (Arora, forthcoming). Citizens have a high stake in being digitized in one of these categories to maximize state benefits. The problem with digitizing citizens in India along lines of caste is that it does not take into consideration the dynamism of such groupings. Numerous protests by Jats (a historically privileged group of land-owning peasants) is pressurizing the Indian government to include them in the 'Other Backward Caste' category so they can be guaranteed university places and government jobs.

Contrary to conventional polling, intra-caste hierarchy and evolving political arrangements between caste groups creates a challenge in the digitization of these group identities, linking them to special state benefits. For instance, collective bargaining of caste groups in India is typically linked to garnering votes and alliances to particular political parties. However, contrary to conventional assumptions of caste groups being divided, the Dalits (the "untouchables") have time and again partnered with the Brahmins (the high caste) to strengthen their bargain with political parties. Further, current day realities defy conventional notions of caste and class as being mutually exclusive. Hence, the digitization of the Indian citizen promises to freeze privilege along lines of communal politics strengthened during the British Raj over two centuries (Arora, forthcoming).

To conclude, the biometric governance system in India is innovative as it confronts and provides a legitimate circumvention to a number of chronic barriers to democratic participation and market inclusion. We should not undermine the tremendous challenges that come with a colonial legacy and its prevailing institutional infrastructures, a deeply entrenched caste system that justifies social inequality, and a long history of corporate monopolies and corruption. This techno-system provides the state with an imaginative solution to tackling parallel illicit economies run by the 'rice mafia,' 'fuel mafia' and other powerful entities. Citizens have the right to an identity to become visible and active in the public and the market sphere. Yet, as this system has played out in reality, it reminds us of the limits to technocratic reform unless and until simultaneous changes are made in existing social practices and institutional arrangements. Otherwise, it has the danger of entrenching inequality and serving as yet another system that marginalized groups need to battle to be heard and seen in ways that are fair and representative of their social condition.

The case of China: The social credit score project

According to the Chinese government's "Planning outline for the construction of a social credit system," the system aims to measure and enhance 'trust' between and among government, commercial sectors and

citizens and to "strengthen sincerity in government affairs, commercial sincerity, social sincerity and the construction of judicial credibility" (Botsman, 2017). While this system will be launched in 2020, evidence is surfacing on how these databased systems are being used in different social zones to promote social safety, financial inclusion and citizen participation. Moreover, this system is not novel *per se* as it builds on an already existing and highly popular commercial service called 'Sesame Credit' (芝麻信用), implemented by the Alibaba Group (Kostka, 2018).

In 2017, Sesame Credit already had 520 million users (Sun, 2017). Having launched in 2015, this system has collected enormous amounts of data from e-commerce. Alibaba's computing of the score takes five factors into account, namely a) credit history, b) fulfilment capacity, (a user's ability to fulfil his or her contract obligations) c) verified personal information (including mobile phone number and address), d) behavior and preference, (for example, whether the user chooses to buy diapers or books versus play video games, giving higher rating to the former category,) and e) interpersonal relationships, what type of friends do they keep (Ding, *et al.*, 2017). This allows users with better scores to gain 'special privileges' such as renting a car without leaving a deposit, a faster check-in at hotels, cash loans and even fast-tracking visa applications. In other words, it's a datafied loyalty scheme, to reward 'good' consumers and punish 'bad' consumers, 'good' and 'bad' defined according to the system's rules. In fact, high scores have become a status symbol, having been used to attract suitors on certain dating sites (Botsman, 2017).

Clearly, the last two categories signal moral policing, that some fear may nudge citizens to align with the party's specific socio-political outlook. This has provoked a vast negative discourse in Western media of this system being synonymous to an Orwellian 'big brother' technology. As per the traditional template of liberal democracy, this system is clearly authoritarian. However, if we are to factor in efficient and effective governance, citizen perception and behavior, increased market and social inclusion and participation, this becomes a more complicated conversation as the following points reveal.

1. Legitimacy of the state: Meng (2010) argues against the constrictive nature of the Western paradigm of democratization to comprehend contemporary Chinese society. Through the traditional lens, electoral politics is equated with legitimate state power that can be challenged through laws and citizen speech, including through the use of new communication technologies. However, China's long communist past, she argues, has given legitimacy for the authoritarian state, establishing paternalism as the normative relations between the regime and the Chinese people.

Chinese censorship comes with elaborate systems of information control including the Great Firewall of China and the 50 Cent Army (五毛党), where thousands of moderators manually block content unfavorable to the party and instill misinformation and comments to change or diffuse conversation online (King, *et al.*, 2017, 2013). While this is clearly an undemocratic modality of control, it can be argued that the West has fostered technological oligarchies that override the interest of the society for that of corporate profit.

> If AI [artificial intelligence] remains under the control of market forces, it will inexorably result in a super-rich oligopoly of data billionaires who reap the wealth created by robots that displace human labor, leaving massive unemployment in their wake. (Xiang, 2018)

The fact is that currently, democratic states are struggling to reign in the multinational technology monopolies who are more accountable to their shareholders than the citizens in nations they operate. Facebook, Google and Amazon continue to control the majority of citizen data emanating from social, search and purchase behavior, trapping users in their digitally walled gardens. It is worth noting however that while this is certainly the reality today, a number of measures are being instrumentalized by the state such as the EU General Data Protection Regulation (GDPR) to put citizens before corporations. The fact that this is even possible is a testament to the resilience of liberal democracy in spite of Silicon Valley's data dominance. This seems quite different in China where little opposition or dissent is possible.

That being said, China through a series of reforms in the last two decades has managed to uplift many marginalized populations socio-economically, providing opportunity and dignity to these citizens. In recent polls on the social credit system across income groups, it was found that more than 70 percent either somewhat or strongly approved these measures of governance (Liang, *et al.*, 2018). This can partly be explained by the way in which the state has structured its relationship with corporations. Chinese governments while providing Internet firms with extensive commercial freedom to innovate and compete, have streamlined them closely to account for the state's development goals. For instance, each of the Chinese tech giants have been given a certain responsibility to make China a national data champion: Alibaba collects data needed for smart cities, Baidu for autonomous vehicles, and Tencent for medical imaging. Hence, while liberal democracies are becoming more enslaved by their 'technopolies' (Postman, 1992), the Chinese government ensures that

their companies work to promote the state's vision of being a global leader and innovator in a databased economy.

It is well worth noting that the Chinese centralization approach is akin to one of the most revered ideologies in Western democracy by one of America's founding fathers, Alexander Hamilton, who argued for strong central institutions in the economy and politics (Pasquale, 2015). This approach would treat data-driven companies as public utilities so that the benefits could be distributed fairly in society, as expected of a democratic society. In other words, when censorship is mixed in with good and creative governance with a promise for a better life, it becomes more challenging to paint a black and white picture of Chinese-style authoritarianism as purely that of Orwellian oppression.

2. Financial inclusion and market participation: The financial sector in China is controlled primarily by the state (Wang, 2018). Hence, it is no surprise that the fin-tech or the 'Internet finance' business in China is subjected to the same regulatory measures. The three specific forms of this new industry — third-party payments, peer-to-peer lending and the money market funds — have broadened the banking sector and succeeded in including much of China's citizenry into this fold. By 2017, China became the fin-tech global leader, taking over more than half the global market, much in alignment with the broader vision to be the trail-blazer in all things tech (*Economist*, 2017). Fin-tech, due to its leveraging of big data, algorithms and blockchain technologies, have succeeded in disrupting this traditional sector and fundamentally changing the ease with which users can access loans, pay their mortgages and fees, shop and send money to loved ones through personalized electronic wallets.

With a deep communist history and thereby a lack of assets or credit history for banks to use to evaluate and manage risk, social credit scores offer an alternative model to banking. This consolidated citizen rating provides assurance to these institutions by calculating trustworthiness based on past and ongoing behaviors of citizens. This has exponentially infused financial capital into the society, enabling citizens to mobilize and invest in themselves and their entrepreneurial efforts for a better social life (Kshetri, 2016). It has made consumption highly efficient and even engaging through popular apps like AliPay, WeChat Wallet and other such payment tools. While this is a promising development, we need to be cautious as emerging studies showcase a growing socio-economic inequality, especially along the faultlines of the rural-urban divide (Wang, 2018).

3. Social order and citizen tracking: Given this is a unified state system, data can come from diverse locations and events. In early May 2018, for example, a young man from Shanxi was blacklisted and thereby banned from traveling by train for 180 days as part of a Social Credit implementation (Fullerton, 2018). He reportedly jumped on the ticket barrier at the Yangling Station, invoking this penalty. In Shenzhen, police have instituted facial recognition technology to catch jaywalkers, and other traffic violations that will affect a citizen's score. While foreign media frames this as "creepy," Chinese media describes this as an "avant-garde" way of creating a "harmonious" society (Koetse, 2018).

The credit score has arguably had some success in reducing revenge pornography, cyberbullying and online misogyny (Karsten and West, 2018). The scoring system has integrated a blacklist of more than six million people who have defaulted on court fines into its database. This system has already helped courts punish more than 1.21 million defaulters, improving their enforcement mechanisms on those who break the law. These measures have been received positively as anxiety about "piànzi" (骗子) or swindlers is high among Chinese citizens. This system helps people to detect those who are untrustworthy when doing business online. It has also increased the faith in law (essential for democracy) as these new measures of enforcement come into play.

These databased systems have a long legacy in China. In the Song dynasty, a system known as "baojia" (保甲) was devised, requiring households to take turns to monitor each other's activities. Under Mao, the regime instituted the "dang'an" (档案) system, where dossiers were kept on every individual on their political and personal transgressions (Liang, *et al.*, 2018). Today, these communal vigilante systems are supplanted by urban neighborhood committees, "elected" by residents from party approved candidates, to oversee the specific urban grid they are assigned to and report on local issues to the central government. Within this context, the social credit score is not as radical to Chinese citizens, helping with the normalization of this 24/7 social surveillance system. Obedience is gamified, where, "the government is attempting to make obedience feel like gaming. It is a method of social control dressed up in some points-reward system" (Botsman, 2017).

4. Social inclusion, representation and minority rights: Social inequality in China arises primarily due to the urban/rural income disparity ratio (Sautman, 2014). Given that over half of Han are urban as compared to for instance, only 20 percent of Uygurs, this divide appears along ethnic lines. A global study among 16 countries on ethnic subordination and discrimination recorded that when citizens were asked if governments should make an effort to prevent discrimination based on a person's race or ethnicity, 79 percent of people in other countries were in agreement. In contrast, 90 percent of Chinese citizens agreed. Further, when asked about

equal treatment for all people, while 69 percent on average said it was important, Chinese results were 90 percent. Through this lens, China is far above average in their alignment with international human right norms regarding minority rights.

That being said, the Hukou policy of the 1950s entrenched the rural-urban divide, which strictly controls household registrations and movements of workers within the country (Afridi, *et al.*, 2015). This has allowed for the policing of rural migrant workers since the 1950s. While these illegal migrants have helped build the urban economies, they continue to be denied access to welfare benefits such as healthcare, education and social housing. The expectation was to eventually push these peasants back to their rural lands after taking advantage of their labor. In the meantime, two kinds of citizenship were formed, one the urban citizen with a higher social safety net and the other, the rural migrant citizen, or 'second-class' citizen.

These systems have becoming datafied through the social credit score, creating a mix of amplifying inequality while at the same time, providing a safer alternative for laborers that need to provide identification at all times. Evidence abounds on how the Chinese police track migrants and impose fines based on the 'three withouts,' meaning 'without ID card, without temporary residence permit and without proof of employment' (Sautman, 2014). Migrants are often day laborers and cannot carry with them many belongings on construction sites. This creates a situation of rising police harassment, resulting often in fines. In this context, the social credit score and smart recognition technologies can tackle such practices, if mobilized.

However, for Uighur communities, the largest Muslim group in the country, the situation is more dire (*Economist*, 2018b). In Xinjiang, policing operates on a grid management system of about 500 people to keep tab on the inhabitants. There are booths established at the entry ways to urban areas, where Uighurs are asked for their identity cards, photographs, fingerprints and iris scans. They need to turn on their phones and enter their passwords so a policeman can download content for analysis. This 'Web cleansing' policy has been stated as necessary to prevent terrorism. Everyone in Xinjiang is required to download a spyware app on their phones to track social media behavior. Uighurs who do not comply may be sent to "re-education" camps, which have been reported to be glorified prisons. Such targeted data surveillance based on group identities creates fractures in Chinese communities, especially along ethnic lines.

To conclude, there is no disputing that China is an authoritarian state that can leverage on the social credit score and other smart technology systems to track and control its citizens. However, we cannot dismiss the fact that the state has taken its paternalism seriously by improving the lives of its citizens on a number of levels. The Chinese government has brought millions of people out of poverty at an unprecedented rate. They have made a number of social reforms that allow citizens better access to capital, social services and economic opportunities. They have succeeded in instilling pride among many of its citizens as China has become a global economic superpower. They are leading in technology innovation, rivaling Silicon Valley, which is no small feat. The Chinese case is a powerful example of mapping the tension between the oppression of individual freedom of expression and socio-economic betterment. Given that majority of the world's nations are non-democratic, whether we like it or not, China has become a more realistic aspirational model than some other states. To dismiss its reforms and technocratic innovations through moral condemnation is to lose an opportunity to delve into how these alternative governance models are being formulated and scaled in regions beyond a Western worldview.

Conclusions

The development state has always been a surveillance state. While welfare is peripheral to the core governance model in wealthy Western nations, it is central to nation building in India and China given their vast disadvantaged demographic. This rests on the post-colonial development paradigm with a paternalistic approach to "conditionality," defining the criteria for deservingness. Entitlements used to distribute social benefits in the West are centered on self-responsibility and individual participation in the market economy (Eubanks, 2018), while they are tied to group affiliation in India (caste) and China (ethnicity and rurality) (Arora, 2016b). Welfare recipients do not enjoy the full rights of the average citizen, be it the United States, India or China. Depending on which group/individual experiences we decide to focus on, we develop very different perspectives on what democracy means in these contexts.

The datafication of social behavior in China has proven so far to both amplify (*e.g.*, tracking Uighurs) as well as disrupt systems of inequality and oppression (*e.g.*, opportunity to build reputation and access capital for self-actualization). While ideologies run deep across governance models and shape the datafication of social systems, China is more explicit in quantifying virtue. Both Indian and Chinese databased systems are rationalized to be more inclusive and fairer as they strive to target fake

identities and systemic corruption through automation. However, as explicated in this paper, we need to be wary of any techno-centric reform as it does not necessarily translate to structural changes. It may even give rise to new forms of deviant practices such as new black markets for online fake identities.

Centralization should not be used as a proxy for authoritarianism. Convergence can deliver efficiency but there are trade-offs in terms of flattening socio-cultural contexts, that can in turn affect the outcome of these centralized data systems. Independent regulators and strong data protection services and laws are essential to prevent these centralized systems from becoming vulnerable to leakages and privacy violations. The relationship between the public and the private sector appears to be evolving in both the Indian and the Chinese contexts. In India, for instance, technology companies have worked with the state closely to build the nation after two centuries of colonization. However, it is worth opening this relationship up to further investigation to see who is in control now — the state or the technology sector. While the Chinese government has a tighter reign on their digital economies, there may be changes here too as their tech industries become global actors and powerful entitites in their own right.

Furthermore, we cannot only adopt the rights lens to privacy in India and China as it is indeed a privileged position to have. Privacy has long been a luxury. Their populations have been chronically tracked through surveys as part of the development project and have for generations experienced persistent and pervasive publicness. Poverty yields a complex array of public behaviors that have become institutionalized and even enculturated over time. This is not to undermine the fact that privacy is a universal value and fundamental to individual dignity. However, we know little of the ways in which privacy is materializing among these vast demographics in India and China, particularly with the onset of these datafied systems. Alongside rights, we need to consider cultural norms and digital literacies to capture a more dynamic and non-universalistic approach to privacy trade-offs.

Lastly, we need to give much more credit to the novel fin tech apparatuses in the making as this shows a commitment to innovating a solution to the problem of a dearth of assets among the marginalized majority. Risk has been recalibrated in an imaginative way to include a vast number of people into the market economy, allowing them to become empowered through these choices. While this paper doesn't excuse censorship and oppression of activism and free speech that China continues to exercise, the intent here is to allow for a broader conversation on the notion of democracy. It takes into account aspirations of the people and their perspectives on the temporal trade-offs they are willing to ensue as they mobilize themselves forward. To broaden our understandings of democracy as practice, we need to recognize that we need to move beyond the moral high ground where rights become absolutes. We need to give credence to efficiency through good governance as this is usually the first tangible encounter that citizens have with the materializing of democratic values in their everyday lives. ⊞M

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Notes

1. Arora, 2016b, p. 1,684.

2. Arora, 2016b, p. 1,685.

3. Fukuyama, 2015, p. 14.

4. Uslaner, 2003, p. 175.

5. Munck, 2016, p. 20.

6. Munck, 2016, p. 22.

7. Jasanoff, 2012, p. 12.

8. Supergovernance, 2018, p. 3.

9. Supergovernance, 2018, p. 4.

10. Ramanathan, 2015, p. 12.

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