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Abstract

'Smartness' is a socio-political tool restructuring the interpretation, infrastructure and behaviour of the city. In the prevalent rhetoric of 'smart' cities, which is characterised by apparent impartiality, disinterest, neutrality and objectivity, equality is rarely mentioned, interrogated, discussed or assessed. As shown by a series of 'smart' cities: Toronto—Google urbanism, Xinjiang —the 'smart' prison and Amaravati —the concrete on halt farm, 'smartness' does not stop inequality correspondingly; it can rather (often) perpetuate or increase it.

Under the sharp shadows of the imperceptible algorithmic 'smart' logic, the paper will investigate power asymmetry, lack of accountability, transparency, the shortage of a civic debate and the lack of equality's weight in the 'smart' equation in prevalent 'smart' cities.

Foreseeing the algorithmic inclusion in the cities must come with an integrated debate and policies on equality. In an age where digital 'smartness' parameters seem to drive urban decisions, this paper will question: Who are the people really benefiting? What is the value offered to society? How is it being discussed? Who is currently framing the urban 'smart' equality? In which instances equality is debated? By whom should it be discussed?

Dr Delfina Fantini van Ditmar
Lecturer (research)
Design Products Programme
Royal College of Art

‘Smartness’, with its rhetoric of impartial progress, has evaded the scrutiny of its political governmentality and digital backbone biases. As Jacha Franklyn-Hodge (2019, p.x) notes in the preface of *The Smart Enough City*, “for those on the front lines, words like ‘better’ and ‘more efficient’ are the tip of an iceberg, below which sit the competing interest and conflicting values of the city and the people who lives in it.”

By promoting digital technology as the answer to a broad range of urban obstacles, in the contemporary neoliberal system ‘smart’ cities have inevitably flourished since the early 2000s. Under the apparent neutrality of ‘smartness’, reliant on the assurance that ‘smart’ technology can eradicate analogue urban power regimes and hierarchies, ‘smart’ cities have been marketed and sold as a path to urban fairness, sustainability and convenience.

The speed at which the ‘smart’ city field is expanding has also led to neglect its necessary ethical debate. Shielded by the prevailing uncritical enthusiasm for ‘smart’ innovations, its underlying algorithms have been marketed and accepted as fair and objective operational facts without much difficulty. However, in practice they have embedded human values and consequently potential biases. As Massimo Mazzotti insists in his article *Algorithmic Life* (2017) “algorithms can be carriers of shady interests and vehicles of corporate guile”. Mazzotti develops the discussion further by emphasising the relevance of questioning and understanding algorithmic ecology and how it interacts with human logic: “but what about the logic that shaped their design in the first place? Who decided the criteria to be adopted and their relative weight in the decision-making process? Why were the algorithms designed in one particular way and not another?”

Digital technology is taken as the prevalent solution for most urban questions and problems. In a neoliberal ‘smart’ city setting, another critical aspect to be aware of is how subjectivity, complexity and context is handled and manipulated. Optimisation is described by Orit Halpern (2015, p. 119) as “the technique by which smartness promulgates the belief that everything—every kind of relationship among human beings, their technologies, and the environments in which they live—can and should be algorithmically managed.” The term in the essence of the ‘smart’ city is conceptualised as collected data rather than generated by extrinsic entities such as political or commercial actors (Halpern, 2015, p.115).

Under the vague conception of optimisation the apolitically conceived ‘smart’ city is built on an urban landscape of simplistic inefficiencies. As Shannon Mattern (2013) describes, “the default recourse to data-fication, the presumption that all meaningful flows and activity can be sensed and measured, is taking us toward a future in which the people shaping our cities and their policies rarely have the opportunity to consider the nature of our stickiest urban problems and the kind of questions they raise.”

Placing technology first rather than people can create power imbalances resulting in critical repercussions of indiscriminate surveillance and social degeneration. Not every aspect of life can be solved by 'smart' technology. Evgeni Morozov (2020) points out, the imminent danger of "solutionist toolkit as the default option for addressing all other existential problems – from inequality to climate change". Naomi Klein (2020) addressing creators of techno-solutionist approach argues, "the trouble with outsourcing key decisions about how to reimagine our states and cities to men such as Bill Gates and Eric Schmidt is that they have spent their lives demonstrating the belief that there is no problem that technology cannot fix." As Cennydd Bowles (2018, p.1) notes, "technologists have learned how to build first and ask questions later".

In addition to the intrinsic reductionism, 'smartness' does not inherently guarantee fairness, equality and inclusion. In 2018, Tim Berners Lee, founder of the World Wide Web, launched a campaign "Magna Carta for the web" in response to the devastating consequences of abuse discrimination, political manipulation and other threats to internet (Sample, 2018). As Berners Lee claims: "humanity connected by technology on the web is functioning in a dystopian way. We have online abuse, prejudice, bias, polarisation, fake news, there are lots of ways in which it is broken." Berners Lee called on governments to provide free and safe internet for their citizens.

The issues addressed in the "Magna Carta for the web" are also apparent in the dangers of 'smart' cities; 'smart' decisions risk being as unfair having the potential to intensify ongoing societal issues. Within 'smart' city calculations are value judgements which have the potential to intensify pre-existing biases. As Virginia Eubanks (2018, p. 212-213) argues in *Automated Inequality* (2018, p. 82), "automated decision-making in our current welfare system acts a lot like older, atavistic forms of punishment and containment."

Urban 'smartness' could lead to a system aiding the marginalised and the poor, however, if not designed ethically and with policies leading to benefit and support all of society there is a significant risk of deepening inequality. Eubanks (2018, p. 212-213) notes, "digital technology has the potential to intensify the disadvantage created by historic patterns of racism, classism, sexism, homophobia, transphobia, religious intolerance and other forms of oppression."

While environmental good, efficiency and luxury characterise images of 'smart' cities, the imperceptible integration of 'smart' algorithmic processes on the ground also comes with the danger of extensive behavioural data being extracted from urban practice. As Bria and Morozov (2018, p.8) note, "the current wave of "smart" euphoria has resulted in many products traditionally classified as tools of surveillance and predictive policing being rebranded as essential components of the "smart city" package". Central components of 'smart' cities such as Internet of Things technology (IoT), Machine Learning and Artificial Intelligence (AI) have the potential to lead to aggressive tracking, identification, detection and monitoring .

Ursula Pachl (Deputy Director General of the European Consumer Organisation — BEUC) and Pamela Valenti (Senior Advocacy Specialist at the Open Society) highlight the growing application of surveillance technology that is being justified as a necessary mechanism to deal with emerging societal threats in their report *A Human-Centric Digital Manifesto for Europe: How the Digital Transformation Can Serve the Public Interest* (2019, p.9). The authors (2019, p.16) describe the dangers of ‘smart’ city foundational technology “such risks are exacerbated by the Internet of Things, since connected products and AI technology become a bigger part of consumers' lives. Monitoring and scrutinizing individual action for commercial purposes could influence the behaviour and decisions of consumers in ways beyond their knowledge, understanding or control, leaving them easily exposed to discrimination and manipulation... This is a problem that affects society at large, as it is becoming almost impossible to participate in the digital society and enjoy the benefits of digital technology without being subject to permanent surveillance.”

Under the illusion of eco-friendly, inclusive and optimised cities, the surveillance dimension is rarely addressed or contested. Shoshana Zuboff (2019) in her book *The Age of Surveillance Capitalism: The fight for a future at the new frontier of power* defined Surveillance Capitalism as the translation of human experience into raw material for behavioural extractive practice. Zuboff (2019, p.21) address the unprecedented attributes of digital technology as the result of the current advanced state of capitalism: “surveillance capitalism and its rapidly accumulating instrumental power exceed historical norms of capitalist ambitions, claiming dominion over human, societal, and political territories that range far beyond conventional institutional terrain of the private firm or the market.”

By capturing behavioural data from the city and its population, ‘smart’ technologies undoubtedly risk facilitating profiling, surveillance, targeting (identification), classification, punishment, criminalisation, stigmatisation, control and regulation of citizens and marginal inhabitants. Zuboff (2019) shows how the aggressive and competitive dynamic of behavioural future markets leads to the acquisition of behavioural data from a broad range of sources to nudge and direct behaviour into profitable outcomes. The author (2019) goes on to warn that Surveillance Capitalism not only knows our behaviour but also shapes our behaviour in real-time, moving from knowledge to power. The academic and founder of AI Now Institute Kate Crawford (2014) identifies the potential misrepresentation of the extensive amount of revealing intimate data which is being collected and analysed resulting in what she defines as “surveillant anxiety”.

With no global conventions on ethical data governance, the resulting governmental and corporate (or the partnership of both) surveillant cities result in a power asymmetry potentially endangering equality. Eubanks (2018 p.81-82) flags the risk new digital surveillant tools pose to targeted populations by enabling “more precise measuring and tracking, better sharing of information, and increased visibility”. Based on extracted behavioural urban data, Surveillance Capitalist strategies have the potential to generate urban deterministic outputs, abusive policing and carry biased correlations which results in mechanisms for societal stratification.

Eubanks (2018, p. 9) argues, increased inequality in the world has developed alongside the use of digital technologies in public services (predictive algorithms, risk models, and automated eligibility systems). The author (2018, p.199-200) analyses the danger of targeting and segregating specific groups under impenetrable 'smart' equations': "classifying and targeting marginalised groups for 'special attention' might offer helpful personalisation. But it also leads to persecution...We must not dismiss or downplay this disgraceful history. When a very efficient technology is deployed against a despised outgroup in the absence of strong human rights protection, there is enormous potential for atrocity."

Discriminatory profiling is one of 'smartness'' most pressing risks. In her studies, conducted in America, Eubanks (2018, p.6-7) refers to the injustice of digital technologies and links it to its impact on social relegation: "marginalised groups face higher levels of data collection when they access public benefits, walk through highly policed neighbourhoods, enter the health-care system, or cross national borders. The data acts to reinforce their marginality when it is used to target them for suspicion and extra scrutiny. Those groups seen as undeserving are singled out for punitive public policy and more intense data surveillance, and the cycle begins again. It is a kind of collective red-flagging, a feedback loop of injustice."

Regarding Europe, Pachl and Valenti (2019, p.14) reported that in several European regions based on assumptions, data is being used to feed the machine learning for surveillance and policing practices resulting in targeting colour and low-income communities as "at risk of high crime" reinforcing biases against groups that are already over-policed.

In Asia, a concerning and significant illustration of the links between Surveillance Capitalism and social domination is the Chinese Social Credit System (SCS). The system, designed to socially engineer behaviour by punishments and reward, is based on rules set by the Chinese government marketed as "a desirable way to measure and enhance trust nationwide and to build a culture of sincerity" (Botzman, 2017).

The Chinese government gave the license to design and implement the 'smart' algorithmic services to several tech companies which run all the social networks in China and therefore have access to an extensive amount of social behavioural data (Stanley, 2015). The companies included China Rapid Finance, a developer of the messaging app *WeChat*, and Sesame Credit, an affiliate company of Alibaba (Botzman, 2017).

Within the system, behaviours are rated as either positive or negative and result in a score linked to the subject's national identity card which is not only affected by one's own behaviour, but is also dependent on the behaviour of one's friends (Stanley, 2015). The Professor of Law, Frank Pascuale (2018) indicates, there is no appeal system and observes "this algorithmic contagion bears an uncomfortable resemblance to theories of collective punishment."

As Stanley (2015) argues, “in addition to measuring your ability to pay, the scores serve as a measure of political compliance. Among the things that will hurt a citizen’s score are posting political opinions without prior permission, or posting information that the regime does not like”. Its restrictions are in accordance to citizen’s credibility and affect their daily life: “people with low ratings will have slower internet speeds; restricted access to restaurants and the removal of the right to travel” (Botzman, 2017).

‘Smartness’ is not only about optimisation, and convenience; it is also related to real estate, politics, business and control of the public domain. Using opaque ‘smartness’ is imposingly political: if it is not ethically assessed, it could lead to widening inequality. Because of this, if left unregulated, ‘smartness’ may lead to social compromises. Therefore, it is crucial to interrogate the actors’ and incentives ecology behind ‘smart’ technology.

To expose further consequences of the prevalent shortsighted acceptance of ‘smartness’ and illustrate a spectrum of ‘smart’ city issues regarding social equality I have selected three critical ‘smart’ cities: Toronto, Xinjiang and Amaravati. Characterised by an unideological narrative of progress, through the implementation of digital technologies for ‘fixing’ urban issues such sustainability, safety and traffic they represent three case studies which neglected fundamental socio-ethical questions of ‘smart’ urbanism.

‘Smart’ incongruences

China: Kashgar, Xinjiang— The ‘smart’ prison

Xinjiang is an extreme Surveillance Capitalism example of the social adversity of ‘smartness’ urban applications. The segregation surveillance programme in Xinjiang was designed by the state defence manufacturer China Electronics Technology Corporation (C.E.T.C), which originated from the military research labs that developed China’s first nuclear bomb, satellite and guided missile (Buckley & Mozur, 2019).

Xinjiang’s arguable ‘smart’ value system justified with the ‘smart’ rhetoric dictates the conditions of equality and citizenship. The New York Times article (Buckley & Mozur, 2019) went on to claim that Xinjiang’s surveillance artillery was designed to monitor and repress ethnic minorities, specifically Uighurs and other Muslims, along with foreign tourists. This contention is supported by the fact that, in the name of “quelling Islamic radicalism and strengthening Communist Party rules”, the Chinese authorities have detained a million or more Uighurs and other Muslims. Moreover, it is important to note that not everyone has to undergo the surveillance procedure: while Uighurs and other Muslims are compelled to be monitored and surveilled, the system generally does not include the observation of privileged groups such as the majority of Han Chinese, 36% of Xinjiang’s population (Buckley & Mozur, 2019).

This is an exemplary case of Surveillance Capitalism in which, according to C.E.T.C, its monitoring system “taps into networks of neighbourhood informants; tracks individuals and analyses their behaviour; tries to anticipate potential crime, protest or violence; and then recommends which security forces to deploy” (Buckley & Mozur, 2019). According to Graham-Harrison and Garsid (2019) “the Integrated Joint Operations Platform (IJOP), combines all this information in a detailed database of everything from an individual’s exact height and electricity use, to the colour of their car, whether they socialise with neighbours and even if they prefer to use the front or back door to their house.”

As the New York Times article (Buckley & Mozur, 2019) notes, at the level of urbanism at several points of the city one is required to swipe identity cards, moreover, “identification cards are also needed to purchase knives, gasoline, phones, computers and even sugar”. This data is retrieved to a police database which later is used to flag suspicious individuals and behaviours. The article describes that in order to harvest information from the target groups; the government installed “toll plazas” looking structures at the borders of towns and cities across Xinjiang . The city also counts with smaller checkpoints at banks, parks, schools, gas stations and mosques. In addition, the police use the app at checkpoints that serve as virtual “fences” across the city. If someone is tagged as a potential threat, the system can be set to trigger an alarm every time the person tries to leave the neighbourhood or enters a public place.

Furthermore, according to Zhong (2019), China’s border authorities routinely install the app on smartphones belonging to travellers who enter Xinjiang by land from Central Asia, allowing police to flag suspicious people: “the app collects personal data from phones, including text messages and contacts. It also checks whether devices are carrying pictures, videos, documents and audio files that match any of more than 73,000 items included on a list stored within the app’s code.

Those items include Islamic State publications, recordings of jihadi anthems and images of executions... They also include material without any connection to Islamic terrorism. There are scanned pages from an Arabic dictionary, recorded recitations of Quran verses, a photo of the Dalai Lama and even a song by a Japanese band of the ear splitting heavy-metal style known as grindcore.”

The biopolitics of repressive ‘smart’ urbanism has significant humanitarian consequences. Aimed to transform Uighurs and other Muslims into secular citizens who won’t challenge the ruling Communist Party, its invasive urban surveillance program helps identify target groups to be investigated or transferred to the indoctrination camps (Buckley & Mozur, 2019). Furthermore, this behavioural extractive practice has been combined with biological sampling: “Kashgar and other areas of Xinjiang have, in recent years, collected DNA and other biological data from residents, especially Muslims. Officials now collect blood, fingerprints, voice recordings, head portraits from multiple angles, and scans of irises, which can provide a unique identifier like fingerprints” (Buckley & Mozur, 2019).

India: Amaravati, Andhra Pradesh—The concrete on halt farm

In Andhra Pradesh there is a greenfield project, called Amaravati, developed from scratch by Fosters + Partners and Singapore planners. Described by Fosters + Partners as “inspired by Lutyen’s New Delhi and New York’s Central Park, a clearly defined green spine runs through its length, providing the foundation of the masterplan’s environmental strategy, where at least 60% of the area is occupied by greenery or water. The city has been designed to the highest standards of sustainability, with the latest technologies that are currently being developed in India, such as photovoltaics. The transportation strategy includes electric vehicles, water taxis, and dedicated cycle routes, along with shaded streets and squares that will encourage people to walk through the city”.¹ It is of note that both of these examples relied heavily on the destruction of pre-existing communities.

Despite a rhetoric of “holistic integrated development”(official webpage); Amaravati is a complex case where ‘smartness’ clashed with ancient spatial traditions and farmers union revolts.² As an article in *The Guardian* (Ravishankar, 2016) notes, in Amaravati the deep-rooted Hindu belief in the spatial tradition Vaasthu “science of architecture” in which the alignment of buildings correlates to good or bad luck obstructed the master plan of developers and authorities. Another critical problem Amaravati ‘smart’ city faces is land acquisition. Planners also encountered several instances where land records had not been updated for almost a hundred years and ambiguous land boundaries. In the same *Guardian* article, Ravishankar (2016) claims that the government circumvented the fact that it has to purchase land from farmers for four times its market value by creating a land pooling policy.

According to Mohan (2017) “the Land Pooling Scheme does not fall under the Central government’s land acquisition law – The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013 (LARR). Pooling emerges from a separate state law called the Andhra Pradesh Capital Region Development Authority Act passed by the Assembly on 22 December, 2014”. This caused several riots and lawsuits against the land pooling system, demanding to get fair compensations for the land (Ravishankar, 2016).

The official webpage (Amaravati.gov) shows a very different version: “it is to give shape to this vision that the ‘Bhumiputras’ —the farmers voluntarily donated their lands under the unique ‘Land Pooling Scheme’. The citizens donated bricks as part of ‘My Bricks-My Amaravati’ scheme thereby laying the foundation and paving the path for progress. Amaravati is hence envisioned to be an important milestone in India's urbanization story promoting progress, welfare and happiness.”³

¹ Fosters and Partners: <https://www.fosterandpartners.com/projects/amaravati-masterplan/>

² Amaravati official website: <https://amaravati.gov.in/EBricks/amaravati/index.aspx>

³ Amaravati official website: <https://amaravati.gov.in/EBricks/amaravati/index.aspx>

The way the system works is that “farmers contribute their land to a ‘pool’ for development of the new capital city; the state government develops the land as per the master plan; then it returns to the farmer roughly a quarter of the land that was originally contributed. The incentive for the farmer is the value conceivably added to his land by way of this development. An annuity of Rs 30,000–50,000 per year per acre will also be paid by the government to the farmer for a period of 10 years, to compensate loss of livelihood from agriculture” (Ravishankar, 2016).

Amaravati, known as the ‘food bowl’ of the region, is located along the Krishna river standing on one of the most fertile lands in Andhra Pradesh. Despite this, the Sivaramakrishnan expert committee expressly recommended avoiding converting the fertile land in the Krishna delta into a concrete capital, by presenting objections to the diversion of already cultivated lands (55 % of the area). However, the government of the Chief Minister of Andhra Pradesh N. Chandrababu Naidu ignored the committee’s petition (Mohan, 2017).

Moreover, in addition to the questionable land pooling system, the urbanisation of a fertile area and the pause on agriculture culture, is the fact that the planned city is nowhere in sight. As Venkata Reddy, a farmer who grows vegetables, paddy, Bengal gram, turmeric and bananas observed: “If there is no city, then what will I do with a tiny plot in it?”... “suppose I give my land and stop farming for 10-15 years, taking a Rs 50,000 monthly compensation from the government. What if Amaravati never comes up, or what if the land prices don’t shoot up as they expect? I’ll be left with no income, and a small piece of land that is unfertile and undeveloped” (Mohan, 2017).

According to Mohan (2017), despite the fact that the ‘smart’ city is far from being completed, farmers have reported that the Capital Region Development Authority (APCRDA) has been pushing them to stop cultivating in order to attract potential investors and start the ‘smart’ city construction. The ‘smart’ city plan is creating numerous concerns. One issue with the potential further inequality is the loss of regular income from farming. As Odur Srinivasa Rao, a farmer from the area indicates: “they are building a city with IT companies, banks and hospitals, and saying that our sons will get jobs there, that they will never have to farm. But how will my son become a doctor if his farmer father can’t afford to educate him?” (Mohan, 2017).

Yamunan (2020) observed that Amaravati’s riots reactivated in December 2019 when Chief Minister Jaganmohan Reddy announced that Andhra Pradesh would actually have three capitals sparking development across the state. Farmers from 29 villages in the area have been protesting holding a green flag for almost two months against what they see as a betrayal of the development commitment given to them when they gave over 30,000 acres for the promised ‘smart’ city capital.

As the article describes, farmers in Amaravati worry that the new plan will leave them “short-changed”: most of the infrastructure works has come to a halt and since only the state assembly will be located in their city (which opens few days in a year), the government will not build all the infrastructure it has promised resulting is no incentive for businesses to develop the region. The farmers worry that the government will try to give back the land to them without constructing the urban ‘smart’ proposition. This is critical, as the development is halfway complete, the land is no longer suitable for cultivation.

Canada: Quayside, Toronto— Google urbanism

Quayside, is a partnership ‘smart’ city initiative between the city of Toronto and Alphabet (Google) Sidewalk Labs. This urban data capture testbed for Google was disseminated by a set of colourful renders offering a lively urban scene at a parcel of Toronto’s waterfront along Ontario lake, the visual material provided by Alphabet is composed of terraces and organic exterior spaces. The promise of Quayside is a city powered by a zero-emissions microgrid, modular buildings, adaptable common spaces, increased priority to pedestrians, cyclists and low-speed autonomous vehicles. It also proposes tiles capable of melting snow, absorbing storm water, and directing traffic. The city also envisions robots delivering mail and transporting garbage through underground tunnels. As Eric Schmidt, Google’s CEO, expressed “all the things you could do if someone would just give us a city and put us in charge” (Digman, 2017).

Another of Sidewalk’s promises is inclusivity: their webpage reads, “Toronto’s eastern waterfront presents an extraordinary opportunity to shape the city’s future and provide a global model for inclusive urban growth”. However, their ‘smart’ inclusivity urban plan comes hand in hand with behavioural data extraction “with heightened ability to measure the neighbourhood comes better ways to manage it, Sidewalk expects Quayside to become the most measurable community in the world.”⁴

Yet, these visions are not what make the ‘smartness’ case of Sidewalk noteworthy. Rather, the interest lies in the fact that residents revolted and questioned the societal benefits instead of accepting Alphabet’s proposed ‘smart’ urbanism. A persistent and determined movement of citizens lead the campaign against Alphabet’s Quayside #BlockSidewalk to stop the development of the project without the ethical clarity of its ‘smartness’. By continuously raising concerns regarding safety, equality, democracy and freedom, #BlockSidewalk became a leading example of the crucial role of public analysis and resistance to corporate ‘smart’ city developments. The campaign included a letter of concern ‘PUBLIC DRAFT: Sidewalk Toronto Public Consultation Question List’, protests, activities and group meetings.

⁴ Sidewalk Labs: <https://www.sidewalktoronto.ca/>

Despite the proposed urban techno-solutions, a key civic question regarding ‘smartness’ is how data-gathering infrastructure is built into the city, how data would be gathered and how it could be owned and used. Critics questioned Sidewalk’s use of behavioural data extracted from streets, washrooms and, even, garbage bins (Austen, 2020). From the beginning of the project #BlockSidewalk stressed the importance of transparency, accountability, and democratic governance (Bliss, 2019). As the founder of the Centre for International Governance Innovation Jim Balsillie argues, Sidewalk is “a poorly disguised urban data front for Google” (Deschamps, 2019). Balsillie added, “your offline data is way more valuable than your online data — and your online data is really valuable” (Austen, 2020).

The movement asked key societal questions regarding the proposed ‘smartness’: What is the city’s vision for smart cities? How will people’s movements be tracked in space and time? Especially marginalized community members, including homeless people? What do residents want to learn/build/pioneer with this opportunity? Who is the user that Sidewalk Labs is ultimately serving: companies that want to learn about how people interact with physical spaces? Real estate investors? Cities? Who will own/control/have access to the data captured by the sensors deployed in this project? Who controls the Sidewalk Labs platform: the residents? City Hall? Sidewalk Labs? What privacy protection process will be followed to ensure the data collected is anonymous? How will Waterfront Toronto engage the local community and who would they work for as a client? How will the IP generated benefit Canada? Will there be a confidentially wall between Sidewalk and Google (and other related companies) on technology development? Will Google have access to Sidewalk’s technology, IP, data stocks? Would Waterfront Toronto and Sidewalk be open to having a properly mediated Town Hall where citizens can do Q&A with senior leadership of both organizations and try to get these questions answered?

Yet in response to this criticism Sidewalk Labs CEO Dan Doctoroff responded, “it isn’t fully baked and people just naturally are afraid of new things” (Deschamps, 2019). According to Austen (2020), Sidewalk proposed that Waterfront Toronto itself set the rules covering data use and that the information would be stored in an open “data trust” managed by the agency. However, this didn’t convince the opposition panel of technology experts assembled by Waterfront Toronto, including Professor Clement, who released a report on Sidewalk’s proposal questioning “whether sufficient benefits had been identified to justify the proposed collection or use of data” (Austen, 2020).

In May 2020, Sidewalk Labs canceled the ‘smart’ neighborhood project in Toronto amid COVID-19. CEO Dan Doctoroff (2020) “with great personal sadness and disappointment” described in a statement “as unprecedented economic uncertainty has set in around the world and in the Toronto real estate market, it has become too difficult to make the 12-acre project financially viable without sacrificing core parts of the plan we had developed”. The Canadian Civil Liberties Association framed Sidewalk Labs cancellation as “a victory for privacy and democracy, clearing the way for that reset to take place...Waterfront Toronto never had the jurisdiction to sign off on a data surveillance testbed with a Google sibling. Serious harms to privacy would have been our future” (Carter and Rie, 2020).

An imperative ‘smart’ comprehensive assessment

The depoliticisation and blind acceptance of ‘smartness’ brings with it a critical threat to equality and human rights. Characterised by a biopolitical agenda based on an ignored and unscrutinised ‘smart’ value system, Toronto, Xinjiang and Amaravati expose how the implementation of preconceived digital ‘smartness’ shapes society generating life-changing social repercussions. Guided with no consideration of those who are subordinated to the urban ‘smart’ systems, the uncontested apolitical logic of software applications in these ‘smart’ cities proves to be dangerous and insufficient.

Regardless of their selling point or if a corporation or government developed them, all evidence potential automated unfavourable socio-political repercussions for the society raising concerns about possible ‘smart’ city futures based on undisclosed and unaccountable decision-making. In Xinjiang, the surveillance and suppression campaign is framed under the rhetoric of policing combating terrorism. Xinjiang’s discriminatory targets are religious and anti-government groups leading to pre-emptive arrests directed at behaviour considered disloyal or threatening to the Communist Party (Clark & Mozur, 2020).

Through AI, this ‘smart’ strategy is consolidated with genetic testing allowing the police to identify ‘religious extremism’ specifically targeted for the minority group of Uighurs or opposition groups to the Communist Party. Out of the three cities, Xinjiang’s ‘smart’ surveillance scheme exhibits the most violent and severe outcome resulting in targeted minorities taken into indoctrination camps. Xinjiang exemplifies ‘smartness’ servicing discrimination and digital injustice resulting in racial segregation.

In Amaravati, under the discourse of a sustainable and holistic integrated development, the eradication of the farmer community is being accomplished by a debatable land-pooling system. Amaravati, the so-called ‘food bowl’ region illustrates an unfinished ‘smart’ city standing on fertile multicropping soil. The government left at halt the new capital, leaving fertile land no longer suitable for cultivation while farmers are losing their regular income. While Risking that the city never comes up, Amaravati’s ‘smart’ outcome is resulting in an unfair compensation land system, devastating unemployment, loss of ancestral traditions, unfertile land and farmers left with a precarious and uncertain development plan.

Sidewalk Lab, characterised by opaque usage of behavioural data was founded on the promise of inclusivity and described by Alphabet as the most measurable community in the world to “better ways to manage a city”. Until the project finally stopped it was never clear which are the advantages to justify its behavioural data collection: the question of the value system, data ownership and its usage remained. As Zuboff (2019, p.11) observes, “surveillance capitalists know everything about us whereas their operations are designed to be unknowable to us (they accumulate vast domains of new knowledge from us, but not for us)”.

What distinguishes Toronto from the previous cities is that it was a successful example of how citizens managed to revoke a big tech company demonstrating that ‘smart’ resistance is imperative. It is expected that the #BlockSidewalk movement will encourage stronger pushback around the world against the dubious gains ‘smart’ city’s promise society. Moreover, their success helps normalize the idea of citizens protesting against tech corporations and their opaque ‘smart’ propositions.

Society needs to rethink how ‘smartness’ with its augmented behavioural surveillance capacities and ambiguous ‘smart’ development plans, is embedding, perpetuating or intensifying previous inequalities. The three cases evidence that it is crucial to approach ‘smartness’ carefully with disbelief and dubiousness; indisputably there is something fundamentally obscure in the way ‘smartness’ is being implemented—it is an error to accept ‘smartness’ passively.

A ‘smart’ city should be conceived in terms of privacy for equality rather than surveillance capitalism for the perpetuation of current societal injustice. ‘Smart’ technologies are being developed and implemented, but how is it applied to equality and how are they contributing to fair urbanism? ‘Smart’ city proposals should be scrutinised and discussed, questioning what they intend and are actually doing in regards to social gains, ethics and privacy. These include adequately using policies and technology in place to battle discrimination and eradicate disparities.

As Eubanks (2018, p.9) highlights, currently there is a lack of transparency and repercussions “the cheerleaders of the new data regime rarely acknowledge the impacts of digital decision-making on poor and working-class people.” ‘Smart’ city plans rarely provide a detailed description of the cities ‘smartness’ clarifying behavioural data collection policies and addressing potential consequences of its usage in terms of inequality.

As most ‘smart’ city cases are governed by corporations, international consultancies and governments (and the partnerships between these entities), it is critical to analyse how key ‘smart’ city stakeholders incorporate and delineate equality. To have a ‘smart’ outcome, it is required data and description of the achievement. Which are the parameters? How will behaviours, demographics and background be used? How are choices and nudges being made with current Machine Learning training and biases? In an age where the ‘smart’ parameters of convenience and efficiency seem to drive decision making, it is important to ask: What are they improving? Who are the people really benefiting? What is the value offered to society? How is it being discussed?

As technology is not neutral, ethics and equality should be an integral aspect of ‘smart’ city design. With no control of the extrapolation, third party destination, or unforeseen outcomes of the extraction of urban behavioural data, it is important to have a critical debate about what happens after data is captured and who benefits from these data transactions. How could digital ‘smartness’ become transparent? How could it become accountable? ‘Smart’ devices can track and target, but what is the benefit for society?

Despite the socio-political relevance, there has been no discussions or protocols on who should compose the advisory boards for ‘smart’ cities to ensure ethics and equality. The perspective of minorities and endangered groups should be included in the debate. Who is going to participate in framing and regulating a fair ‘smart’ city? How? Which organisation should regulate algorithmic decisions? How could algorithmic equality be guaranteed?

From the perspective of equality: Which entity should be responsible for evaluating it? Under which parameters is equality assessed? What is the benefit in terms of equality for the citizens and individuals living in the city? What will it mean to be a ‘smart’ citizen for marginal inhabitants? How will they be scrutinised? Which are the socio-political risks of the urban ‘smartification’? How is the urban data being collected? What is harvested? How is it aggregated, stored and used? Who will analyse it?

These critical interrogations have to be addressed when considering ‘smart’ urban outputs; a power balance between the entities behind ‘smartness’ (governments, consultancies, enterprises and the combination of them) and the communities living in the cities is critical. ‘Smart’ city design should incorporate in the equation inclusivity and the benefits for the whole society. As Pachl and Valenti (2019, p.28) observe, “such asymmetry may lead to a significant loss of trust, transparency and accountability, undermining people’s privacy and autonomy as well as generating unfair competition and arbitrary discrimination”.

It is key to understand, rethink and reshape ‘smartness’ envisioning its fairness. Insufficient questioning of ‘smart’ technology in regards to equality will result in a discriminatory future. It is imperative that ethics and equality govern ‘smartness’ and that this is reflected in a revision of the legislation before it is operational. As Bowles (2018, p.2) notes in his book *Data Ethics* “an ethical awakening is long overdue”. Each ‘smart’ city proposition should be accountable for bias and inequalities—they must be removed and the mechanisms under which it will be judged should be clarified before ‘smart’ city executions.

The creation of reliable and responsible ‘smart’ boards and propositions for the ethical and transparent use of urban data is a pressing need. Pachl and Valenti (2019, p.4) describe on their report, that to protect the citizen’s rights from technological forces that often feel “uncontrollable” and “unaccountable”, the European Commission has addressed a strong commitment to rights-based policies and regulation based on the principles of human dignity, freedom, democracy, equality, rule of law, human rights, solidarity, justice, inclusion and non-discrimination. The authors (2019, p.5) suggest to the European Commission to “adopt a comprehensive strategy to safeguard against the use of personal data and data systems in ways that perpetuate discrimination and exclusion, particularly when they affect vulnerable groups who already face high levels of inequality.”

With the support of the United Nations Human Settlements Program (UN-Habitat), the Cities Coalition for Digital Rights is committed to providing trustworthy and secure digital services and infrastructures that support communities. As the declaration states, attempts include privacy standards integrated into the design of technology implemented in public space and “Ethical Digital Standards Policy Toolkits”.⁵ While this is an encouraging starting point, ‘smartness’ requires a global ethical oversight coupled with revised legislation. The creators of such ‘smart’ systems will have to exercise responsibility in the transparency of data extraction and ethical ‘smartness’ accountable descriptors. A comprehensive risk assessment providing justifications of the ‘smart’ urban decision-making should be delivered.

⁵ Cities for Digital Rights: <https://citiesfordigitalrights.org/>

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