

What Urban Future: Do High-Tech Metropolises Dream of Electric Sheep?



Niccolò Cuppini

What urban trends are on the horizon and what are the possible futures of our cities? These questions were often raised during the peaks of the Covid-19 pandemic, generating a series of institutional aftershocks that seem to have left few lasting traces. Some have proposed, like the Colombian Carlos Moreno (2019) to the Mayor of Paris Anne Hidalgo, re-organising around the idea of 15-min cities—the possibility for every inhabitant to have access in 15 min to every possible urban service, from hospitals to schools, from gardens to sport activities, from marketplaces to leisure spaces, etc. Many architects have spoken of a “return to the rural”, fearing a mass exodus from congested urban centres. In the United States, the slogan of the “one-hour city”, a concept of infrastructure redevelopment aimed at making any place accessible within an hour, has had some success. Many Asian metropolises have seen a significant acceleration in urban digitalisation processes. Numerous other popular ideas also emerged between 2020 and 2021, which we will not go into here, particularly as most of them seem to have remained stuck at the level of announcements and desires rather than becoming concrete projects and policies. There are many reasons for this, but one stands out: increasingly fewer institutions (including municipalities, regions, states, and others) have the power, tools, and knowledge to really intervene in the urban future (Lubell et al., 2009).

In order to answer the question “What is the future of our cities?” we must search for answers outside of institutional perimeters. In this chapter I explore the intersection of platform capitalism and urbanism, and analyse the impact of digital platforms and big tech companies on the design, governance, and use of urban space. I will work on the juxtaposition between two main streams of literature, that on smart cities (Glasmeier & Christopherson, 2015; Hajer & Dassen, 2014) and that on platform urbanism (Barns, 2020; Blair-Goldensohn, 2019). The chapter considers the nexus between cities and platforms (Bollier, 2016; Cuppini et al., 2022) as a sort of new layer of the

N. Cuppini (✉)
Lugano, Switzerland
e-mail: niccolo.cuppini@supsi.ch

digitalisation of the urban prompted by smart urbanism, focuses on the processes of the platformisation of urban life (Strüver & Bauriedl, 2022), and explores the idea of platform urbanism as a “beyond” of the smart city (Caprotti et al., 2022). I first present some lines of research for investigating visions and projects of urban future. I then analyse the “human side” of current urban transformations, reflecting on the concepts of autonomy and agency. And finally I sketch out a genealogy and definition of the concept of the “cloud metropolis” as a possible analytical tool for interpreting urban futures, before closing with some further insights into this emerging research agenda.

1 Urban Plans and Actors

We begin by looking outside of our planet, to the Moon Village, a permanent settlement of habitable modules located near the south pole of the Moon, on the edge of the Shackleton crater. The structure has a kind of outer shell, built on regolith, prepared to withstand extreme temperatures, debris, dust, and radiation. The modules, equipped with all the necessary instrumentation, are too heavy for current launch systems, but Elon Musk claims that his SpaceX technology will soon be able to transport them. The village is designed under the banner of self-sufficiency and resilience, and is capable of harvesting energy from sunlight and nearby ice deposits to extract breathable air and rocket propellant for transportation and industrial activity (Haney et al., 2019). The creators of Moon Village—the SOM studio, the European Space Agency, and the Massachusetts Institute of Technology—say that if you’ve never thought about living on the Moon, now is the time to start doing so. However, the aim of the project is not limited to prototyping future cities on the satellite, but also looks to how the lunar terraforming hypothesis can aid in developing new technologies to inhabit Earth, especially in an age of pandemics, new wars, and climate crisis.

Aerospace research has always had a direct impact on everyday life, and the founding of new settlements in hostile territories is nothing new (think of the desert metropolis of Dubai and its Palm Jumeirah, the artificial urban island built in the ocean). Therefore, projects such as the Moon Village should be investigated not only from the point of view of developments in techno-engineering, but also, or perhaps above all, by analysing their imagery and social and political implications. Moreover, the idea of escaping from established cities by building new ones or by superimposing new urban layers on old ones is certainly not original, but has in fact been repeated throughout history. So let us put our feet back on the ground and reflect on a second example closer to home.

Let’s try to investigate the urban future by looking at how today’s high-tech urbanity—between skyscrapers, algorithms, floating cities, digital platforms, spatial settlements, smart cities, and the spread of the spatiality of global city cross the planet—is continuous or discontinuous with the past. Some of the elements making the urban imaginary of the new millennium distinctive come from an automated and

powerfully digitalised conception of the urban (Luger, 2018). This new urban production is coupled with the use of an ultra-positive idea of techno-scientific development, with a strong retro-futuristic flavour, where instead of responding to the problems of the present with cyber-punk dystopian scenarios, ideal alternatives are developed based on how the future was imagined in the past.

We could go back to the 1939 World's Fair in New York, and more specifically to Futurama, an exhibition sponsored by General Motors, which proposed a vision of an idealised urban future composed of mega-cities, small agricultural plots, highways with semi-automated cars, and circular airports (Fotsch, 2001). Contemporary urban planners seem to be inspired by these models of the future from the past. Perhaps this is due to a simple lack of imagination, or perhaps it is because the technical conditions exist today for realising projects that sounded utopian in the past. Or perhaps there is more to it than that. Let's be a little more specific and look at the actors who are concretely trying to design the urban future. Among them are undoubtedly the digital platforms, which have established themselves all over the world, especially after the economic crisis born out of the US financial crash of 2007–2008. With the Covid-19 pandemic, platforms have become even more powerful, and in many urban contexts, urban mobility, inhabiting, consuming, household shopping, and even simple decisions about how to get around, where to eat, where to have fun, and where to go, are increasingly made through digital platforms. Platforms like Uber and Airbnb have been widely analysed as powerful urban agents determining strong and widespread processes of general transformation (so-called uberisation and airbnbification: Davis & Sinha, 2021; Törnberg, 2022). Less attention has been paid to the impact of big logistics and internet companies on the urban. One of these players is undoubtedly Jeff Bezos's Amazon, which operates both in the new space frontier through Blue Origin and in "last mile metropolitan logistics"—the final leg of the supply chain. Amazon has an undisputed tendential monopoly in e-commerce, particularly in Europe and the United States, and a global impact in terms of turnover, owner wealth, and number of employees.

Amazon Technologies Inc. is its corporate arm, responsible for the huge number of patents it has got (6000 in the last decade). Many of them are urban devices, patents for transforming the urban arrangements and home living with a disruptive impact on urban imaginaries—it is not a case that they have a permanent presence in design magazines. And like all patents they aim to mortgage the future. We seem to have ended up in a world like Archigram, the London architectural avant-garde of the early 1960s, which promoted a hyper-technological urban futurism through projects such as Plug-in City, Walking City, Tuned City, and Instant City (Sadler, 2011). The imaginary of Amazon's patents is one of walking cities, airships, and inflatable megastructures, an Amazon world with multi-level sorting centres for drone deliveries, mobile robotic warehouses, augmented reality furniture, inflatable data centres, underwater and flying warehouse structures, infinitely expandable data centres, *on-demand* clothing manufacturing, and automated shops with facial recognition systems. These patents convey the idea of an automated urban future, hinting at the imaginary that Amazon intends to create: a world of its own, a totality, moving from the invisible peripheries of our cities—the abstract spaces of logistics

and anonymous warehouses—to proposals that reach into the heart of everyday urban space (Stewart, 2022). The underlying idea is of a logistical governance of territory and individuals that closely resembles an *à la carte* version of the *smart city*.

This thus provides another terrestrial example of possible urban futures. Since it began promoting the Smart Cities Challenge in 2010 (Alizadeh, 2017), IBM has sent hundreds of its employees to nearly 150 cities around the world in a wide-reaching programme aimed at connecting the different urban infrastructures—physical, IT, social, and economic—with the goal of making the most of the city’s “collective intelligence”. The aim of IBM and, in general, of the wave of *smart cities* that has swept across the world in the last decade, is to globalise a conception of space made up of functional zones and projects. The goal is to create new forms for the territorial production of discrete physical spaces that are physically and algorithmically interconnected and standardised, and have specific legal protocols. These are the smart spaces that inspire projects such as Moon Village, based on a logic of abstraction and geographical distancing. But smart platforms also function in temporal terms, with uncertainty about the future being managed through continually resorting to the present as if it were a “demo” or “prototype” of the future. Discourses on the political and the social that have historically had a specific ground in cities are seen as residues of the past. They are replaced by a spasmodic focus on infrastructures and a fetish for big data and analytics as the guiding vectors of development. This development, however, does not seem to have well-defined ends. This logic mimics that of software: it is made up of demos, beta versions, tests, updates, and experiments, in which “technicians” work not to “solve problems” but to produce new versions, that can never be “completed”, of new cities and spaces all over the world.

So-called “smart” policy thus promotes digitally and computationally managed systems, imagining that they can self-evolve by continuously optimising themselves, collecting data without the need for “external” political or social intervention. Apart from its catchy technological promise, this kind of policy is nothing new. It is in fact a re-proposition of the main planning concepts of the twentieth century that shaped contemporary planetary urbanisation in different parts of the world and in different socio-political contexts. In other words, the smart city in some ways simply updates the idea at the close of the nineteenth century, through Le Corbusier and up to the present day, that technology can reduce the confusion and chaos of life in a complex place (Cuppini, 2020a, 2020b). The algorithmic solution to urban problems expresses a modern conception of the city as a unitary object that can be managed and administered. The cybernetic techno-solutionism of big companies like Amazon and IBM, of the regulatory-smart city ideal, and of high-tech urban projects in general, is transforming how space is designed and managed, how the labour and workers behind these projects are managed, how cities are governed and who lives in them. The difference with respect to the past is that today we think we can produce a territory that is not simply a support for the economy, as was the case in the old industrial cities, but that is a fundamental part of a financial, technological, and industrially integrated production system building an undifferentiated space to suit its own needs.

Let’s now take a closer look at this aspect of smart urbanity (Luque-Ayala & Marvin, 2019). Yú (渝), short for Chongqing, is one of the largest urban areas on

the planet: as big as Austria, with more inhabitants than Canada (up to 39 million people reside in its peripheries), it rivals Mexico City. The municipality is administered directly by the Chinese central government and organised through districts and counties. Recent decades have seen the dispersed and discontinuous urban fabric become ever more entangled with the rural, with an increasingly dynamic mobility involving hundreds of thousands of people fluctuating within it every day. It is a socio-geographical entity that reflects the difficulties in defining what a city is today.

The city's main conurbation has 8.5 million inhabitants. Although visibility is often reduced by smog, when there are clear skies and the city's great rivers cast reflections on the buildings and the cranes that stretch as far as the eye can see, it is possible to imagine a new project getting off the ground: A.I. Cloud Valley. Although it is one of many projects unveiled at the end of 2020, it deserves special attention. Conceived by the Chinese start-up Terminus, it is a district operating as an advanced smart city with a municipal government run by artificial intelligence. Populated by both humans and robots, the Cloud Valley will be coordinated through real-time data constantly collected through personal devices, a network of sensors, and machine learning technologies. Algorithms will interpret this data to organise the urban functions and needs of this 4 million square metre automated "city".

The company's website includes a long and extremely glamorous presentation that begins: "The morning sun's rays slowly spread across the silhouette of a city, as light reaches every corner of this Terminus Group AI CITY". It describes smart houses that regulate the temperature and wake up their inhabitants by automatically filtering the sunlight at the desired time, virtual housekeepers that select breakfast and adapt clothes to the weather, and android baristas that use facial recognition to serve each customer's favourite drink. The CEO describes it as a "big version of the iPhone". The Internet of Things is an ecosystem in which software platforms are integrated with the daily activities of a city, from the home to the hospital, from workplaces to supermarkets. It collects information and transfers it to artificial intelligence systems, which process and anticipate the needs of the inhabitants. Is this a utopia or a dystopia? Although the project has received a lot of criticism, mainly in relation to privacy and the rights of citizens, the promise is to make the project a reality within a few years.

This vision of an urban future should not be considered an Asian oddity. Although extreme in its own way, Cloud Valley in fact synthesises a number of technological trends that, albeit at different rates and intensities, are being felt in cities around the world. Everywhere, processes of digitisation have greatly accelerated with the pandemic and will increase with 5G, Web 3.0, and the Internet of Things (by 2025 the world is expected to have some 75 billion connected devices). But above all, these trends are the urban mirror of so-called platform capitalism, the economic-political model we inhabit today, driven by the world's largest companies, the big tech platforms such as Apple, Microsoft, Google, Amazon, and Meta.

2 Autonomy and Agency in Automated Metropolises

Within this maelstrom of transformations, whether we bow down in awe to the power of technology or are frightened by the dehumanised side of these processes, one thing is clear: the direction these technologies take will decide the fate of our cities and our lives. It opens up an entirely political question that is not limited to the recurring theme of privacy. Chongqing's economic-institutional set-up is clearly different from many other cities around the world. This does not detract from the fact that the "essentiality" of digital infrastructures such as e-commerce, social networks, or teleworking apps is being imposed worldwide. These are all platforms that profoundly redefine daily life and are beginning to guide the spaces, times, and rhythms of cities. In fact, high-tech urbanism is changing the entire territoriality, its organisation, and logistics (think of self-driving car projects). If in the Chinese context the synthesis and orientation of these processes is top-down and in the hands of the party-state, in other places the question of "who decides" might be more open, disruptive, and crucial. Many fear that if the management of these mutations is left in the hands of large technological corporations, they will lead to future irregular territories made up of hyper-connected smart neighbourhoods for elites within vast urban settings of "surplus population". It is thus possible that forms of so-called subaltern urbanism (Roy, 2011)—like those found in India or Latin America, which have long been considered a specificity—actually speak of the future of the planet, with its strident contradictions between the urbanisation of the rich and the urbanisation of the poor that meet and clash in often emblematic ways.

However, the question of what an algorithmic governance of cities is remains open, and again, this question is not technical but social and political. It is therefore strategic for a critical investigation on the urban future to bring to light aspects that are often left out of the narrative by corporations and policy makers, also asking new questions about whether urban automation could lead to increasing prosperity rather than exclusion, of liberation of working and living time instead of new forms of exploitation. However, if my above hypotheses and elaborations are correct, it is no surprise that contemporary urban imaginaries about the future are based on the idea that we can automate the city, which continues the idea of automation promoted by the so-called industrial revolution 4.0. A new aesthetic and material regime to produce regularity and organicity in an urban fabric, trying to reverse upside down the main characteristic of the urban, that is historically conflicted and divided. A political question arises again. We must remember that automation is not in itself automatic. The conversion of urban orders into electronic programmes and of their agents into automated actors, moves from "supervised autonomy" over cities to "total autonomy", in which human agents will no longer be "neither in nor out" but will instead be completely out of the loop. The point is not that humanity would lose control of the urban machine in this scenario, but that the "subordinate" operators would lose (more) autonomy vis-à-vis the higher levels of the hierarchy. A comprehensive urban robotisation would further reinforce the general tendency

of contemporary economic-political systems towards the centralisation of decision-making, albeit in a different and more discrete form. This would be a centralisation through programmatic specifications rather than orders, which, in deciding the value of decision parameters, would set the course for an indefinite myriad of future actions.

This vision of an automated urban future is intimately linked to an imaginary that emerges from and reproduces one of the most evident dividing lines in contemporary cities, namely the growing polarisation between rich and poor. Increasingly circumscribed elites plan spatial tourism and create urban enclaves, gated communities separated from the marginalised and neglected masses. Thus the apparent aimlessness of this type of urban development is in fact based on the reproduction of the existing social organisation and its hierarchies. At present it is difficult to map out simple “answers” or alternative solutions to the current trends of augmented and algorithmic cities and the polarising and centralising logic on which they are based. However, one direction we could take, at least at the level of reflection, is to attempt to politicise current developments, dissolving the fog of technological neutrality that often envelops them and allowing us to rethink the question of conflict within them—a question that is a constitutive feature of the city (Magnusson, 2011).

The political imaginary of the high-tech metropolis frames the city as a global system organised by technology, urbanism as a technique that makes it operational in a physical sense, and the inhabitant/citizen as an agent who only has to apply the rules (which should be as user-friendly as possible). Behind this model with strong “utopian” connotations lies a political philosophy that sees citizens as users to be controlled or as clients of a service. The historical relationship between humanity and the built environment is inverted, with human beings increasingly seen as androids and robots in a perverse inversion of the logic of automation. A city in which facial recognition mechanisms guarantee or deny access to urban spaces, as is increasingly experienced, for example, in China, also denies the principle that Hannah Arendt had identified as decisive for the constitution of the first political scenario, that of ancient Greek cities: eyes responding to each other in a mirror image.

Cooperation between individuals in the high-tech metropolis appears in the automated urban as a cooperation between unconscious, vaguely dreamlike, involuntary but lucid in that the individuals are always communicating. A highly effective high-tech metropolis device that builds an anthill of hyper-connected “unconscious” solitary individuals with an automatism that, while presenting itself as horizontal, actually conceals the increasing centralisation of our economic and political models. In 1968, Philip K. Dick wrote of androids who “dream of electric sheep”, imagining androids who, freed from the servitude imposed on them by humans, hope for a better life. In 1516, Thomas Moore, in *Utopia*, metaphorically describes the so-called original hoard, the enclosures of the English commons, writing that “your sheep that were wont to be so meek and tame, and so small eaters, now, as I heard say, be become so great devourers and so wild, that they eat up, and swallow down the very men themselves. They consume, destroy, and devour whole fields, houses, and cities”. Whether or not today’s high-tech metropolises dream of electric sheep leaping over the moon, perhaps we should also ask ourselves what contemporary humanity dreams of and what its unconscious would like to free itself from. To

better investigate these questions, I introduce the concept of “Cloud/Metropolis” as a research frame for interpreting current urban mutations.

3 Cloud/Metropolis: Three Cycles

Before expanding the field of problems we are addressing, a premise is necessary. The two terms that make up this frame can be productively inverted. So it is either *cloud + metropolis* or *metropolis + cloud*. In the first instance, the question raised by the formula could be: in what way can the *cloud* today, metaphorically understood as digital spatiality, be considered in itself a metropolis (stratified, planetary, virtual but with a material infrastructure supporting it)? In the second instance, we might instead ask: how does the *cloud* intertwine with and empower the urban, defining a kind of hyper-urbanity (Cuppini, 2021)? At bottom, can the two terms really be separated, or do we find ourselves within a single field of tension? The issue of visibility/invisibility is also at stake. *Cloud* urbanity is mostly invisible but has a powerful materiality, it produces a series of “urban effects”, a sequence of synthetic operations on urban space that recode urbanity. In short, the *cloud* part is that which cannot be seen in the smart city, the management of flows that are invisible to the human eye. Echoing Walter Benjamin’s reflection on photography, the nature revealed by the *cloud metropolis* is different from that seen by the human eye:

instead of a space consciously elaborated by man, there is a space unconsciously elaborated. [...] Only through photography does he discover this optical unconscious. [...] Photography unveils the physiognomic aspects of worlds of images that inhabit the microscopic, perceptible but concealed enough to find a hiding place in daydreams, and now, having become as large and formulated as they are, capable of revealing how the difference between technique and magic is a historical variable. (Benjamin, 2000: 62).

The *Cloud/Metropolis* unconscious conceals and reveals with extremely concrete effects, of which I will give some examples.¹ In order to analyse this *problématique* I use a funnel-shaped reasoning: in the widest part of the funnel I discuss the relationship between the city (or, rather, between the environment built by humans) and technology; in the central part I explore the most “advanced” frontier in this regard, that of previously described platform urbanism—the digitised urban; and in the narrowest, final part, I analyse some aspects of Amazon’s operations,² as an example of an iconic actor in the construction of the Planetary Metropolis 4.0.

¹ Restaurant kitchens are a good example of this on an urban level. Whereas kitchens used to be hidden, now in restaurants they are shown with a mirror effect, here it is the work that is invisibilised. Will we definitively rely on the machine to see for us?

² The question of the “operations” is a reference to the concept elaborated in Mezzadra and Neilson (2019).

4 First Circle

In order to frame contemporary transformations, it is helpful to place them in the context of the twentieth-century historical reflections on the urban in response to the most significant changes of that period. One such approach is that of Georg Simmel, who in the early twentieth century argued that money was the source and expression of metropolitan rationality and intellectualism. This new metropolitan reality was revealed as something impersonal, with money as a leveller reducing any qualitative value to a quantitative basis. From this perspective, the metropolitan individual lives in a network of numerous superficial contacts that replace the community spheres of family and neighbourhood bodies effects that directly affect bodies. The metropolitan individual is constantly stimulated by the frenetic succession of images affecting their nervous system, leading to a drastic reduction in their reaction to stimuli (the *blasé* individual), and resulting in them taking refuge in interstitial spaces, looking for an “elsewhere” where the rigid conditioning of the social context is absent.

It is yet to be seen how the psychic forces of the *cloud* impact on the body and mind, but Simmel’s reflections provide ample stimuli for understanding today’s world, in which what he foresaw has only intensified. New modes of research, from digital auto-ethnography to cyber-anthropology, can also be used to analyse the defence mechanisms of the contemporary *blasé*, as well as the spiritual life and continuous sensory stimulation of the contemporary metropolis in which the urban and the digital merge. Contemporary urban experience is increasingly mediated by digital platforms, which, in the words of philosopher Luciano Floridi (2014), “mediate by disintermediating”. We must attempt to identify where our agency begins and where that of the platform begins, in search of new interstices and fissures, but also of counter-practices and new emancipatory potentials in the *cloud metropolis*.

A second historical reflection that might be helpful for understanding the present, could begin from these words written by the urban sociologist Louis Wirth in 1938:

“It is obvious that the symptoms that will indicate the likely development of urbanism as a mode of social life must be looked for in relation to emerging trends in the communications system, and the technology of production and distribution [...]. The direction of the changes taking place in urbanism will transform, for better or worse, not only the city, but the world” (Wirth, 1998: 90).

Wirth spoke of the spread of urban life due to the strong despatialising influence of the new technologies of his time, which delocalised urban space. He was particularly interested in the radio, attributing a strong democratising power to it, just as the urban planner Lewis Mumford would do a few years later with respect to the spread of the automobile (Mumford, 1953). Moreover, it is well known that Western urban modernity—the metropolis—was the offspring of industrialisation, meaning that technology was also a crucial urban factor in the past. And it is equally well known that one of the greatest twentieth-century architects, Le Corbusier, conceptualised the urban in a purely technologised sense, starting with his idea of the house as a *machine à habiter*. The advent of the Internet in the 1990s, however, has not sufficiently stimulated urban reflection for grasping the current urban dynamics,

except for elitist fantasies about the end of cities through tele-work (which came back into fashion with the Covid-19 pandemic), Castells' discussion of the space of flows and the space of places, or Saskia Sassen's global city in the financial world. Moreover, the prevailing metaphor of the "virtual" to talk about the Internet has totally de-materialised reflections on the matter, giving the distorted impression that there is no living labour and no resources "behind" the Internet (Casilli, 2019). This problem is likely to persist with the *cloud* metaphor, mostly read as something ethereal like the "real" cloud. Yet "the *cloud* is a resource-intensive extractive technology, converting water and electricity into computing power, leaving behind a considerable amount of environmental damage" (Hu, 2015: 50).

In the last decade, a more materialistic view of urbanisation processes has gained ground, in, for example, the theorisation of planetary urbanisation and its emphasis on urban metabolism and an interconnected geography of mining areas, logistical routes, suburbs, and metropolitan areas (Brenner & Schmid, 2015). The conception of the Internet has also been refined, to the point of framing it as a real (digital) environment—in which digital platforms and network infrastructures represent what we might call the "urbanisation of the Internet". What seems still to be lacking is an ability to understand the intertwining of and juxtaposition between these two *layers*, the Internet and the urban, the *Cloud/Metropolis*.

5 Second Circle

In 1964, Marshall McLuhan first introduced the idea of the "global village" in *Understanding Media: The Extensions of Man* (McLuhan, 1994). At the threshold of the electronic age, after the mechanical and the electrical age, he described the effects of technology on humanity with the paradox of a world becoming a small village and a village becoming a world, with the depersonalised global vision of the "electrical" village creating more "discontinuity, and diversity, and division" than the previous mechanical world. Today, however, the idea of the village, together with that of community, has entered the lexicon of capitalist innovation, reintroducing an idea of warm social ties in a world made glacial by capital-oriented digitalisation. Not only social media communities, but also new high-tech neighbourhoods such as the previously discussed Cloud Valley in Chongqing, China (Zorloni, 2021). There, if you go to any bar you will be recognised by the bartender, just like in a village, because the bartender is a robot with sophisticated facial recognition technology (Pieranni, 2021). Furthermore, the idea of the 15-min city, which became popular during the pandemic, also harks back to the idea of a village by reducing the city to a patchwork of small local communities.

The smart city that is globally transforming cities is the urban avatar of so-called *platform urbanism*, with the metaverse currently representing its emerging technological frame (which large multinationals, such as Mark Zuckerberg's Meta, are trying to appropriate). The smart city is a cybernetic concept that proposes itself as the solution to urban problems by means of technology (from camera systems

for security to intelligent street lamps for energy saving, from algorithmic traffic management to infrastructure management). It is an extremely stretched concept to include all manner of meanings that functions as a regulatory ideal rather than a fact (Cuppini, 2023). Behind this model with strong utopian connotations, a political philosophy operates that sees citizens as users to be monitored or as service users and thinks of space as a residue to be smoothed for the free development of flows.

As in the first circle, here it is also a question of working on the juxtaposition between digital and urban spaces, where “*smart city* technologies [...] are already transforming the way public space is designed and administered, how work and workers are managed, how neighbourhoods and communities are controlled” (Shapiro, 2020). There are many critiques of these transformations, although they are for the most part very partial and Wester-centric, limited to the issue of control and privacy, and are often seen as models mainly applied in specific contexts such as an “exotic” Asia. This form of techno-politics and the automation of the urban is not in fact as limited as these critiques imply. Although there are certainly important examples, such as Alibaba’s City Brain Lab, which is experimenting in numerous places (Hangzhou, Suzhou, Shanghai, Macao, Malaysia, etc.) with “new infrastructures for future cities using data and opening ‘pipelines of city data’ [...] to solve problems in transport, security, construction, planning, etc.”,³ is this system of urban intelligence not also emerging all around the world—even if with clear differences and specificities?

6 Third Circle

In the exhibition “Into the Amazon Box” at the Haus der Statistik in Berlin (2020), the idea of a specific Amazon “urban intelligence” was introduced. The curators attempted to trace Amazon’s unconscious, and its attempt to create an environment that reflects its operations, and outlined the desired landscape of this urban intelligence.⁴ Picking up on Michel de Certeau’s insights in *The Invention of the Everyday*, we can distinguish between the concepts of strategy and tactics. In the production of the urban, “strategies” are typically elaborated by institutions, while “tactics” are used by individuals to create their own spaces in the environments defined by “strategies”. In the chapter “Walking in the City”, de Certeau describes the city as a concept generated by the strategic interaction of governments, corporations, and other institutional bodies, which produce bird’s eye view maps in their planning of the whole city. Amazon operates in precisely the same way, as a strategic actor. But at the same time, it also places itself at the level of the pedestrian by organising logistically at

³ See: <https://damo.alibaba.com/labs/city-brain>.

⁴ “Urban intelligence” and “urban unconscious” are the two terms of an urban ambivalence. One avenue of research could be to start by asking how an “urban unconscious”, or rather, a cloud understood as a Lacanian Great Other of the metropolis, is articulated or could be articulated (in Stuart Hall’s sense of articulation).

street level: it operates in tactical ways, creating specific trajectories or shortcuts rather than adopting the utilitarian approach of street grids. In this sense, Amazon's way of operating seems to confirm the theses on "logistics as power" proposed by Brett Neilson, who argues that "logistics directs tactics and strategy", that "logistics power is political power", and that "logistics produces subjectivity" (Neilson, 2012). Unlike the various multi-level institutional actors that govern territories, Amazon has an in-depth knowledge of these environments and the citizens that populate them, and a "unified" capacity to order this knowledge. Amazon operates in a global sense on territories by reconstructing their geographies from a transnational point of view and by constantly collecting a huge amount of data from both citizens/consumers and its workers who circulate to deliver goods. These are all elements that radically exceed institutional possibilities—institutions will never be able to measure up to Amazon.

While public administrations' capacity for urban planning (for ideological reasons or due to a lack of tools and resources) has mostly diminished in recent decades, Amazon has an increasing capacity to produce its own urban plan. In fact, it creates an interconnected geography of large and small infrastructures, linking large warehouses (Fulfillment Centres) to small hubs, fluidifying large logistical areas with the dissemination of *lockers* in various points in cities. It guarantees a design that moves seamlessly from global logistics to last mile logistics that has definitively triumphed with the explosion of e-commerce during the Covid-19 pandemic. To guarantee this complex assemblage of infrastructures, heterogeneous forms of labour, machines, and algorithms, Amazon moves in a manner reminiscent of Benjamin Bratton's "The Stack" (2016), acting simultaneously as a stack of different levels. However, unlike the Stack imagined by Bratton, Amazon has a hierarchical process that nevertheless does not dispense with the state. Technology, the Internet, and the virtual as forms of governance of the social, cannot function as political mediation on their own, and Amazon therefore relates to the state as an empirically and politically normative presence (and conversely, the state radically transforms in the presence of these "stacks" of power that are in constant tension with its no longer absolute sovereignty).

Amazon looks to the territory as if it were freely malleable, manipulable, and reprogrammable at its will, surfing the wave of differences in tax exemption proposals between states, pitting local governments against each other to secure greater benefits, engaging in intense lobbying and propaganda, and exploiting its global economic power against local actors. Undoubtedly, Amazon has a huge capacity, like all platforms, to "adapt to the local" and to be resilient. However, we might see this as being only of a "tactical" character, whereas its strategy seems instead to be to reprogramme the whole territory to make it its *hub* (Cuppini, 2021). The spatiality that Amazon and platforms more generally aim to construct can be traced back to the concept of "*affordance*", a constant "invitation to use", in which the physical quality of a space suggests to the human being appropriate actions for manipulating it. Amazon's space is thus not flat, but has myriad levels. Platform urbanism produces a shift from architecture as a commodity to architecture as a service characterised by access, a manufactured space with many invitations to use. The idea of access is usually framed as positive, but the invitation to use is also an invitation for others

to have access to us, to our lives. On slippery ridges like this we must watch our footing.

On the one hand, Amazon centralises the market while extending it “everywhere” thanks to the possibility of online shopping and its cloud capacity to capture profit where it already is, without having to “build” it. On the other hand, however, it follows a different model than the distribution concentration produced by hypermarkets. Amazon tends to redefine rather than create from scratch, at least at the moment. Whereas hypermarkets have profoundly modified cities since the 1980s (with a model that is now declining as a result of Amazon), the transformation produced by Amazon creates different trends. The logistical hyper-acceleration of territories, seen by Amazon as essentially large hubs and networks to be ordered, is operated not only from a technical point of view, in order to optimise circulation, but also from the social point of view of its stratification. In fact, the search for pools of cheap labour and territories where consumption can be maximised is at the top of the selection criteria. This is a socio-territorial reading that, in an inverse of urban modernism that governed the time of subjects as a function of space, governs spaces as a function of time. In this sense, Amazon should not be seen as the new Haussmann, Moses, or Le Corbousier, but as an contemporary specific project of territorial construction. Although it is certainly not only Amazon that is promoting this project. In an intriguingly titled book, *A New City O/S: The Power of Open, Collaborative, and Distributed Governance* (2017), Stephen Goldsmith (former mayor of Indianapolis) and Neil Kleiman (director of NYU Wager Innovation Labs) propose a neoliberal reading of (local) governments as a block on development, arguing that the solution could be a technocratic turn through applying a new O/S (Operating System) to cities. In an article they wrote the following year to promote it, “Cities Should Act More Like Amazon to Better Serve Their Citizens” (Goldsmith & Kleiman, 2018,⁵ they argue that Amazon’s simple and seamless shopping experience should be taken as a model because “public sector environments [...] share common elements with retail environments: providing a crucial product or service to a person who needs it”. The idea of a logistical government of territory and individuals is thus developed across different actors and political cultures, in typical Californian Ideology style (Barbrook & Cameron, 1995).

7 What Comes Out of the Funnel?

The first of this chapters’ three “circles” explored the historical-theoretical, or, we could say, hermeneutic, theme of the constitution of the urban, considering the latter as an environment constructed by the human and therefore as technology in itself. We then considered the most recent form of this issue, discussing high-tech urbanism, smart cities, and urban automation, and arrived at the bottom of the funnel by discussing the specific case of how Amazon operates in relation to these.

⁵ The reading of this article has also resulted in the book Graham et al. (eds.) (2019).

In conclusion, however, we must point out that this discussion has essentially traced out one side, the most visible sphere, if you like, of the funnel. The urban, as well as technology, create an image of themselves as neutral, or rather neutralised—the cold product of design. Yet they are always the historical condensation of power relations, struggles, conflicts, and antagonism. The Cloud/Metropolis is thus indeed a techno-political “form” that, like a funnel, channels flows, but it is also contingent and unstable, continually traversed by *débordement*, frictions, and ruptures. In other words, and sticking with our metaphor, what enters, passes through and leaves the funnel is not pre-determined: it can continue to take autonomous and unforeseen directions. To further this field of research, which has yet to be opened up, it will be necessary to explore the dimension of conflict in current urban transformations, and their continuous being as battlefields (Into the Black Box, 2021). In other words, we must also probe the emerging Cloud/Metropolis from the point of view of the struggles that constitute it, as well as through identifying its possible weak points. Kim Moody argues:

the emerging *just-in-time supply chain* system, increasingly digitally driven, is concentrated in ‘nodes’ located at the edges of large metropolitan areas – as they depend on the large concentrations of underpaid labour located there. These logistics clusters and their connections are the carrier vectors of the most important companies and industries, and represent the weak points for the great power of disruption that is being determined in them. (Moody, 2017: 191).

In addition to Moody’s considerations of the potential disruptive power of the labour force concentrated in warehouses, there is also a broader “counterlogistical reason” in the urban trends we analysed that could branch out in a more comprehensive sense. In other words, a code of possible overthrow is also inscribed into the emergence of the *Planetary Metropolis 4.0*, which is being established through: global value chains; the logistical routes of planetary urbanisation; the construction of digital cities as platforms from Amazon’s (or similar actors) multiple operations—from its investment in the cloud to its delivery services. There is a potential concatenation between: a different *affordance* of subjects who are not reducible to mere users, but who in a more relational sense have the possibility of sabotage; a counter-logistical power, as defined above, for workers/employees; a space of operability in cracks and errors, to borrow from the Glitch Feminism Manifesto (Russell, 2021); fields of action in the tension between socio-psychological matter and the more or less spectral forms of the metropolis, in the extreme dilation of the gap between the subjective space and the materiality of spaces; experiments in hacking and technological counter-use; unprecedented territorial struggles that develop between the rejection of the installation of infrastructures and warehouses and the creation of new *cyborg-territorial* forms of life; and the potential for autonomy due to platforms’ continuous capture. The things listed here should be investigated further: this is a field of research and political practice still to be imagined and created. Moody’s reference to the “edges” of the metropolis introduces a crucial aspect that has not been directly tackled in this chapter: the question of the hierarchies, inequalities, and differences at play in the construction of the Planetary Metropolis 4.0. This is deeply intertwined with the tension emerging between the homogenising forces implied in the dynamics of the construction of the Planetary Metropolis 4.0 and the ways in

which it is reproduced in heterogeneous forms in diverse contexts. Again, this is a field of research and political practice should be elaborated in further research.

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