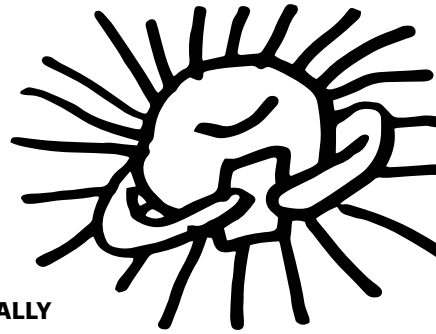# WILL GOOGLE BE YOUR NEXT MAYOR? A REFLECTION ON TECHNOLOGY AND THE FUTURE

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WHAT IF THE PACE OF TECHNOLOGICAL CHANGE ACTUALLY SLOWED DOWN?

We are often told that we live in a period of accelerating change. The decade that is about to end was supposed to be a decade of massive technological innovations; innovations that are quickly substituted by new ones as soon as they become obsolete. We are often told that the world is rapidly evolving and therefore we must adapt.

Confused by our addiction to banal inventions, like smartphones, we believed the words of the tech preachers and goodwill optimists, who are truly convinced that everything is being transformed. Is there anyone who challenges this vision? Could it possibly be that the pace of innovation is not accelerating but the opposite? What if the truth was that the world has not actually evolved that much lately?

Focus on what Glaeser (2011) considers to be the most important innovation in the history of humanity – the decision to live together, close to each other in dense settlements – cities. Think about how they've evolved in the last century. How has our lifestyle, or the way we behave publicly and privately, evolved too?

It would be amazing to be able to get teleported. Actually most people did believe some decades ago that this would be a possibility by today. Imagine that a citizen from 1919 could be teleported to a city in 1969 and that a citizen from 1969 could be teleported to the same city in this very moment. Who would feel more disoriented? It might be counter-intuitive but we are pretty sure that the second one would be more lost.

Last century's most important changes in developed cities are social, cultural and economic – individual freedom, women and minorities rights, diminishing religiosity or rising precariousness of jobs – that have no direct link to the adoption of new technologies.

Actually, when the Atlantic magazine talked to some 50 respected scientists, historians and tech experts, in order to make a list of the 50 most important innovations for humankind since the invention of the wheel (Fallows, 2013), they could not point to any innovation that showed up in the last half century. Among the innovations in the list there is no surprise to find the print (1430), electricity (end of XIX century), penicillin (1928), optical lenses (XIII century) or the internet (the most recent one, invented in 1960).

Of course, positive modern-day innovations do exist, although on a more local scale. One good example would be the mobile banking app M-Pesa, which revolutionized the banking system in several developing countries by giving millions of poor and marginalized people access to the formal financial system (Alliance for Financial Inclusion, 2010).

Or the development of Aadhaar, India's biometric ID system, which addressed one of India's biggest challenges – establishing each citizen's identity. In a country where 42% of the population, typically those at the bottom of the pyramid, did not have any documents and could not access any basic services, Aadhaar offered hope for a less corrupt and more just distribution of resources. The new ID system was devoid of classifications based on caste, creed, religion and geography. It enabled millions of people to apply for government subsidized education, public health, food, fuel and rural work. As the chairman of the Unique Identification Authority of India (UIDAI) asserted, "The most important growth driver is expanding access to resources and opportunity" (Khanna & Raina, 2012).

But such stories of technological innovation, albeit inspiring, are often dwarfed by the ever-growing challenges of rising social and economic inequality worldwide to which a much stronger response is needed.

It would be great to be able to get teleported to a debate that happened in 2014 about the future of technology with Peter Thiel —the co-founder of Paypal— and David Graeber —an anarchist scholar who was among the initiators of Occupy Wall-street (Schuessler, 2014). Curiously, both the techno-libertarian and the anti-capitalist agreed that the second half of the twentieth century was a dead period with regard to innovation. To assert this, Thiel used the slogan of his venture capital firm: "we wanted flying cars, instead we got 140 characters [today we have 280]."

Thiel blamed sclerotic bureaucracies and the lack of private initiative, while Graeber said it was the fault of a disoriented ruling class. The solution for Graeber would be the adoption of a genuinely participative democratic system because the main problem is not the lack of great ideas but that "the overwhelming majority of people are constantly being told to shut up." For Thiel, on the other hand, a self-proclaimed 'political atheist', the key to progress is not in expanding democracy, because he believed that even the most innovative organisations are hierarchical ones.

If we challenge this belief in the inevitability of technology and of certain changes, we will liberate ourselves from being fascinated by the theoretical magical power of technological progress. It will increase our consciousness about the social, economic and environmental impacts of technology; about the role of personal relationships, diversity and inclusion in the progress of society. There is no device able to save someone from poverty or teach someone else to be more tolerant.

HOW SMART IS A SMART CITY?

A smart city is a city that uses different kinds of electronically collected data on a big scale to manage its resources in an efficient way. In a smart city devices and sensors —mobile phones, cars, houses, street lights or trains— are connected to exchange information through the internet in real time and make automated 'decisions'. Tech companies already realised a decade ago the potential of this growing market while public institutions, seduced by the attractive promise of improving people's quality of life in a silver bullet, turned into an ideal target.

Smart cities are not free from criticism. Critiques can be summarised in three main groups. The first concern relates to the use of data and privacy. If data is not democratically managed and if it can be used for commercial purposes, there will be growing surveillance, citizen control and value extraction from everyone. A recent example is the 2016 announcement of the Chinese government that it will launch a social credit for promoting good behaviour (Denyer, 2016). Citizens could be ranked using online data as if they were hotels or restaurants. It is no surprise the political move has been compared to the Big Brother from 1984 (Botsman, 2017).

The second group of critics rejects the purely technocratic approach of smart cities that relegates citizens to a secondary role. Technology becomes an end goal. An extreme version of this technocratic approach surfaced when a partnership of corporations set off to design a smart city for 35.000 inhabitants in a New Mexico desert called CITE —Center for

Innovation, Testing and Evaluation— to test new technologies. This smart city will be inhabited by no one while working as a real scale Sim City video-game. The partners envisioned the creation of a smart city where people's role was so secondary that eventually they became unnecessary. No single brick was laid. But there are many other examples in the world of ongoing projects and unfinished or ghost cities that never actually totally worked. Masdar, a sustainable utopia in the Abu Dhabi desert designed by Norman Foster is still far away from its sustainability goals and from being finished (Miller, 2016).

The third group of objections relates to the vision of cities as democratic places that citizens have the right to shape and transform, the right to the city. For this group of activists, thinkers and practitioners cities should make room for unexpected, spontaneous interactions, citizen engagement and diversity. The unexpected and some degree of inefficiency are behind urban success (Jacobs, 1969). The inherent inefficiency of cities is a prerequisite for urban innovation. They cannot be planned in a detailed and exact way only by professionals even if they are extremely skilled in using the newest available technologies. It is not difficult to relate the battle between smart city preachers and urban activists for the right to the city to the one between Robert Moses, the demon that transformed New York (Molins, 2012) and Jane Jacobs, the woman that changed how we look at cities.

What is actually important is how to use the data that technology creates and not the data itself. Smart cities can be another tool to improve cities and make them more sustainable, inclusive, prosperous and diverse; only if technology is seen as a means and not a goal, if it serves to optimise decisions with those objectives in mind. But, as the Chinese government's proposal demonstrates, the very same tool can also serve to optimise pointless processes that simply make no sense.

AN ALGORITHM FOR MAYOR?

Tech companies see cities as a big market to apply their solutions. In the previous section we explained how cities that aim to become smart turn into a perfect target for those companies' salespersons.

Cities might use technology, buying services from different suppliers, to gather more information about their citizens and to improve the management of public services like mobility, waste, energy supply or healthcare.

Originally, specialised companies opened the market for smart cities. Traditional tech companies specialised in hardware and software followed. The last ones to show up in the business have been big tech companies that harvest an immense amount of data from citizens through apps and social networks.

This information about our daily habits —how we move, what sports we practice, our sleep patterns— is highly valuable not only for the ones that want to sell their products but also for planners and city officials that can use it to design new neighbourhoods, redevelop existing ones or plan new services.

Tech companies could move a step ahead using this information and dominate another market competing with municipalities and traditional real estate developers conquering city making. Actually Google, through its subsidiary Sidewalk Labs, is already developing a kind of "complete community" in Toronto's waterfront, with mixed uses (housing, public spaces and offices) arguing that "by combining people-centered urban design with cutting-edge technology, we can achieve new standards of sustainability, affordability, mobility, and economic opportunity."

But the collaboration between the city's waterfront development agency, Waterfront Toronto, and Sidewalk Labs has raised many red flags. Among those are concerns over data collection, access, and storage. Google's subsidiary has given little reassurance that gathered data will be anonymized at its source, nor that it would be stored on a local server, instead of overseas, raising the question of potential privacy breaches (The Globe and Mail, 2018).

The controversial plan for engineering the world's first 'smart city' has also reignited the debate over who would really reap the benefits of such public-private partnership. In the era of the knowledge economy, intellectual property (IP) and big data are tech company's best bet for staying in the game. That is likely why Sidewalk Labs is still keeping IP ownership questions out of its 'updated' agreement, without explicitly denying plans to develop IP from all the knowledge and data the project is expected to generate (The Globe and Mail, 2018).

But what can Toronto residents expect? As we already discussed, the promise of smart cities is a kind of ultra-efficient urban environment, which increases quality of life through cutting-edge technological innovations. Yet, what residents really wish to see is a more human-centered design that creates spaces for spontaneous human interaction; at least those are the themes that surface repeatedly in Sidewalk Lab's workshops with the local community. It is not yet clear how computer algorithms can ever produce this human-centered design that our cities, smart or not, so desperately need.

There is a long history of big companies infiltrating urban development. An example from the 1950s is Walt Disney and his "Experimental Prototype Community of the Future". However, now is the first time that big giants dare to play the role of 'mayors'. As Eric Schmidt (CEO at Alphabet-Google) publicly said when Sidewalk Labs was selected to develop Toronto's waterfront, "now, it is our turn" (Sadowski, 2017). Being mayor, of course, without the need of being voted into office.
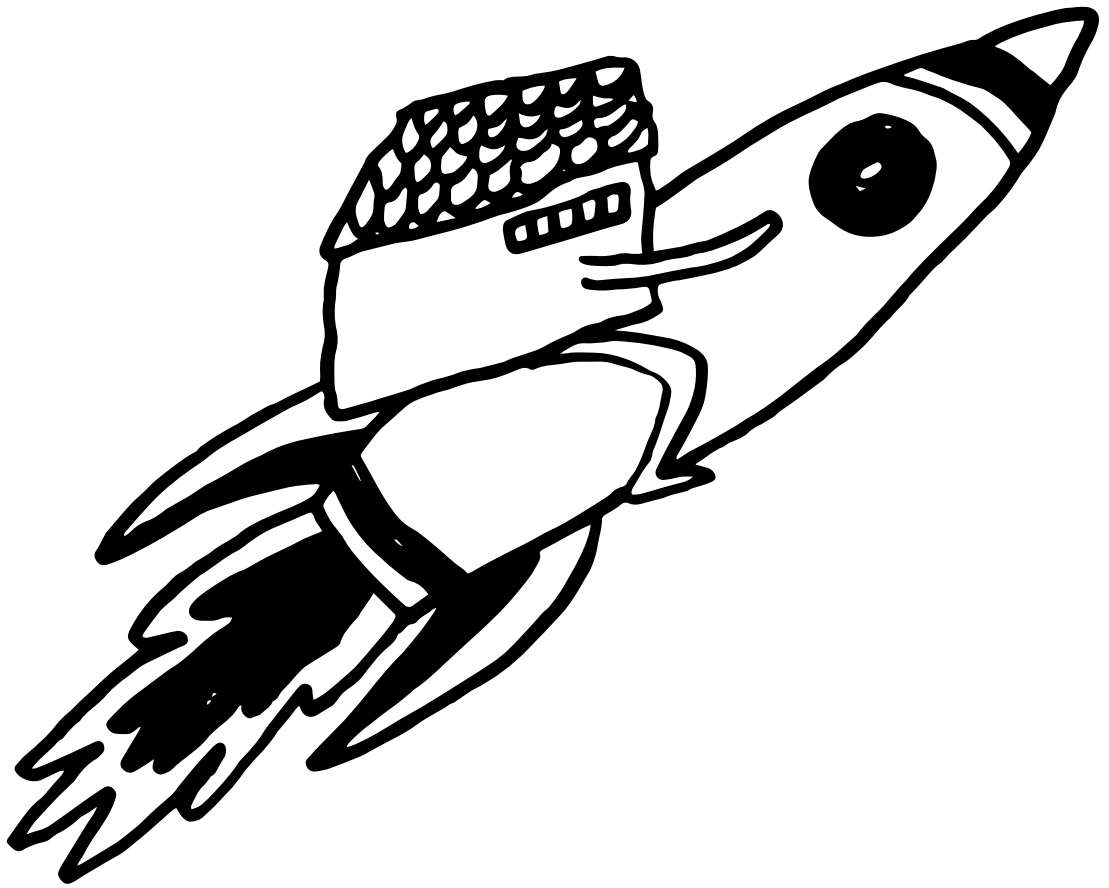
FUTURE

When the future of cities is discussed, when the stories of possible futures are told, we hear about futures that sound extraordinary, magnificent, brilliant or successful. For others, the future is in crisis: it will probably be disappointing, uneven, predatory or just unsustainable.

It seems normal to look into the future and feel dazzled. People's dreams are full of disruptive changes, eternal living or talkative robots. It seems fair that if we picture ourselves into the future, we do not see us boiling an egg or brushing our teeth. The ordinary, the utopian everyday, belongs to different futures, written in small letters.

Having explained the likely deceleration of technological change and our scepticism of its supposedly magic healing effect on cities, we would like to share our intuitions about how the future of cities might look like and some radical alternatives to make it better for all.

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THE CITIES OF THE FUTURE WILL HAVE A SIMILAR SHAPE

There might be a densification process or an improvement in public transport networks, but the main urban attributes: apartment blocks, buildings, streets and squares, will remain intact. Following the same example we used in the beginning, we could be teleported fifty years into the future and the urban landscape will be recognisable. The big future changes will be more related to the software (uses) and the orgware (institutional organisation) than to the hardware (urban form).

WE WILL RECOGNIZE THAT TECHNOLOGY HAS AN UNEVEN IMPACT

If technology helps foster diversity and inclusion, it will lead to innovation and long-term development for all. But technology can also serve to concentrate capital or productive capacity, while generating exclusion. Socio-economic systems that lack diversity will ultimately stagnate.

WE MUST STOP FETISHISING URBAN EFFICIENCY

In cities, inefficiency is actually a virtue, as Jane Jacobs explored in the Economy of Cities (1967). Cities must still be chaotic to a certain extent, they should make room for the spontaneous, they have to be unpredictable. The operative efficiency, which smart city technologies provide, is useful for fabrication processes, but at the urban scale we need the unexpected and the surprising mixtures of people and cultures to be creative and innovative. Innovation is a slow process, inherently inefficient and based upon trial and error, generally collective and place-based.

EMPATHY HAS NO SUBSTITUTE

Some current jobs will be automatised. But there is no robot that could substitute human care, a sympathetic local vendor that smiles and wishes you a good morning, an inspiring and passionate school teacher or a dedicated nurse. Empathy has no substitute and its economic value will rise. It is likely that the most important jobs of the future are today's feminised tasks. The radical idea of a 4-day week, explored by the British think-tank Autonomy (Stronge & Harper, 2019), will help counteract job polarisation, precariousness, gender inequality, stagnant productivity, and even climate change.

FEMINISM WILL CONTINUE TO BE SOCIETY'S BIGGEST TRANSFORMATION ENGINE

During the last decades and especially in the recent one, the feminist revolution has been one of the most important drivers of progress. Gender equality benefits all. In the near future, if women could contribute as much as men to the economy, global GDP will grow an added 26% by 2025 (Madgavkar, Ellingrud & Krishnan, 2016); this is growth equivalent to the joint economies of USA and China. Another research (International Growth Centre) demonstrates that women can help reduce corruption if they are in positions of power and part of the policy-making process. An illustrative figure: the yearly cost of corruption in Spain is estimated to be 90 billion euros (Molina, 2016). At the firm scale, gender equality improves productivity: when a group of companies were analysed (Dezso & Ross, 2012) the ones with a higher rate of women at C-level positions were on average 1% more productive, which accounted for more than 40 million euros in total.

DIVERSITY FOSTERS PROSPERITY

Despite the traditional understanding of wealthy places attracting migrant people from diverse origins thus creating more diverse societies, it is proven that causality can go in the other direction (Ashraf & Galor, 2011). Diversity stimulates economic growth and homogeneity slows it down. Cultural diversity and geographical openness have had a positive impact on development especially since the industrialisation era. Openness and diversity operate jointly with technological innovation and human capital as the engines of prosperity. We can even consider them as the fuel for intellectual evolution, innovation and art (Florida, 2011). In general, diverse groups, either companies, collectives or societies are more innovative than the more homogenous ones. Those diverse groups perform better at solving complex wicked problems. Diversity stimulates greater effort and creativity because it helps us imagine different alternatives while forcing us to put ourselves into someone else's shoes.

Actually, we cannot predict how the future will exactly look like but we know precisely the necessary conditions to create together —the future is a collective project— a brighter future for all. We will do so if cities maintain and enhance its main virtues: the possibility of individual anonymity, tolerance toward the stranger, coexistence, the freedom to be oneself – virtues that are in danger today; virtues that guarantee progress and prosperity in an inclusive way. If cities manage to preserve and develop these virtues, we can be sure that something positive will come out.

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