4 Seeing in Verticality: From 'Vertical Gaze' to 'Figuring Out'

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Introduction: On the Arrogance of the Vertical Gaze

In 1978, the American artist Pope.L made his first crawling act through the streets of New York City. In the following years, his project evolved into more than 40 such extreme performances, each one no less than 20-mile long and lasting many hours, during which the artist—often dressed up in fancy disguises (a businessman, a superhero, etc.) and carrying along additional paraphernalia (a flower pot, a skateboard etc.)—would lay down and crawl through dirty, littered pavements and burning asphalt, often to the point of bleeding or fainting. Pope.L's performances forced bystanders to almost literally *look down upon* him as he struggled to make his way ahead, nearing exhaustion. In these performances, the horizon appears, we may say, tilted by 90 degrees, so that the pavement is turned into an almost impassable wall to climb at one's own peril. The artist is, in general, someone who pours an extreme effort to advance very little. A horizontal climber of city pavements, Pope.L also embodies the point of view of those 'low beings' and those smaller creatures who, in the city and in society, are always looked down upon, if not *overlooked* altogether: babies, kids, dogs, rats, homeless people, social outcasts. As the artist himself puts it, 'In New York, verticality is the definitive *modus operandi*. Both buildings and people perpetually strive skyward, driven by tenuous dreams of upward mobility'.[1]

Pope.L's performative gesture inherently provokes and interrogates many assumptions about the vertical gaze in the context of urban visuality and inter-visibility relations. One is reminded here that the classic Olympian view from above expresses a faith in order and control—one that, in turn, reinforces order and control. Verticality is not simply, as in Cartesian geometry, a rational way of observing space; it is, first of all, an advantaged position from which urban relations can be—and at least partially are—scaffolded. At the same time, though, verticality remains imbued with a whole sensorium of bodily inconveniences. As highlighted by Pope.L's performances, all sorts of inequalities—social, economic, cultural, racial…—sneak into the alleged clarity of top-down visuality. 'In most cities', the artist comments, 'if you can remain vertical and moving you deal with the world; this is urban power. But people who are forced to give

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[1] Quoted in: https://news.artnet.com/art-world/pope-l-profile-1661419 (accessed Jan 1, 2023).

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up their verticality are prey to all kinds of danger'.[2]

We could as likely speak of a certain type of *arrogance*: the vertical gaze of power, while claiming to rule for all, is extremely skewed, selective and exclusive. The selective inattention of the vertical gaze can be understood as a visual social pattern, or structure: in other words, the kind of highly asymmetric socio-spatial verticality that shapes the contemporary city seems to be premised largely on *not looking down* (as, indeed, in the climbing adage: 'Never look down…'): a peculiar type of inattention that corresponds to a mode of seeing ultimately unable, or unwilling, to *inhabit* verticality (Brighenti & Pavoni, 2020). The vulnerable precariousness of our age is revealed in verticality as a *tenuous* striving for something *more*—precisely, that consuming mode of hopefulness the cultural critic Lauren Berlant so piercingly captured with her formula, *cruel optimism* (Berlant, 2011). By reproducing this striving in the density of the street level, Pope.L caricatures it and, at the same time, points beyond it. Reflecting elsewhere on urban climbers, we pondered 'how a new form of "horizontality" (instead of having the subject "above" the object) can be achieved by pursuing an uncompromising verticality' (Brighenti & Pavoni, 2017: 7).

In the context of climbing, we argued, verticality could be understood as 'not simply a physical feature of the built environment, but as a form of experience and a relation between the body and the environment' (ibid.). In the case of Pope.L, we assist to a similar situation, but turned upside down. Here, it is indeed by pursuing an uncompromising horizontality that a new form of verticality is released: a paradoxically 'horizontal' verticality, a verticality that has survived the destitution of the socio-spatial, vertical logic of the contemporary city. In other words, Pope.L's work hints at a verticality that can be somehow inhabited, or at least embodied, although this requires a non-negligible effort, since there is neither a vertical gaze to rely on, nor a vertical goal to strive towards, but only the materiality of a horizontality that must be *sought after* and *figured out* (more on figuring out below; cf. Simone, 2016). Does this entail that verticality is altogether gone, and what Pope.L offers is but an allegory of a life entrapped in horizontality? We do not think so. The fact is that Pope.L's performance presupposes a bird's-eye view that is not positioned somewhere above, over the city, but is immanent to the urban fabric itself. This peculiar vision that, at the same time, overlooks the urban and yet is folded into it, is what we are going to describe by borrowing Raymond Ruyer's notion of *survol*, as specifically instantiated in the digital urban context.

To do so, we first need to understand the constitution of perception in its peculiar relations to the city. Perception and the city have a deep, intimate story: suffice to recall that Leibniz moulded his philosophy of monadology upon the image of an act of perspectival urban observation. Ancient and modern utopias have been likewise crafted around the privileged ethical-aesthetic perspective, the 'Olympian' gaze. We need to ask: What is a city before any individual, 'human' eye comes to appraise it and, by perceiving it, also emplace it? What is a city before it is 'captured' from any given vantage point? Nothing, perhaps, but that 'an ensemble of images that exist in themselves, spectacle without spectator' (Ronchi, 2015: 110). Challenging as this Bergsonian expression may sound—a spectacle without spectator, is it still one at all?—we are willing here to follow its inspiration, outlining a notion of urban perception as something that emerges out of an impersonal, virtual eye looming over the field of the perceptible. Once the lens of immanence is rigorously applied, shouldn't we also recognise the 'power' of verticality as a flimsy type of wishful thinking, its alleged ordering capacity getting continuously circumvented by *other forms* of perception and relationality? And, if so, which other types of perception are to be considered?

In order to advance towards an answer, we invite the reader to a theoretical journey and a series of reflections developed in dialogue with the work of the British artist Stanza, who has

[2]Quoted in: https://bombmagazine.org/articles/william-pope-l/ (accessed Jan 1, 2023).

kindly agreed to such an unconventional collaboration. Since the early 1990s, Stanza's work explores the intersection between space, perception, agency and control, as it emerges through the presence of digital technologies in urban space. Apparently, nothing could be farther from Pope.L than Stanza's 'data sculptures' and 'data paintings', made of hi-tech materials such as motherboards, circuits, cables, surveillance camera footage, data traces, algorithmic visualisations and so on.[3] Yet, both Pope.L and Stanza, we believe, help us clarify the novel regime of urban perception emerging with the digital age. As we relate to Stanza's work, we seek to show how some of the impulses coming from his artistic production can be routed into an analysis of that scopic regime we suggest to call *seeing-in-verticality*. With such expression, we designate a contemporary condition where classical verticality is both technically perfected and, at the same time, conceptually and socially superseded. Of course, there is a clear difference between the way in which Pope.L folds verticality into his embodied, horizontal climbs, and the condition produced by the digital technologies. Discussing the notions of glitch, hesitation and figuring out, in the second part of the text, we reflect on the aesthetic, ethical and political distinctions between the two situations, in order to ponder their potentials.

The Constitution of Urban Perception

Now we suggest to take one step back, and consider a possible genealogy of urban perception. Another different form of verticality can be foregrounded in this way: each actually occurring, localised act of vision could be defined as the actualisation of a *virtual eye*. Following Bergson (1896), nature can be described as an infinite and uninterrupted single take of movement-images interminably acting and reacting upon one another. Within such a universe, perception necessarily takes place as the editing, or *montage*, performed *by* (and *from* the standpoint *of*) a body that, acting as a contingent centre of perception and action, produces *a* world. Such a localisable world is what the biologist Jakob von Uexküll (2010/1934), with reference to animal experience, called *Umwelt*, that is a 'surrounding environment', which appears as the correlative to an animal's functional circle comprising the animal's capacity to be affected (perceiving) and affect (acting).

Actual perception, in other words, requires a selection and a partial obscuration of the real, that is, a deflection of the immanent plane of movement-images that make up the universe. We can thus be said to perceive by projecting our own shadow onto the multiplicity of movement-images, of which we are an integral part. In perception, the plane of nature is bent around a body, and it is out of such embodied point of view that any single given, actually occurring perception emerges.[4] What we can retain here is that perception is inherently active, selective and corporeal: it unfolds as a sequential montage of 'takes' or 'captures' that, taken together, shape the meaningful environment of an animal—its *Umwelt*.

Current cognitive and ocular research attests that subjective visual perception occurs through *fragments—saccades* or eye jumps—reassembled into a seamless perceptual-cognitive stream. Our eye movements are immediately fixated upon certain patterns capable of conveying the meanings we are currently giving to a scene, in most cases working by anticipation and inference rather than by the actual visual data at our disposal: we see what we are ready to see, and adjust our visual beliefs on the basis of guesswork (Land, 2009).[5] Accordingly, the phenomenon of interest is the co-occurrence of a discontinuous process and a continuous one, whereby concrete,

[3] See the video at: https://stanza.co.uk/theemergentcity/index.html (accessed Jan 1, 2023).

[4] Deleuze (1991/1966: 25) summarises the Bergsonian conception of perception by saying that: 'We perceive things where they are, perception puts us at once into matter, it is impersonal, and coincides with the perceived object'.

[5] See also 'The mind cannot override the affordances it sees', at: https://medium.com/intuitionmachine/our-minds-see-and-hear-only-what-we-imagine-dc303056171 (accessed Jan 1, 2023).

situated montages of perceptual fragments are always supplemented by, and prolonged into, a peculiar, unifying and unified sensation. Such a state is what, for his part, the French philosopher Raymond Ruyer (2016/1952) called a *survol*.

A *survol* is a type of naturally produced vision placed at a different level of generality vis-à-vis the individual acts of perception that are related to it. The notion of *survol* hints at a peculiar type of synthetic vertical vision, which Ruyer (1958) referred to as a nondimensional 'verticalism': 'My visual field necessarily sees itself through an "absolute" or "nondimensional Survey". It [the visual field] surveys itself without positioning itself at a distance and in a perpendicular dimension' (Ruyer, 2016/1952: 97). As Smith (2017: 123) explains in his commentary on Ruyer, 'the details of perception are not linked to each other through causal links, like the parts of a machine, but are grasped in the immediacy of an absolute time-survey and space-survey, independent of any supplementary dimension'. The unifying virtual take of *survol* thus functions as the presupposition of a plurality of naturally occurring perceptual montages: it works as an 'active inspection' of the sense data, orchestrated by an organising principle. In psychological research, a similar process is known as 'subitizing', that is, the immediate apperception of a multiplicity (Kaufman et al., 1949). In other words, *survol* corresponds to a form of consciousness that 'is not essentially perceptive or cognitive of spatiotemporal structures. It is essentially active and dynamic; it organizes spatiotemporal (organic or sensory) structures that are given in its field of survey' (Ruyer, 2016/1952: 99). This means that, while perception is constituted by montage, the latter also needs to be supplemented by an immanently vertical apperception that functions like a virtual single take, in which each actual montage is presupposed. Looking for a convenient visualisation of *survol*, we can follow Stanza's invitation 'to imagine your conscience from a global perspective all at once', as the subtitle of *America Is Bleeding* (2005) reads (Fig. 4.1).

The immanent verticality of *survol* allows Ruyer to postulate a non-transcendent foundation for perception, preventing both the need for idealism to provide it with an archetypal foundation and the logical paradox of infinite regression deriving from the endless empirical locations where perception could potentially occur.[6] Deleuze (1983: 81–83), in his reflections on decoupage in cinema, hints at a similar suggestive proposal: 'If, from the point of view of the human eye, montage is undoubtedly a construction, from the point of view of another eye, it ceases to be one; it is the pure vision of a non-human eye, of an eye which would be in things'. The 'other', non-human or 'thingly' eye Deleuze speaks about—echoing Bergson's image of nature as a photographic cliché taken directly 'in the things themselves'—is not the transcendent eye of an all-seeing god, and has little to do with vertical Olympian vision; rather, it coincides with an eye that is immanent to the field of vision itself.

The state of *survol*, we suggest, can also be said to correspond to 'the visible', insofar as we conceptualise it as an immanently 'excitable medium' capable of hosting phenomena of sensibility, receptivity, inscription, projection and reactivity, that lie at the core of social life itself (Brighenti, 2017).[7] The visible is a virtual expanse, whose connectivity enables the emergence of inherently relational configurations of meaning. Here, in particular, we are interested in how such notions as excitable medium, *survol* and virtual or immanent verticality may become useful when it comes to understanding the opera-

[6]Deleuze thus explains how the necessity of survol is rationalised by Ruyer: 'my eyes would refer to a third eye, which would in turn refer to a fourth eye, if an absolute form were incapable of seeing itself and, in that way, of seeing all the details from its domain in all the areas from which it is located at the same time: *non-localizable linkages* [*liaisons non localisables*]' (1988: 137).

[7]This resonates with Hansen's interpretation of Ruyer: 'Where phenomenology generically takes intentionality, the relation of consciousness to an object or the "aboutness" of consciousness, as a primitive, Ruyer's philosophy of consciousness insists on absolute sensation as its foundation. Consciousness does not have a visual (or phenomenal) field as its intentional object. It is this field itself' (Hansen, 2016: ix). In this vein, the late Merleau-Ponty (1964) had already framed the phenomenon of 'the visible' as something that occurs, not only impersonally, but also in a way that cuts across and entangles the visual and the haptic domains.

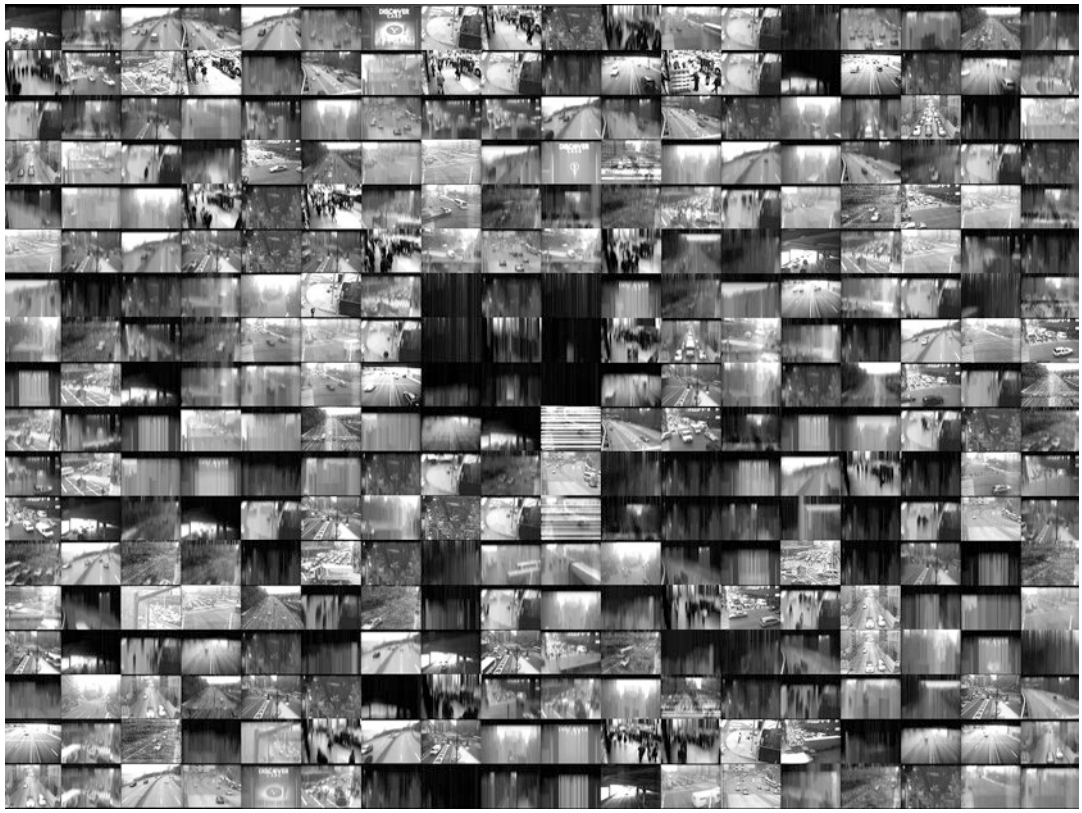

Fig. 4.1 America Is Bleeding. Networked cameras from all over New York created into online net artwork, 2005 (artwork by Stanza)

tions performed by the new urban technologies of vision, including visual technologies such as the drone and an array of non-visual digital networked infrastructures.

In the text accompanying *America Is Bleeding*, Stanza issues a challenging invitation: 'Imagine being able to see the whole worlds from everyone else's perspective' (Fig. 4.1). The artwork is formed by a mosaic of countless images streamed in real-time from a network of USA-based surveillance cameras. 'The computer manipulates the real time experiences and life of America as it unfolds'.[8] In this case, the experience of *survol* is pivotal to what the artwork is keen on emphasising: not in the sense of simply looking *from* above, nor of adopting the privileged point of view of any hypothetical 'inspector'. Rather, *survol* emerges as a perspective that is immanent to the field of vision, whose logic unfolds algorithmically through the machine's code of composition. What is all-encompassing is not our vision as viewers, but rather the immanent, algorithmic perspective that joins the 'windowless', monadic cameras together, by juxtaposing and networking them. This phenomenon could be described precisely as an instance of 'machinic survol' (see below), an eye-less vision that folds 'normal' vision from above into a different relationship between things that things themselves ignore: *seeing-in-verticality* (Fig. 4.2).

The Promise of Seamlessness

At first glance, the new digital urbanism seems to present itself as the logical end-point of the vertical thrust of the earliest cosmographic and geographic maps (Cosgrove, 2008). An achieved and

[8] https://www.stanza.co.uk/new_york_stories/.

Fig. 4.2 *The Nemesis Machine in Madrid Spain. Cables Boards, Screens, Iot Networks, sensors, Custom Electronic Custom Software, 2010–2020 (artwork by Stanza)*

perfected vertical vision would, in this vein, also mean the end of the outside, the coming about of an all-encompassing, omniscient computational reality. Such an ideal vertical vision seems consistent with the neo-finalistic notion of *survol*: the utopian, or perhaps dystopian, aspiration of an all-seeing vision in which the multiplicity of perspectives composing the city can be finally unified, and which digital machines promise to achieve. But, taken in this sense, the notion of *survol* can be easily charged with conjuring up apocalyptic descriptions of a totalitarian power which would held by contemporary machine vision. Certainly, the contemporary urban regime ushered in by digital communication appears to be characterised by a technological state in which the uncanny non-human vision of digital computation increasingly acquires the capacity to control and orient the human uses of the city. Such invisible, impersonal vision corresponds to a 'matrix' that contains all the multiple and 'incompossible' viewpoints each body may singularly and discontinuously (ephemerally) occupy, and would effectively equate with a theological entity. The imagery of urban seamlessness evoked by the smart city rhetoric can clearly be traced from such conception.

However, we suggest, these same notions can also be interpreted in a non-finalistic way. Placing *survol* within the horizon of a philosophy of contingency paves the way for its possible, more fruitful use in empirical research. The conditions of *survol*, *subitising* or *visibilisation* can be kept distinct from the theological overtones typical of apocalyptic narratives, just as they can be disentangled from the imaginary of seamlessness that feeds the 'solutionist' promises accompanying these very technologies.[9] Once such caveat is

[9] 'If there is finality here—suggests Deleuze (1988: 104) commenting on Ruyer's survol—it is only what the mechanism is producing'. Elsewhere, we have referred to this as the 'implicit normativity' of contemporary digital computing, that is, 'the cybernetic ethos of maximal efficiency, complemented by the technocratic ideology of solutionism' (Brighenti & Pavoni, 2023: 16).

entered, we believe that the theoretical advantage of these conceptual tools is that they enable us to explore the fracture, but also the subtle co-implication, between the production of images and the effectuation of diagrams in urban space.

Questions concerning the imageability of urban space were first raised by the American urban planner Kevin Lynch (1960) in an attempt to construct a common, coherent image of the city, where the various 'mental maps' of its inhabitants could converge and harmonise. Today, the same questions can be rephrased in terms of the occurrence, *within the visible itself*, of a cleavage between, on the one hand, manifest, naturally occurring images and imaginations of the city and, on the other, machinic diagrams operating on the basis of data matrixes that re-synthesise vision for all sorts of purposes. Algorithmic operations, such as those used in machine learning techniques and AI, have indeed opened the terrain for an otherwise paradoxical 'machinic vision' (Johnston, 1999), a vision distributed across networked digital fields and operating in increasingly seamless ways, before and beyond individual perception and imagination (Fig. 4.3).

Once placed within an empirical approach, the imagination of seamlessness that accompanies machinic and algorithmic vision can be discussed in terms of induced, locally manifested 'effects' that, far from being infallible, may as well *fail* to materialise. In this sense, continuity is never the beginning but always the end-point of a connecting process (see also Whitehead, 1978/1929): in other words, seamlessness is an effect correlative to an observer under specific premises and within given contexts. The fact that computation gives as an output an apparently seamless surface, endlessly mirrored across the small screens illuminating our faces, in fact hides its constitutively fragmented reality. An example in this vein is offered by NASA's *Blue Marble Generation* (2012), a collection of images of the whole planet taken from the space: whereas the image appears

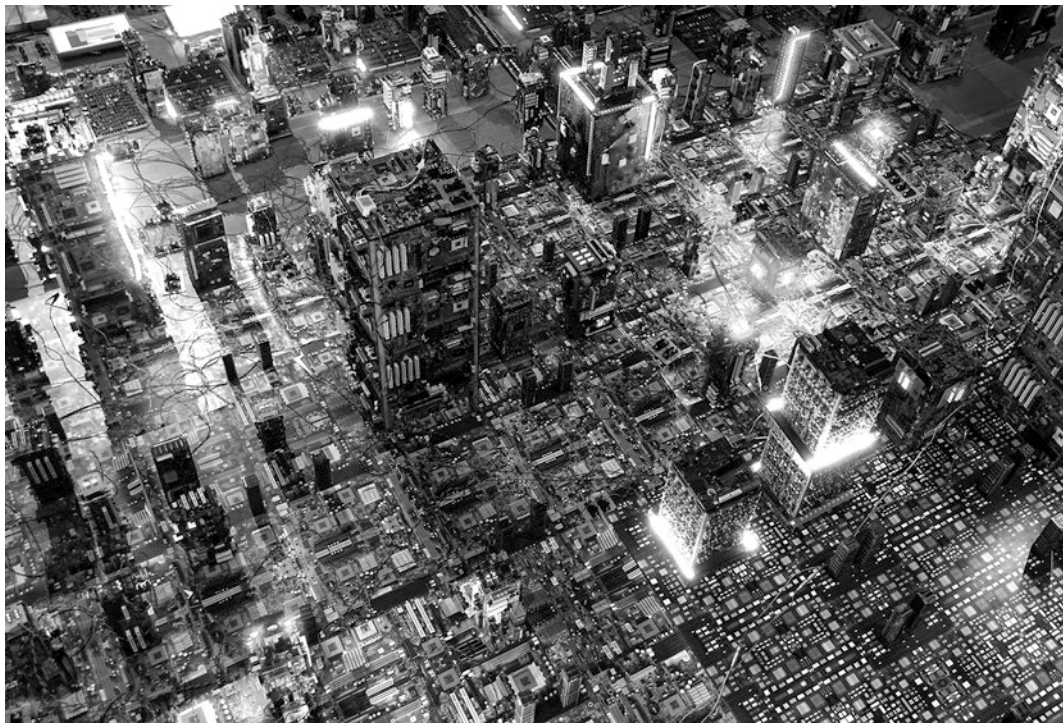

Fig. 4.3 The Nemesis Machine in Madrid Spain. Cables Boards, Screens, Iot Networks, sensors, Custom Electronics Custom Software, 2010–2020 (artwork by Stanza)

as a single one, it in fact derives from 'composites of massive quantities of remotely sensed data collected by satellite-borne sensors' collected across different spaces, at different times. The composites are algorithmically reassembled to *produce*, rather that *represent*, what appears as a self-contained planet (Kurgan, 2013: 11). One can imagine it as fractured as the multiple mosaic in Stanza's *America Is Bleeding* (Fig. 4.1).

Thus, empirically, the *survol* of contemporary computational programming is endlessly fractured by discontinuities, glitches, accidents, disruptions—an array of small and large 'catastrophes' that must be analysed and explained. In Fig. 4.4, Stanza pictorially reflects on the way in which, at the intersection of the physical and the digital spheres, individual trajectories shape the urban environment leaving multiple traces, marks and scars, some of which as tangible as a 'desire line', some others as intangible as a GoogleMap pin. 'The artworks—writes the artist—represent the scars on the landscape that we have created by our inter-actions', conjured up in the shape of 'abstracted forms cre-

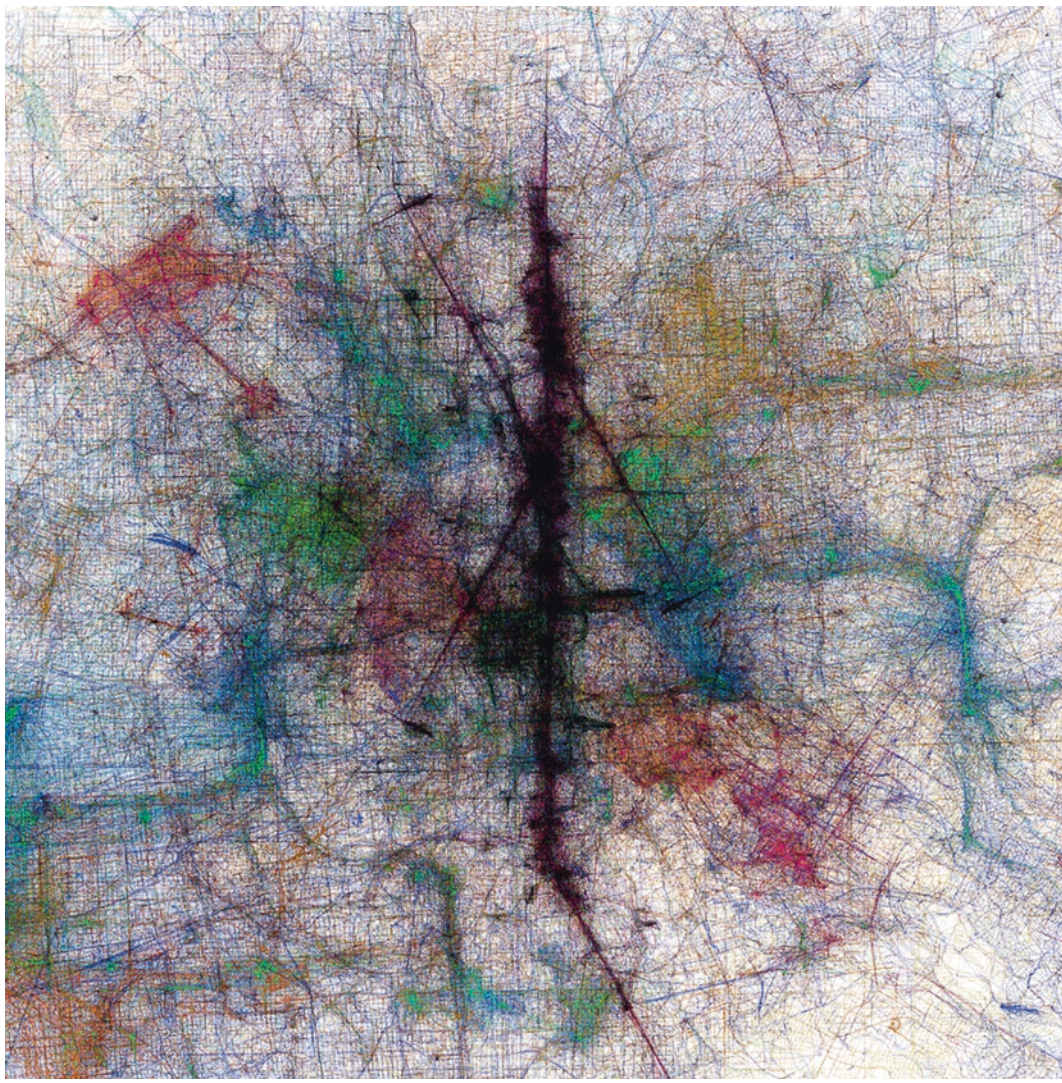

Fig. 4.4 Complexities. Surface Scars and Cuts. Exhibited at The Intelligent City exhibition, Bruges Museum 2015 (artwork by Stanza)

ated randomly or by chance but are in effect part of the fabric of the design of our global cities'.[10] All too often, it is not *in spite of*, but rather *through* repeated failings—technically known as *bugs* or *glitches*, but which more evocatively Stanza calls *scars*—that digital urbanism unfolds.[11] It is, in other words, through glitches and scars that users can establish a relation with, as well as perhaps also challenge, the field of urban machinic vision.[12]

The French media theorist Paul Virilio famously argued that technologically mediated contemporary perception is fundamentally *static*, precisely insofar as it operates at the speed of light upon Earth (Virilio, 1976). In his later production, Virilio has also increasingly turned his attention towards the constant production of accidents and disruptions created by technical systems (Virilio, 2005). Tempering Virilio's overall apocalyptic tone, inspired by his ethical preoccupations, here we are similarly interested in highlighting the fine details of the accidental, in other words, the complex singularities in which the seemingly seamless world of machinic *survol* is diffracted into the complicated configurations of urban perception.

What is crucial, we suggest, is not so much 'the glitch' in itself, but the extent to which the glitch can operate like a cut *à la* Lucio Fontana, a gesture that pierces the canvas, potentially reconnecting the 'infrastructure of experience' to the 'experience of infrastructure' (Dourish & Bell, 2007). Vertical vision can similarly be revealed as folded in the fabric of everyday life as a type of seeing-in-verticality which expresses itself in its seams—as if they were symptoms communicating the inescapable materiality of the frictions that characterise acts of detection, translation and recognition. At this juncture, we encounter a *digital uncanny* that results, not only from the realisation of the extent to which urban fabric is algorithmically infiltrated, but also, in a more promising sense, from the fact that such infrastructure always contains unanticipated, animistic potentials (Ravetto-Biagioli, 2019; Brighenti & Kärrholm, 2020)—a fact that is going to be further amplified by the unpredictability of large-scale AI.

Such digital uncanny is tackled by Stanza in *The Nemesis Machine* (Figs. 4.2 and 4.3), an artwork which is offered to the viewer as a dystopian vision from above. In reality, though, what the viewer can see is nothing but bits, cables and connections, a 'data sculpture' utterly unreadable to the human eye—except, precisely, as that uncanny short-circuit of the underlying data flows. 'Imagine walking out the door, and knowing every single action, movement, sound, micro movement, pulse, and thread of information is being tracked, monitored, stored, analyzed, interpreted and logged'. Olympian vision here has nothing to do with knowledge and power anymore. It is a puzzled vision, further amplified by the impression of gigantism afforded by the possibility of walking through the model. At the same time, the artwork also 'asks how new technologies can imagine a world where we as citizens are liberated and empowered by using new technologies in an inclusive, connected, collaborative, and shared experience'.[13]

The Cognitive Mapping of Urban Navigation

What we have said so far should suffice to attest the tension between the classical Cartesian model of visuality and the new technological configurations in the visible (but also *of* the

[10] https://stanza.co.uk/folio/complexity_surface_scars/index.html.

[11] There is a growing literature on so-called glitch politics (e.g. Russell, 2020; Elwood, 2021), where the notion of glitch assumes an important, ethico-political difference from the bug. Yu et al. (2022: 96), for instance, suggests that the bug entails a normative interpretation—that is, an 'error'—of the glitch, so that 'if the "glitch" is an opening of the possibility that the world might be otherwise, then the "bug" is a closure: this is an error'.

[12] It has been observed that there is a dialectic of visibility at the root of the system/failure relation. For instance, in the context of COVID-19 contact tracing apps in China, Yu, Brady and Zhao (2022: 96) have remarked that: 'Moments of failure render infrastructure abruptly and uncannily visible for entire communities'.

[13] https://www.stanza.co.uk/theemergentcity/index.html.

visible). In an analysis of the new-media city, Holert and Mende (2019) have argued, in this respect, that the way city users now operate is no longer mainly visual in nature, but *navigational*, whereby 'navigation organises timescales and orders of magnitude that cannot be visualised simultaneously'. To the extent that *deep learning* algorithms are increasingly designed to perceive images as wholes rather than simple collections of analytical traits, the novel urban regime can be characterised by a machinic *survol* in which the analogue of a non-visual 'view from above' constantly accompanies and guides navigation. Lorenzo Tripodi (2020) has described in terms of 'technological urbiquity' the ensuing prestructuring of the field of urban experience by digital computation. 'This condition of constant global connection', Tripodi writes, 'allows virtual access to any place (or constructed visualization of a place) as well as any service or good, while being located and constantly tracked in a geographic position … Power pervasively infuses our environment and bodies. It is not perceived anymore in terms of capacity to overlook, looming from above; rather it penetrates or infiltrates' (ibid. 436).

In this context, the paradigm of urban navigation designates a new generalised, remote accessibility of urban life. Similar preoccupations are also central to Stanza's artworks. *Urban Generation* (Fig. 4.5) is presented by the artist as follows: '[It] looks like a filmic experience, but it is not a film. It is a real time experience of the city from multiple perspectives I call a "parallel reality"'. The situation of a parallel reality is—not differently from the navigational state explored by either Holert and Mende or Tripodi's *urbiquity*—a vision in a state of *survol*. As Stanza (2015: 212) also explains, 'we need to imagine the city at a different scale. The possibility is to extend our imagination and enable that perception of the city as a dynamic network'.[14] This much *Urban Generation* accomplishes by staging the very material infrastructure—cables, fans, plugs, chips—of the emerging logistics of perception that contradistinguishes the digital city (Fig. 4.5). In resonance with *America is Bleeding*, *Urban Generation* is subtitled *Trying to imagine the world from everyone else's perspective, all at once*. A virtual non-human eye in *survol* mode cannot, as we have noticed, be occupied by any actual individual observer, since it is a fragmented composition of countless perspectives algorithmically assembled at an inhuman level of speed and complexity. Its 'vision' has no resemblance with the human one: *en survol*, the city appears as a cybernetic fact, 'a giant multi-user, multi-data sphere' that hosts an ever-growing archive of traces and 'liquid flows'.[15] This way, Stanza's artistic practice strategically conjures up a second-degree visualisation of the logistic of perception articulating the virtual ensemble of images extracted, combined and circulated—images out of which a whole *urbiquitous* state can be produced.

A map of the possibilities of such data expanse ready to be turned into perceptions would offer what Fredric Jameson (2007) once called a 'cognitive mapping'. Jameson laid out the coordinates for such approach mixing the work of Kevin Lynch with that of the French philosopher Louis Althusser. According to Jameson, the peculiar condition of modernity lies in the split of experience and structure, first sanctioned by the expanded conditions of living brought about by imperialism, capitalism and globalisation. The 'manifest image' of the metropolis—the city as it is experientially presented to its users—is, in his interpretation, increasingly incompatible with its 'scientific image', which corresponds to the unreadable complexity of the entanglement of global forces and structures.[16]

[14] 'The artwork seeks to explore the rhizomatic multinodal networked experience' (Stanza, 2015: 2010).

[15] See the video at https://stanza.co.uk/theemergentcity/index.html (accessed Jan 1, 2023).

[16] On the notions of manifest and scientific image, see Sellars (1960); on the application to cognitive mapping, Srnicek (2012). Hermant and Latour (1998) have similarly developed a monographic study of Paris through its invisible infrastructures.

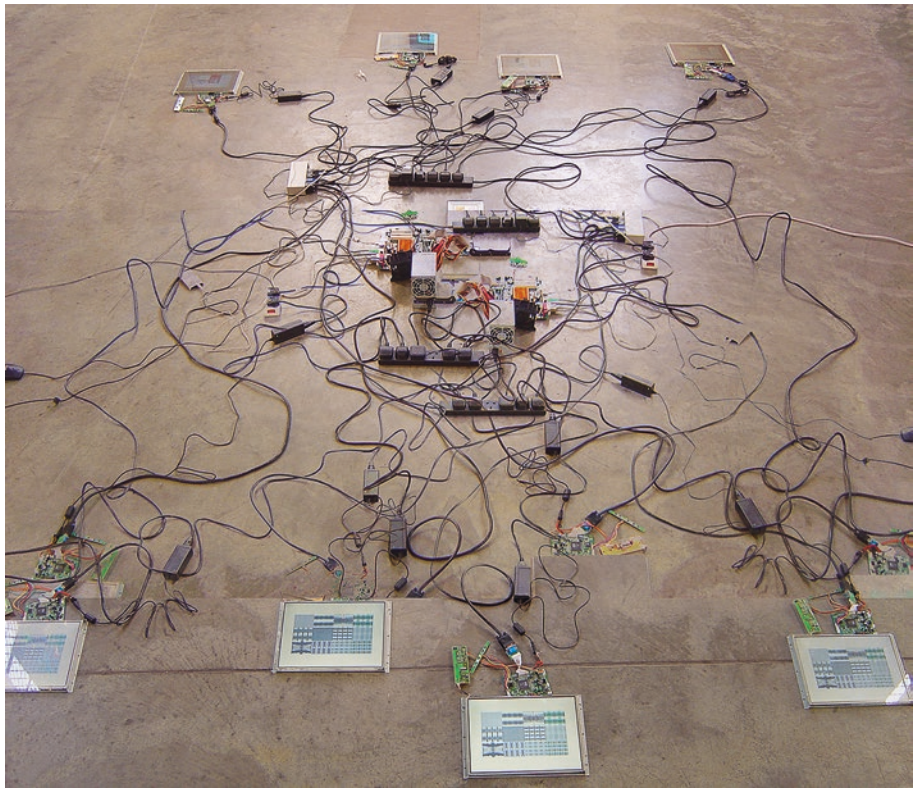

Fig. 4.5 Urban Generation. Installation Version. Wires, Cables, Screens, Net Art. Real-time software, 2002–2004 (artwork by Stanza)

Of course, this level of complexity is all the more daunting in a world of planetary urbanisation, informational and logistical interconnection. How to grasp the totality of this complexity? Is it actually possible? And, more radically: Does such a totality exist at all, or is the very attempt to reconstitute it itself a remainder of Olympian arrogance? Jameson was well aware of the conundrums and the epistemological *hybris* that the aesthetic form of the map encapsulates:

> Cartography is not the solution, but rather the problem. The map, if there is to be one, must somehow emerge from the demands and constraints of the spatial perceptions of the individual. (Jameson, 2007: 158)

The point directly resonates with the question of the glitch. The glitch is potentially an error, that is, a 'bug', a faulty functioning of the algorithmic infrastructure. Technically, understood as bug, the glitch is something to be *solved* as soon as possible; however, conceptually as well as politically, the glitch is precious in that it manifests the inescapably *frictional* nature of contemporary systems (Tsing, 2005).[17] It is the sign that things are always to some extent already *broken*, and that brokenness does not necessary call for repair and solution, but harbours in itself the potential for acting otherwise (Simone, 2022).

One of the tools deployed towards a cognitive mapping of the contemporary urban reality is the so-called visualisation. In the field of cybernetics and the digital media, visualisation has become synonymous with the requirement, not simply to make urban complexity readable, but also to

[17] See Footnote 12, above.

'make data actionable'—as per IBM's formula. Cybernetic data visualisation, in other words, collapses seeing into *finding*, cognition into *recognition*, knowledge into *action*. If, in this new-media grammar, everything is reducible to data, it is because data are not simply relational, but above all *performative*. The media theorist Orit Halpern (2015) recalls the non-coincidental fact that Kevin Lynch had been a former student of the Hungarian art theorist György Kepes, whose 1944 essay *Language of Vision* investigated vision precisely in terms of 'problems to be solved' through data processing: according to Kepes, a 'new order of objectivity' would have had as a task to precisely overcome all the perceptual limitations of the human eye.

In her critical exploration of the logic of digital pattern recognition, Wendy Chun (2021: 185–230) shows the troubling effects of data visualisation, as something that automatically reproduces the social biases inscribed in the visual field. What is interesting for us is that this occurs due to the digital logistics of perception that is inscribed in the very functioning of pattern recognition, which reproduces, automatises, and thus *axiomatises* biases and inequalities. What ensues is a type of affective and sensorial *ankylosis*—literally, a stiffening causing an inability to sense *otherwise*—similar to the one described by Frantz Fanon (1970/1952) in the context of racism, which Alia Al-Saji (2014: 139) interprets as an atrophy of the capacity 'to be affectively open to the difference and becoming of the lived body'. Al-Saji shows that racialisation functions as a sort of *automatisation* and objectification of perceptions and feelings, which somehow reduces, or *numbs*, that necessary interval of hesitation and ambivalence between perception, reflection and evaluation. It is only hesitation—interestingly, a notion first introduced into social theory by Gabriel Tarde (1893)—that allows experience and perception to unfold freely. Not simply depending on our conscious awareness, this phenomenological materialism allows us to explore a more surreptitious functioning of racism that seemingly infiltrates the social fabric like a poisonous toxin, hampering the perceptual plasticity of bodies by 'paralyzing hesitation and objectifying habit' (ibid., 154). The 'incapacity to think' shaped by algorithmic operational mode not by chance evokes Hannah Arendt's 'banality of evil', which Donna Haraway has more recently described in terms of an incapacity 'to make present to himself what was absent', to be 'response-able' vis-à-vis difference (Haraway, 2016: 35–36). In this context, hesitation plays a strategic role: by opening a gap, or indeed a glitch, in the algorithmic racialising scheme, it allows us to become aware, once again capable of acting upon the skewed and patchy consistency of the perceptual field, as a sort of 'deceleration that opens up the affective infrastructure of perception' and that 'can thus make felt the historicity, contingency, and sedimentation of habitual actions and perceptions, as well as their plasticity' (Al-Saji, 2014: 147 and 143).

In the digital context, where algorithmic 'intelligence' further plunges skews, biases and injustice into invisibility (Noble, 2018; Benjamin, 2019; Espeland & Yung, 2019), the idea of *hesitation* resonates with the concept of *glitch*. Matters of hesitation and glitch also seem to inform the peculiarity of Stanza's own way to data visualisation: instead of a positivistic effort to show 'how things really are', Stanza decides to dive, somewhat vertiginously, into the complex field of machinic vision. In this way akin in spirit to Pope.L's urban crawls, Stanza proceeds through the folded verticality that shapes the new urban visibility by opening up an interval that defuses the totalising performativity of digital seamlessness, thus revealing the inherently patchy and fractured quality of machinic *survol*. Whereas, as considered above, machinic vision conflates vision, recognition and action from the perspective of an apparently coherent, seamless *survol*, Stanza proceeds to an archaeology of computing, giving emphasis to the limits and constraints of the apparatus. His artworks avoid both the production of seamlessness and the reproduction of the narrative of seamlessness. Stanza thus hints at a non-cartographic response to the aesthetic problem posed by contemporaneity, as per Jameson's diagnosis: How to make perceptible those elusive forces, diagrams and rhythms that shape our being in the world? How

to decelerate the speed of digital flows to the rhythm of one's sensibility? (cf. Bifo & Guareschi, 1996; Srnicek, 2012). *Slowing down* does not so much lead to cybernetic data visualisation, but to the more mundane and ambivalent practice of *figuring out*.

New Potentials for 'Figuring Out' the Environment

The classic cosmographic dream of vertical gazing as well as its modern aeronautical-cosmonautical continuation in the twentieth century were still largely grounded in a human-centric ocular model of perception, which, as considered throughout, cybernetics and digitality have both perfected and superseded. The stage we are at can be approximated as a form of *seeing-in-verticality*: verticality is no longer something which we see, that is, an *object* of sight, but something *through which* things are seen, that is, a *medium* of visibilities. Such a new medium ('the visible') corresponds to the layering of a computational stratum upon the stratum of the perceptual materiality of the world ('movement-images', in Bergson's parlance). What above we have referred to as 'machinic vision' corresponds precisely to seeing-in-verticality—where seeing is no longer ocular, and verticality no longer bodily.

As perhaps with every new technological condition, art is necessarily at the forefront of the elaboration of, not only new analytical tools, but also new potentials for resistance. By resistance, we do not mean simple rejection, but an actual critical stance that is uniquely equipped for laying out the metaphysical and political coordinates of the technological condition (Brighenti, 2023). Whenever art introduces a critical factor of *hesitation* into perception, new practices become possible, and old practices get endowed with more potential for resistance. In this context, the practice of *figuring out* should not be discounted as the attempt to regain a lost privileged perceptual position, or as reinstituting the arrogance of the vertical gaze, but as the capacity to compensate for such a loss in ways that are creative rather than simply reactive. As Toscano and Kinkle (2015) write, *figuring out* might be understood as 'not a question of accuracy or resemblance, in which aesthetic form would be a mere instrument for knowledge, but … a kind of force-field in which our conceptions of both modes of production and aesthetic regimes are put to the test'.

As we inhabit increasingly calculative, formatted and programmed environments, where smart devices constantly provide data translations in terms of visualisations made available onto our pocketable screens, the functional need to figure out urban reality naturally decreases.[18] At the same time, the conceptual link between seeing and knowing becomes tensional: the more we *see* (in an extremely compressed, almost comical version of vertical vision, gazing down, bent neck, onto our portable screens) the less we actually *know* (not simply as a result of the opacity of the digital algorithms, but also because our very capacity to relate to the environment is progressively curbed).[19] The formatted—patchy, and yet visually seamless—quality of the urban environment as it appears shaped by the triangulation of GPS-enabled smartphones, location-based social networks, big data archives and machine learning algorithms, pre-emptively intuits and resolves for us all the perceptual problems we might encounter—problems of safety, desire, sociability etc.—limiting our task to the comfortable passivity of having to follow sets of given instructions—a condition that the common act of following GoogleMaps's lead illustrates sufficiently well. By attempting to systematically disburden the urbanite from the need to figure out the complexity of urban life (Simone, 2016), and by inducing a state of enhanced visibility of data,

[18] 'If the desire to figure out the relationships among things is diminished as a by-product of increasingly formatted and programmed environments, then the very incentive for substantiating relational knowledge is undermined. This is the knowledge about how to act and how to make use of varying kinds of relations' (Simone, 2016: 149).

[19] An incapacitation that is formally paralleled by the progressive atrophy the 'portable vertical vision' is producing on our physical body, see for example https://www.verywellhealth.com/is-your-smart-phone-ruining-your-neck-297018 (accessed Jan 1, 2023).

thresholds, codes, signals, maps etc., smart navigability comes at the price of what has been poignantly called the user's 'functional stupidity' (Alvesson & Spicer, 2012).

Figuring out, we suggest accordingly, is a practice that emerges once we push ourselves beyond the limits of navigational visualisation, when we *hesitate* before the automated correlation between data and action suggested by our devices or enacted by AI applications. It is at that point, precisely, that we have to find out exactly what it is that we are seeing, beneath and beyond the impression of digital self-evidence and seamlessness. At that point, we have a chance to inhabit urban perception in a mode that is more tentative, more ambivalent, as well as more relational. As soon as an interval of hesitation is rescued to perception, as soon as the possibility of a systemic bug is even considered, resistance has a chance to manifest itself. The practice of figuring out thus recalls what the American design theorist Malcolm McCullough (2022) has proposed to call an *urban information environmentalism*: a new environmentalist stance is, indeed, called forth to inform a critical urbanism up to the requirements of the present. Concretely, for McCullough this means 'to emphasize the inhabitable scale of everything between the hand and the cloud' (ibid., 57). By giving consistency to that medium of urban reality that is *informational yet not digital*, we can acquire and train the skills to enlarge the user's informational capacities beyond the entertainments of navigation. Accordingly, McCullough invites us re-evaluate the potential of *fascination*:

> Fascination keeps coming back to something whereas entertainment must always move on. Fascination tunes in; entertainment tunes out. The pursuit of fascination resides in contexts of practices; the pursuit of entertainment quickly pulls out a glowing screen. Fascination maintains a reflectivity. In this it is very different, perhaps even opposite, from the restless, novelty-seeking visuality that the digital attention merchants so eagerly cultivate, harvest and monetize. For of course entertainment lives by overconsumption of informational empty calories. (Ibid., 59)

Fascination can be an important complement to the practice of figuring out: notably, both have to do with recovering the unpredictability of the environment in a way that provides an alternative to the false animation of vision-in-verticality. Art can similarly invite us to accept the fact of coping with unpredictability, not as the tragedy we are doomed to endure, but as a prompt to act more creatively and unpredictably in our urban ways. All these are activities and gestures keep experimenting with the digital-navigational field of vision in a way that is not naively oppositional, nor technophobic. As Yuk Hui (2019) advances, it is a matter of actively 'modulating' the visual accidents that lie beyond the impression of seamlessness. Following Bernard Stiegler, Hui clarifies how the notion of modulation might be deployed by the artist as an important critical tool:

> The artist is he or she who is able to modulate the essential sensible and the accidental sensible, and this modulation is also an act, which renders the accidents (in both senses of the word—namely, inessential and contingent) necessary. An artistic creation is a process through which the unexpected is expected, meaning that the accidents are conceived as necessary in the sense that they are now condition for a possible transformation. (Hui, 2019: 209)

In a broad sense, the new urban user finds itself in the very same position as the artist: both need to learn how to modulate the *toxicity* of seeing-in-verticality,[20] stepping out of the realm of *survol* and portability, into the domain of figuring out new ways towards further cognitive mapping and a whole new politics of urban perception.

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[20]The notion of the toxicity of data is also a leitmotif in Stanza's work. See https://www.stanza.co.uk/folio/M-City/index.html (accessed Jan 1, 2023).

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