Server Manifesto

Data Center Architecture and the Future of Democracy

Niklas Maak

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pp. 78–79: collage by Niklas Maak and Matilda Hoffmann
pp. 104–111: Drawings, model photography and collage by Niklas Maak and Stefan Sauter

Contents

This Is a Historic Moment

Why We Need New Public Spaces to Experiment with and Reclaim Digital Sovereignty for the People

Francesca Bria

Francesca Bria, born 1977 in Rome, is president of the Italian National Innovation Fund, a member of the board of directors of the television broadcaster RAI Uno, professor at University College in London, and chief advisor to the United Nations on digital cities. She initiated the European Union's DECODE project to reclaim collective data sovereignty.

We are still in the midst of a global emergency, which represents an unprecedented economic shock that has forced us to adapt, think in new ways, and act quickly. Decades of economic polarization have increased inequalities, with many people facing debilitating insecurity. The lockdown has led to more economic damage and further economic polarization. Many people consider the economy to be a system to which they do not belong, a system designed to favor others.

The coronavirus pandemic makes radical and future-oriented political action even more urgent. Crises, whether wars or pandemics, can sometimes feed the social imagination. New pacts must be forged and the old rules deeply transformed. This pandemic also triggered a sort of

“forced” digitalization of many aspects of our daily lives. Digital infrastructures have proved to be critical infrastructures, on which essential services of society, such as work, healthcare, and education, depend. Access to connectivity-free, public, and accessible ultra-broadband is to be considered a fundamental right of all citizens. Developing technologies such as 5G networks, cloud computing, and artificial intelligence (AI) infrastructures have suddenly become national and global priorities.

However, market dominance has become a real concern. For Big Tech, the pandemic was a positive shock. While all other firms slowed down, tech firms sped up investments and acquisitions: the major digital players have achieved a combined stock market value of over $8 trillion. US tech shares are now more valuable than the entire European stock market. If five companies own the digital economy, can it really work for all of us? We must ensure that the development of digital capitalism does not result in irreversible forms of economic concentration.

Digital platforms are powerful algorithmic institutions that are strongly transforming the labor market and challenging regulations. Automation of labor-intensive sectors such as manufacturing, logistics, and transport has a big impact on the global commodity chain and on job dislocation and destruction. In this digital transformation of society, we must be aware of the long-term political and social challenges that it entails. The rise of digital capitalism brings many challenges—from monopoly power to the need for a new tax for digital platforms, as well as trade regulations, unemployment due to automation, and questions related to civil liberties and democracy.

Furthermore, the public sector, too, is increasingly dependent on the tech industry. Yet, we rarely ask where this power and dependence come from. Why is the immense economic value that such a digital revolution represents attributed exclusively to technology firms—and not to

ordinary citizens or public institutions? And what can we do to ensure that we return some of that value back to citizens, while empowering them to use technology to participate in politics—a process from which they justly feel excluded—as well as to offer better and more affordable public services? It is obvious that we need to repoliticize the question of technology, and that the discussion should be about the redistribution of assets and power, and the management of future welfare services and critical infrastructures.

Accelerating digitalization is not enough. It is also necessary to give it a direction. In my view, what we really need is a new social contract for digital society. We should call it a “smart green new deal” because it is about using digital technologies to attain both social and environmental sustainability.

This digital new deal will be about restoring our digital sovereignty. Digital sovereignty means that as a society we should be able to set the direction of technological progress and put technology and data at the service of the people. This also means directing technological development to solve the most pressing social and environmental issues of our times, starting from the climate emergency, the energy transition, and public healthcare.

Digital sovereignty means that digital technologies can facilitate the transition from today’s digital economy of surveillance capitalism—whereby a handful of US- and China-based corporations battle for global digital supremacy—to a people-centric digital future based on better workers and on environmental and citizens’ rights, in order to achieve long-term social innovation.

Europe understands the real threats to sovereignty in the hyper-technological twenty-first century, and it is clear that Europe being seen as a “regulatory superpower” is not enough anymore. The European Union needs to remain relevant as a global economic power through its scientific and technological innovation, taking back control of

connectivity, data, microprocessors, and 5G. Europe needs to build alternatives to Chinese technology manufacturing monopolies and US-based intellectual property, digital, and payment monopolies. To achieve this goal, we need both ambitious regulation and a digital industrial strategy. This battle is about defending innovation for the public interest, about the data sovereignty of citizens, their autonomy, and their constitutionally guaranteed rights.

The Right to the (Digital) City

This might seem like mission impossible. And yet, there is one bright spot on the horizon: cities. They cannot, of course, solve all of our digital problems—many of them need urgent attention at national and global levels—but cities can become laboratories for democracy and sustainability. They can run smart, data-intensive, algorithmic public transportation, housing, health, and education—all based on a logic of solidarity, social cooperation, and collective rights.

My suggestion is to start from a network of cities promoting ambitious policies to take back the democratic governance of digital technology and data sovereignty. Cities should give power back to citizens through a process of participatory democracy and use the city data to tackle our big environmental and social challenges: climate, sustainable mobility, affordable housing, healthcare, and education. We should seize this historical opportunity. When we talk about urban technology and data, we are dealing with some kind of meta-utility—composed of those very sensors and algorithms—which powers the rest of the city. As cities lose control over the said meta-utility, they find it increasingly difficult to push for non-neoliberal models in

supposedly “non-technological” domains such as energy or healthcare.

The notion of “sovereignty”—whether of finances or energy—permeates the activities of many urban social movements, including those transitioning into leadership positions in their respective cities. Concepts like energy sovereignty may be easily grasped and capable of mobilizing large sections of the population, but what does energy sovereignty mean once we transition onto the smart grid, and firms like Google offer to cut our energy bills by one third if only we surrender our energy data? Does the struggle for “energy sovereignty” mean anything if it is not intricately tied to the struggle for “technological sovereignty”? Probably not. A fight for digital sovereignty should be coupled with a coherent and ambitious political and economic agenda capable of reversing the damage brought by the neoliberal turn in both urban and national policy. Well-targeted pragmatic interventions can have a big impact.

The right to the city might need reformulation as the right to enjoy rights altogether, as the alternative means risking that digital giants will continue redefining every right. What, for example, does a right to the city mean in a city operated by technology companies and governed by private law, with citizens and social communities unable to freely and unconditionally access key resources like data, connectivity, computing power, and artificial intelligence, which could allow them to pursue self-management? And to what extent would losing control over the information-powered meta-utility undercut successful remunicipalization campaigns, whether to reclaim energy, transport, or water infrastructure, allowing the utilities in question to transition to their own “smart” consumption model with a new set of private intermediaries?

Ultimately, brave cities that want to deploy key resources and digital infrastructures under a different legal and

economic model—one that produces outcomes which would benefit local residents and local industry—must show that the economic models proposed by the likes of Uber, Google, and Airbnb do not deliver the promised results—at least not without causing a considerable amount of damage to the cities in question, from the rise of the speculative economy and gentrification to the precarization of labor in the gig economy, and the immense blockage of social innovation by those without access to data. Many of these alternative experiments to achieve digital sovereign cities must happen with the participation of other like-minded cities and with stronger synergies at national, European, and global levels, as demonstrated by promising projects such as the Cities Alliance for Digital Rights initiated by Barcelona, New York City, and Amsterdam.

A New Deal on Data: City Data Commons

Changing the data ownership regime may be an affordable option, if only because it would not require massive financial commitments and represents an agenda with intuitive popular appeal: cities and citizens, not companies, ought to own the data produced in cities and should be able to use the said data to improve public services and put their policies into action.

In the fourth industrial revolution, data and artificial intelligence are essential digital infrastructures that are critical for political and economic activity. Data has become the most valuable commodity in the world. It is the raw material of the digital economy, and fuels AI. Companies in every industry are counting on artificial intelligence to drive growth over the coming years. Data cannot be controlled by a handful of tech giants. Business models that exploit, manipulate, and monetize personal data to pay for critical

infrastructures are broken. We need to democratize data ownership and artificial intelligence, and move from data extractivism to data commons, understanding data as a public good and a critical public infrastructure, alongside roads, electricity, water, and clean air. It is a meta-utility that will enable us to build future smart public services in transportation, healthcare, and education. However, we should not build a new panopticon. Citizens will set the anonymity level, so that they cannot be identified without explicit consent.

The immense economic value that data represents should be returned to citizens. By helping citizens regain control of their data, we can generate public value, rather than private profits. I have tried to do just that in Barcelona during the past four years, turning municipal data into a common good, co-owned by all citizens, and redefining the smart city to ensure that it serves its people. When I was the Chief Technology and Digital Innovation Officer of the city, Barcelona had been betting on a new approach to data called “city data commons,” intending to strike a new social pact on data to make the most of data, while guaranteeing citizens’ data sovereignty and privacy.

Barcelona has been socializing data in order to promote new cooperative platforms and democratize innovation. This was the objective of DECODE, a project that developed decentralized technologies (such as blockchains and attribute-based cryptography) to give people better control of their data, in part by setting rules on who can access it, for what purposes, and on which terms. By helping citizens regain control of their data, the city was able to use data to generate public value rather than private profit. This enabled the creation of a “data commons” from data produced by people, sensors, and devices. A data commons is a shared resource that enables citizens to contribute, access, and use data—for instance, on air quality, mobility,

or health—as a common good, without restrictions related to intellectual property rights.

The city was also able to use the data shared as a digital commons in order to solve real-world problems, in a very concrete way. DECODE integrates with the participation platform decidim.barcelona, already used by thousands of citizens to shape the city's policy agenda, with over 70 percent of the government actions proposed directly by citizens.

New Public Spaces to Experiment with in the Digital and Green Age

It is often said that the digital revolution is changing everything more radically than has been the case since the onset of industrialization, but these shifts are no longer reflected in the public spaces of cities, and that is why the general public remains unaware of them most of the time. An important element emphasizing the importance of cities driving alternative data democracy experiments is the fact that this would help to make key enabling technologies like data and AI visible and understandable, grounding such knowledge in a new kind of public space. To that end, we need what Niklas Maak calls a "Centre Pompidou for the digital age" (in *Frankfurter Allgemeine Zeitung*, November 22, 2020, and in this book), a data environment where citizens of all ages can learn what is happening in the digital world, how digitalization and artificial intelligence work. To raise the political and ecological awareness of citizens and to make alternatives visible, a new type of hybrid public space can be imagined, made up of a data center, library, and museum of the future, a new educational facility in which schoolchildren, but also politicians, can learn digital skills, where guided tours for school classes and