

# Staying With the Disruption to Break the ‘As Usual’

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## The troublesome chances of disruption

In urban design and planning, the concept of resilience is invoked in the face of assumed or actual instability, such as floods, earthquakes, heatwaves, and infrastructure collapse. These instabilities could make a given territorial configuration vulnerable to such events (Balducci, 2020), meaning that areas designed to remain unchanged are exposed to change instead, posing a risk of losing settings that are relied upon. Resilience comes into play to avert unexpected modifications to existing structures and the practices and behaviours they support, which may result from a disruptive event. This

is because resilience is understood as the capacity to overcome destabilising pressures by incorporating them. For this reason, resilience is a fetish that is widely studied and frequently referenced in planning policies and plans<sup>1</sup>. The ultimate goal is to organise resilient settings in order to avoid the inconveniences caused by contextual disturbances or disruptive events and the subsequent unexpected changes. However, a

*Disruption unveils the massive, often invisible, complexes of contemporary urban infrastructure that carry energy, communications, transport and water. In so doing, it reveals the social control of nature exerted through technology. Disruption also embodies the agency of the world and its constant transformation. But what part does disruption play in making the territory more resilient? To answer this question, it is illuminating to look at two urban lakes that emerged unexpectedly from disruption: the Marais Wiels*

*Lake in Brussels and the Bullicante Lake in Rome. In both cases, the removal of topsoil by bulldozers during land redevelopment projects reached the water table, causing it to flow up and fill the excavations. Both lakes have formed in areas that were previously floodplains. These two disruptions are home to diverse species, and the social learning that is essential for evolutionary resilience is routine here.*

fundamental ambiguity remains. Should resilience be viewed as a concept that facilitates the circumscribing and avoidance of change, or as a concept that enables openness to the unexpected, which disruption itself is often about?

Unless there is constant maintenance and repair, mismatches and breaks occur more or less constantly (de Roo, 2017). Whether one travels through the planet or listens to the often sensationalist media reports of the day's events, disruption is omnipresent<sup>2</sup>. It is experienced when disasters occur, but it is also a regular part of daily life. Disruption indeed can take the form of landslides, fires, flooding, and the related or not collapse of buildings and major infrastructure. But disruption can also take the form of mundane, everyday impasses such as pipeline explosions and other infrastructure

collapse, which result in the interruption of services. Disruption can be dramatic regardless of its physical size and magnitude, especially when it affects properties or involves bodies and results in the loss of homes and loved ones or when it makes life impossible. Whether dramatic or not, disruption often has a direct impact on one's life course anyway. Let's take the most mundane ones. Someone has to change their route to work because a section of the road has turned into a puddle due to a storm or a burst pipe. Someone has had to stop working in the office because of a blackout caused by a collapsed high-voltage power line in a storm. On their way to work, someone else has to turn back because a sinkhole has caused part of the road to collapse and blocked the area<sup>3</sup>. Disruption operates as a *diversion*; it literally makes us *turn in a different direction*. It marks a turning point, shaking things up and forcing a change in how one relates to things one usually overthinks or takes for granted. Disruption, from the Medieval Latin *disrumpere*, composed of *dis-*, "apart" and *rumpere*, "to break", means "a breaking asunder" (Online Etymology Dictionary, 2025). It is "the action of preventing something, especially a system, process, or event, from continuing as usual or as expected" (Cambridge Dictionary, 2025a). A disruption is a discontinuity.

Stephen Graham (2011; anticipated by Graham and Thrift, 2007) recognised the forceful value of disruption for urban geography

and thus for urbanism and planning. Graham describes disruption as a heuristic device. Both figuratively and literally, disruption is a crack – *ruptus* is Latin for 'crack' – a crevice in the smooth urban surface, it is a window into urban circuits. The so-called *modern infrastructural ideal* made a planet extensively served by transport, communication and other networked grids, rendering the urban life and urbanisation viable. Yet this ideal fails, resulting in splintered and uneven geographies (Graham and Marvin, 2001). Within this rolling out and still fragmented surface of urbanisation, there are patterns of cracks. To break down is the infrastructure that, running beneath the surface, has reached its highest degree of fetishisation, namely that of invisibility (Swyngedouw and Kaika, 2000)<sup>4</sup>. With disruption, the largely invisible and subterranean complex of pipes, cables and networks, through which transformed nature flows, becomes intelligible, albeit only partially and for the duration of the waiting time before any repairs are carried out. For instance, flooding on the street may be caused by a burst pipe resulting from ground settlement, or the electricity supply may be interrupted due to lightning damage to the network, which may be caused by a storm. Energy networks, huge water systems, global agricultural complexes, mobility networks, electronic communication systems, these are the "vast and unknowably complex systems of infrastructure and technology stretched across

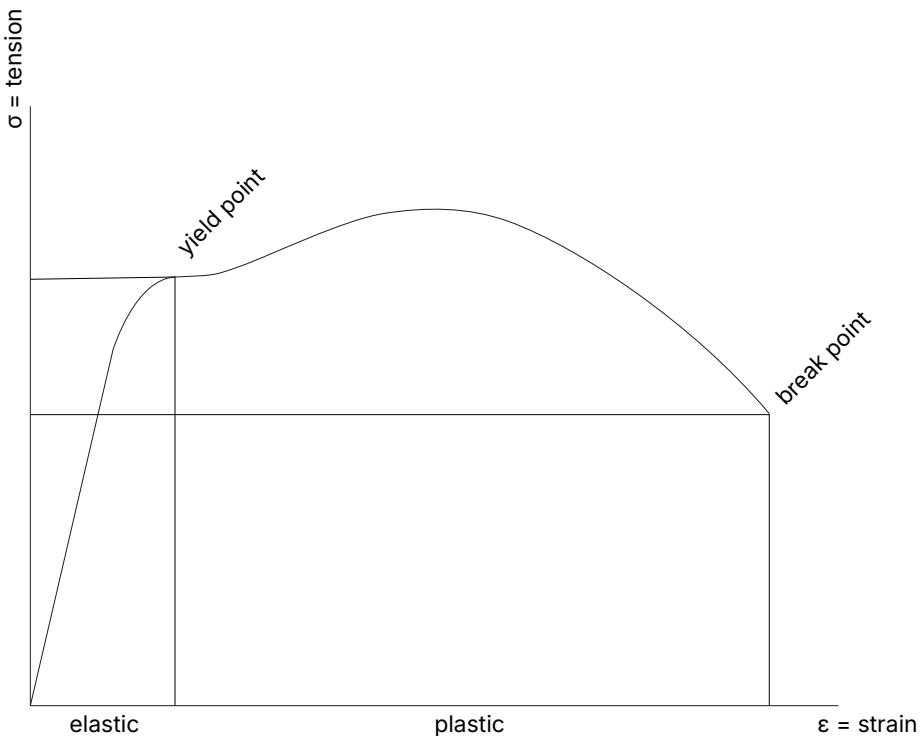
geographic space" largely taken for granted and that disruption unmasks (Graham, 2010, pp. 1). By pointing out the heuristic potential of disruption, the seminal work of Graham and colleagues was substantially focused on reinstating the attention on the infrastructural networks as key physical and technological assets of modern urbanization that with disruption – but also interruption – become visible in the urban scene. Therefore, these influential studies focused on disruptive events that have a direct or indirect effect on infrastructure and how it functions<sup>5</sup>.

However, another aspect of unravelling accompanies disruption that is equally relevant to urban studies and the pursuit of resilience. Disruption also signifies the agency of the world. The breaking up of the Earth's surface, which if it were all the same could be used and taken advantage of, and of the networked systems, which if they were all the same and everywhere could be used and taken advantage of, is the world and its agency. Gaia, swept under the carpet, intrudes as a being in its own right (Haraway, 2019; Stengers, 2021), splitting the surface of the urban palimpsest. These infrastructure "immobilised in space" which "continually bring into being the mobilities and circulations of the city and the world" (Graham, 2010, pp. 66), interact with volcanic eruptions, earthquakes, floods and soil compaction, erosion and wind erosion, as well as variations in pressure and temperature. This agency is

largely understood as instability and a cause of uncertainty when it disrupts human plans. And it is precisely to cope with the instability and uncertainty that this entails that resilience in urbanism and urban planning comes into play.

But what has happened to make disruption so prevalent in our daily lives, despite the amplification from press reports and television scenes? On the one hand, there is an increase in stress on the infrastructural apparatus. This is due to rising demands caused by growing expectations of comfort, which is a result of urbanisation and population growth (Ritchie et al., 2025). As a response, extraction is happening in more complex and extensive geographical areas (Prior et al., 2012). While technological innovation undoubtedly increases reliability, the risk of collapse is also growing due to enterprises becoming more sophisticated and daring. On the other hand, is the fact that predictions relating to changing climate patterns are coming true. This has reached a point where the climate is clearly showing its temperament (see Stengers, 2021; Schultz, 2023). As McKibben (2010, quoted in Jackson, 2014, p. 221) argues, humankind now inhabit an *Earth 2.0*, where many of our long-held assumptions about society and nature no longer prove valid. The intensification of perturbations and the resulting disruption make it appear that the “natural systems in which we have long lived and relied [...] have been irreversibly altered” (Jackson, 2014, p. 221).

In a time of widespread instability, where urban disruptions appear to be increasing in both number and intensity (see for instance Field et al., 2012; Fu et al., 2024), urban and architectural planning is focusing, not only, as is obvious, on repair (Jackson, 2014; Hertweck et al., 2023) but also on resilience (e.g. Balducci, 2020). Since its revival in ecology in the 1970s, the concept of resilience has been variously interpreted and has experienced mixed fortunes. In this article, ambition is to review the relationship between disruption and resilience perspectives. It will be noted how some interpretations of resilience, despite being open to instability, actually neglect or diminish disruption. Specifically, the aim is to emphasise that the focus is often on what precedes disruption, such as prevention, or what follows it, such as again adaptation and then repair and innovation although disruption itself can provide fertile ground from which to engage with and learn for the future<sup>6</sup>. The purpose is also to provide evidence of the significant cognitive and generative implications of engaging with disruption for urban practice, which remain largely unexplored but could still be relevant in terms of innovation. It is argued here that understanding the transformative potential of disruption is vital for grasping the intricate web of organisation and subordination in the urbanised world. As mentioned above, *staying with disruption* is also pivotal because it is recognised as a key sign of the agency of the



world – a vital force that urban planners cannot afford to overlook, particularly in light of their increasing awareness of it (de Roo, 2017). To emphasise the transformative potential of disruption and inhabiting it, this contribution focuses on two urban areas marked by disruption: the Marais Wiels Lake in Brussels and the Bullicante Lake in Rome. Both areas are discussed because they emerged from disruptions that were not repaired. In both cases, the disruption has been retained and inhabited instead. The persistence of the outcome of disruption in Brussels and Rome provides elements for a critical re-examination of the concept of resilience in urban design and planning. They reveal how a possible route to take is to try to inhabit the disruption, if it is not

dramatic, rather than counting on what comes before or after it. These spaces of rubble are characterised by invention and reassortment – in system theory this is known as the back loop stage of the adaptive cycle (Holling and Gunderson, 2002). It is in these spaces that it is possible to reconnect with a plurality of agencies and practise unlearning and relearning. The empirical work discussed here is based on the author's direct observations of the two cases, as well as encounters with some of the human protagonists involved in the two areas and the researchers who studied them. This first occurred in Brussels as part of two pieces of ethnographic research conducted for the project *l'ilot d'Eau Le Retour*, with the scope of investigating the relationship with ground-

## Tension-strain diagram.

Source: author.

Fig.1

water and flooding of the inhabitants of Saint Antoine, the neighbourhood just south of Lake Marais Wiels (Aragone et al., 2020), and *Ethnographie du Bas de Forest*, research conducted for Metrolab.Brussels in the lower parts of the municipality of Forest, where the lake is located, to understand the use of public space by different social groups (Carlier et al., 2021). Additionally, the author supervised a master thesis examining the two lakes (Vichi and Coppola, 2025). This study was carried out between July 2024 and February 2025, and some of its findings have been incorporated here<sup>7</sup>. One final remark. The term 'urban disruption' is sometimes used to emphasise the link between disruption and urban lifestyles (Armin and Thrift, 2002). Recognising that urban disruption occurs in cities as much as in other urban-rural areas helps highlight the complex interdependencies between different geographical areas (cities, hinterlands, and distant spaces) that disruption can reveal. It also highlights the widespread boredom that unexpected events cause in urban and rural areas alike.

### Disruption and resilience

In a well-known article from a decade ago, Simin Davoudi (2012) reread the main interpretations of resilience in relation to equilibrium and stability, in order to understand how the concept can be fertile for planning theory and practice. Here, the same three main interpretations discussed by Davoudi – engineering,

ecological and evolutionary – are considered in relation to disruption. The aim is to understand how uncertainty and changes due to dynamic forces that cause disruption are treated in the three interpretations of resilience. The first group, taking up the seminal work of the ecologist Holling (1973), includes engineering resilience, i.e. "the ability of a system to return to an equilibrium or steady-state after a disturbance" (Davoudi et al., 2013, pp. 308). Accordingly, for a stressed system, there is only one equilibrium, which is the initial one. After a disruption, after something has been bent, stretched, or squeezed, it does not go on as usual or as expected (Cambridge Dictionary, 2025a). There is not *as before* to go back to, there is no usual shape, unless more or less extensive parts of the system are repaired or replaced to restore the initial equilibrium. As can be seen from the tension-strain diagram (Fig. 1), engineering resilience not only precedes the moment of disruption to some extent, but also averts it. The ultimate goal is to maintain the efficiency of the system, and accordingly, resilience could be associated with the elastic field rather than the plastic field, which anticipates disruption. In other words, in the diagram, resilience occurs before the system/object changes state due to deformation, before its structure and functioning shift. Engineering resilience shows no readiness for change and disruption is taken as something to be avoided, to resist from. For a

system, this means that it must not break and must bounce back to its initial equilibrium. As Holling and Gunderson (2022) note, attention is given to avoiding other operating states. This is possible with appropriate safeguards to ensure that variables remain well away from dangerous break points (*Ibid.*). Beyond the tension-strain diagram, practical questions arise regarding engineering resilience in urban design and planning. Firstly, what kind of design and planning work towards engineering resilience? According to Fünfgeld and McEvoy (2013), this form of resilience thinking is manifest in adaptation measures conceived to safeguard extant assets, people and places from the repercussions of climate vulnerability and, to a lesser extent, climate change. Therefore, the ideal state for design to aim for is one in which disturbances can be avoided or kept to a minimum (*Ibid.*). Secondly, disregarding the fields of the tension-strain diagram for a moment, what kind of disruption does not involve structural or functional change, enabling the system to revert to its initial equilibrium? Any disruption from which the socio-spatial configuration that existed prior to the disruption can be more or less easily restored through repair or replacement.

The second group relates to ecological resilience. According to Davoudi (2012, pp. 300), ecological resilience, "rejects the existence of a single, stable equilibrium, and instead acknowledges the existence of multiple equilibria, and

the possibility of systems to flip into alternative stability domains." Perturbation is accepted, and disruption is taken as what brings the system into different states, what changes the system's structure and functioning (Holling, 1996). As shown by Holling and Gunderson (2002), the system undergoes an adaptive cycle comprising four ecosystem functions: exploitation, conservation, release and reorganisation. Here, disruption corresponds to the release phase, during which the connections among elements cease. Holling and Gunderson (2002) refer to this as the *creative disruption* phase. During this period, loosely regulated domain of stability and the wide latitude and flexibility allow for the formation of unpredictable associations, some of which have the potential to initiate novel reorganisation and renewal (*Ibid.*). However, despite being open to dynamic forces and changes, Davoudi (2012) considers ecological resilience to still be potentially normative for design and planning. This involves searching for equilibrium, accepting change through the power of the plan, as well as integrating it with explanation, prediction and probability calculations.

In light of the still static and command-and-control nature of ecological resilience, Davoudi (2012) introduces the concept of evolutionary resilience. This third interpretation is based on the adaptive cycle proposed by Holling and Gunderson (2002), but here it is used to emphasise the chaotic, complex,

uncertain and unpredictable behaviour of ecosystems rather than their tendency to reach one or more equilibrium states. With evolutionary resilience, the ideas of bouncing back to an equilibrium and bouncing forth to new equilibria, which are specific to engineering and ecological resilience respectively, are overcome. To emphasise "the ubiquity of change, inherent uncertainties, and the potential for novelty and surprise" as opposed to equilibrium or equilibria, Davoudi (2012, pp. 304) turns to the concept of *panarchy* developed by Gunderson and Holling (2002), and which provides a long-term framework for the adaptive cycle. Accordingly, on the one side, exploitation, conservation, release and reorganisation phases "are not necessarily sequential or fixed", and, on the other, "systems function not in a single cycle, but rather in a series of adaptive cycles that operate and interact" (Davoudi, 2012, pp. 304). In evolutionary resilience, therefore, the perturbation is acknowledged as structural and the disruption as recurrent. Resilience is thus understood "not as a fixed asset, but as a continually changing process"; "not as a state of being, but as a state of becoming." Above all, "resilience is performed when systems are confronted with disturbance and stress" (Davoudi, 2012, pp. 304). Therefore, it is precisely these disturbances and adversities that provide the foundation for resilience, despite the disruption they cause. Evolutionary resilience clearly encourages urban designers and

planners to embrace uncertainty, exploration, and the potential for novelty and surprise, rather than fixity and rigidity.

In the three interpretations just discussed, the common factor seems to be that both disruption and resilience are strictly related to the perturbation that threatens or upsets one or more supposed or given conditions of equilibrium. Disruption and resilience stem from an unstable world. However, while disruption is a contingency, resilience qualifies and addresses the relationship with instability to some extent. As seen above, in evolutionary resilience transformability is truly inevitable, and disruption can even be creative. Acknowledging the ubiquity of change and viewing uncertainty – due to instability – as intrinsic rather than accidental should encourage planners to move beyond the *will to order* and embrace relational forms of understanding space and time (Davoudi, 2012).

Even in the context of evolutionary resilience, though, it could be argued that the emphasis remains on innovative aspects that follow disruption, glossing over the pivotal role of it in favour of earlier and later phases. In the four-dimensional framework for building resilience developed by Davoudi et al. (2013), are included persistence (being robust), adaptability (being flexible) and transformability (being innovative), but it is preparedness (learning capacity) that stands at the centre of the scheme (Davoudi et al., 2013). From this evolu-

tionary perspective, social learning is realised through exploring future scenarios in which disruption plays a central role (*Ibid.*). However, Davoudi et al. (2013, pp. 320) remind us that these same explorations may be perceived as destabilising, provoking public resistance in the absence of "continual social intelligence gathering" in climate adaptation planning. Nevertheless, it is unclear where social learning really takes place. It is also unclear whether it is possible to become acquainted with uncertainty by anticipating future arrangements or by experiencing it first-hand. Similarly, the position of disruption among persistence, adaptability, transformability and preparedness is as yet unknown.

Drawing on these interpretations of resilience, this contribution highlights the transformative potential of disruption and the opportunity to experience it first-hand. Disruption is an indispensable condition of the phenomenology of acting in the world. It could be embraced not merely as a resignation to the inevitability of the end, but as a way to fully experience the belonging to the agency of the world and its vibrant matter (Bennett, 2010). This is a challenging path, in some respects a gamble. However, the notion of dedicating time to disruption, as planners and collectives, despite seeming absurd, is connected to the idea that during this time, and amidst its fragments and dismemberments, it is possible to break free from the captivating and pervasive presence

of, and reliance on, the given technological apparatuses – and the modern infrastructural ideal. During this time, it becomes possible to perceive and experience the world and its inherent agency, acknowledging it as part of the design operation rather than reducing it to probability estimates and structural oversizing to welcome uncertainty dictated by experts. In disruption, the pulse of Gaia is palpable. It is thus argued that to try to inhabit the disruption is key for resilience and may be significant for the design project. This refers to brief, temporary and even playful encounters as well as widespread or large-scale ruptures. In these spaces of rubble, it is possible to try to reconnect with a variety of agencies and to practise unlearning and relearning, again and again.

### **Two urban lakes as inhabited urban disruptions**

In recent years, two disruptions, the Marais Wiels Lake and the Bullicante Lake, have attracted the interest of researchers due to the opportunity they offer to highlight issues relating to urban struggles (Cirillo and Wei, 2023), urban ecology (Battisti et al., 2017), urban hybrids (Do and Fassari, 2023) and land pressure (Wei, 2025) (Fig. 2). These two disruptions also highlight the importance of experiencing disruption and how it can contribute to resilience, particularly evolutionary resilience.

The story of the Marais Wiels Lake began in 2007. During the construction of the foundations for a future office complex on the site

of the former Wielemans-Ceuppens brewery in Forest, south of Brussels, which had been abandoned in the 1980s, excavators pierced the surface layer of clay and tapped into the resurgent aquifer. The puddle of rising water spread until it filled the entire excavation. Construction was halted, and the following year the project was abandoned, partly due to the 2008 financial crisis which reduced demand for commercial space. The site remained closed and, within a few years, the area had become overgrown with reeds and the fauna typical of the floodplain of the nearby Senne River. In 2015, a group of residents opposed to the private real estate initiative named the *puddle*, which was already home to many species, *Marais Wiels*<sup>8</sup>. United under the name *Fé.e.s du Marais* (Marsh Festivals), the collective of residents organised the cleaning of the site, offered guided tours and created some urban gardens. With the involvement of amateur naturalists, they also took care of cataloguing the species present. In 2020, the Brussels-Capital Region purchased the plot with plans to build housing (some of it social), urban green spaces, and a rainwater retention basin half the size of the current lake. Recently, some individuals fighting to defend Marais Wiels formed legal entities to leverage their ties to the site and thus avert real estate development (Wei, 2023).

The story of Bullicante Lake is similar. At the heart of the story is the disruption caused

by the bulldozers of a real estate company in 1992. At that time, north of the Prenestino Labicano district, just east of the centre of Rome and in the area of the former SNIA Viscosa textile factory, which was abandoned in the mid-1950s, excavation work was carried out for the construction of the underground car park of a future shopping centre. During this work, the bulldozers pierced the ground and intercepted the old Fosso della Marranella collector and the aquifer. Water gushed out of the subsoil here too, flooding the excavation site. The construction company used water pumps to discharge the rising water into the public sewer system, but the first heavy downpour flooded part of the surrounding district. Protests by residents and reports of irregularities in the permits, reported to the authorities by the residents themselves, brought the construction site to a halt. Since then, the site remained closed for a long time. In 2004, the area between the lake and the adjacent Via di Portonaccio was expropriated to extend the nearby Parco delle Energie, which opened in 1997. It was the presentation of another urbanisation project in 2014 that attracted the attention of residents and the Parco delle Energie Forum, established in 2008. Meanwhile, the lake had become overgrown and inhabited by various plant and animal species, necessitating protection. In 2015, a group of residents and local committees cut a hole in the fence to open up access to the lake and some of the surrounding area. They

named it *Lago Bullicante* after the nearby Via dell'Acqua Bullicante – *bullicante* referring to the water gushing from the ground, which was bubbling due to sulphurous gas emissions. In 2021, the Bullicante Lake area and the nearby Parco delle Energie were designated a Natural Monument by the Lazio Region. However, the private portion of the site (approximately 40%) has been granted a new building permit for the construction of a logistics hub (Do and Fassari, 2023).

Over time, these disruptions in Rome and Brussels have become home to a variety of species and human practices. According to ecologists (Battisti et al., 2017), it is a combination of time and action and inaction that makes passive ecological restoration possible. In the two urban lakes, guided tours and collective clean-up operations are organised, open workshops are held, beehives are installed and honey is produced, nature observation is practised, and surveys of animal and plant species are carried out. Cultural activities are also organised, such as open-air film screenings and book presentations (Cirillo and Wei, 2023).

The Marais Wiels Lake and Bullicante Lake are two inhabited disruptions that remain unrepaired. They are two urban wetlands resulting from failed land redevelopment projects. As well as being two brownfield sites of high ecological value due to abandonment, they are two 'failed' attempts to re-capitalise disused industrial sites. Above all, however, the two

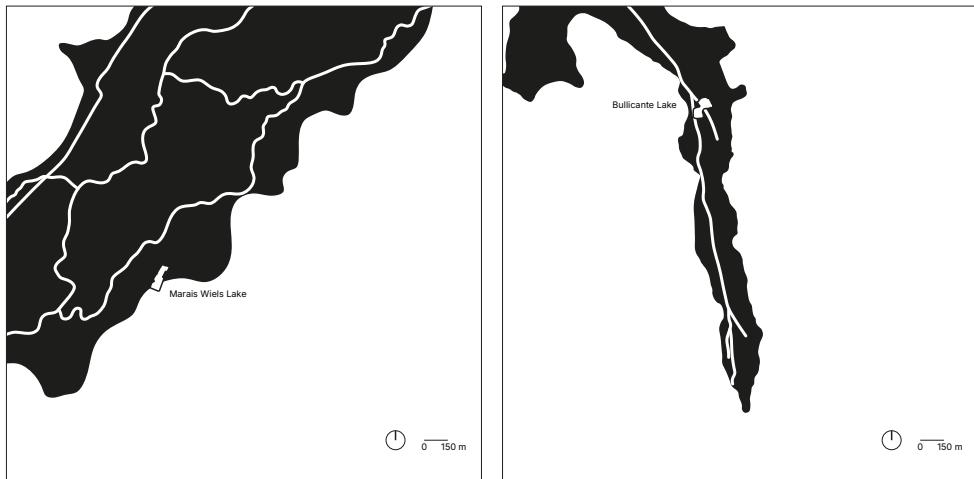
lakes are places where the water has regained ground by breaking through the cracks made by the bulldozers. The superimposition of historical maps of the pre-industrial development (Vichi and Coppola, 2025) shows that Marais Wiels Lake and Bullicante Lake are part of two watercourses (Fig. 3). In Brussels, the area of the lake is at the right margins of the floodplain of the Senne River, a marsh area where soil was often saturated with groundwater. In Rome, the plot was part of the riparian area of the Fosso della Marranella, therefore presumably prone to flooding. Before the rapid urban development of the last century, spring water fed the Fosso della Marranella, and this had been piped to the Aniene River since 1934. In both cases, the excavation work required to construct new building foundations and basements broke the soil layers that, decades earlier, had been created to contain aquifers and accommodate industrial warehouses. As mentioned above, this caused water to gush out and transform the excavations into urban lakes over time (*Ibid.*). The wet landscapes of the Marais Wiels Lake and the Bullicante Lake reconnect with underground water flows that urbanisation processes have tried to obliterate by installing drainage pipes and raising the ground level with fill soil. In both Brussels and Rome, disruption enables a reconnection with these more-than-human agencies. However, land speculation in the guise of repair, once again attempts to neglect them. Recently, in



**Left: Marias Wiels Lake located on the site of the former Wielemans-Ceuppens brewery in Forest.**  
**Right: Bullicante Lake on the site of the former SNIA Viscosa in the Prenestino Labicano district.**

Source: inspired by Iannizzotto and Delli Ponti (2025),  
based on OpenStreetMap and Google Maps.

Fig. 2



Left: superimposition of the Marias Wiels Lake on the Ferraris map, (Ferraris, n.77, 1777). Right: superimposition of the Bullicante Lake on the map of Rome (Roma. Foglio 150 della Carta d'Italia, IV.S.O. 1876). Black: floodplain. White lines: hydrography. I

Source: elaboration from Vichi and Coppola (2025)

Fig. 3

the face of repeated attempts by real estate developers and public institutions to fill in the lakes, reclaim the land and privatise it again, Marais Wiels Lake and Bullicante Lake have twinned, thanks to the efforts of researchers and activists who decided to intertwine their histories and support each other. This alliance of counter-narratives of European urban spaces amplifies the significance of these two urban disruptions. Through this twinning, Marais Wiels Lake and Bullicante Lake also embody green democracy, which Ghelfi and Papadopoulos (2022) describes as a combination of alternative forms of sociability and materiality, protest politics, and new institutional structures forming alliances.

In Brussels and Rome, urban nature emerges from a combination of seemingly contradictory elements, such as speculation, instability, passivity, indifference, activism and care. Today, Marais Wiels Lake and Bullicante Lake are socio-ecological pools involving human and more-than-human terrestrial communities (Wei, 2025, quoting Gutwirth and Tanas, 2021). However, despite being surrounded by vegetation, the sign of unfinished construction sites persists at these two lakes, which emerged from a cycle of earth fills, excavation and resurgent groundwater. While the people who use and manage these spaces have envisaged certain areas being used more frequently than others, there is still an element of uncertainty surrounding their function and, overall, their

infrastructure remains rather weak. Moreover, in both cases, there is an ongoing conflict regarding the present and future of the area, which perpetuates the disruption and the inability to establish a status quo or finalise a given expectation. A suspension arises primarily from the convergence of attempts at 'repair' through land speculation, the ambiguous attitudes of administrations and the struggles of activists. However, it is also a disruptive condition that occurs due to internal conflicts within the groups that frequent the two lakes and have diametrically opposed visions of what the lakes should be. As Do and Fassari (2023) point out, in the Bullicante Lake, the *cradle of abandonment*, and this the idea of preserving auto-rewilding, clashes with the concept of transforming the lake into a park for use by humans and more-than-humans alike, following appropriate soil treatment. According to Wei (2025), in the Marais Wiels Lake, the issue is not so much about allocating space for specific subjects and uses. Rather, it is about excluding the logics of domination that underpin a social order (*Ibid.*). It is about delimiting an area of counter-power with respect to dominant intensive interventionism (Devictor, 2021). In other words, it is about deliberately occupying a portion of territory and time in different ways and connecting with its more-than-human inhabitants. It is about inhabiting a disruption and the ruins of the urbanisation, with all its uncertainty.

### **Inhabiting the disruption as a form of social learning**

In the urban lakes of Brussels and Rome, the cracks left by the excavation work of the bulldozers have been left open, and one can still see inside. The stratigraphies are still visible, as well as the underground infrastructure: the old stream collector in Rome, but also the fill dirt, the river floodplains and the groundwater in Brussels and Rome. The two breaks still bear the marks of the ongoing forces at play: the resurgence of fluctuating groundwater, the repeated attempts to extract or bury it through new real estate projects, and the resistance of residents and activists.

When viewed through the lens of resilience, it appears that Marais Wiels Lake and Bullicante Lake are enduring chronic disruption, experiencing only slow and weak levels of reorganisation. It is almost as if the urban disruption is still unfolding, with, as Holling and Gunderson (2002) would say, only space for pioneer species – both human and more-than-human – that are not yet dominant. The two areas remain permeated by uncertainty caused by disturbances that are both external and internal to the lakes. They are not just vacant lots or empty spaces, but rather places where disruption has not been repaired. Here, it is not just a matter of the disappearance of an economy or a use. Rather, there is a clash of forces, both human and more-than-human, with turbulent waters at the forefront. These troubled waters

have become a breeding ground for human conflict and confrontation regarding how to think about the present and the future.

#### *Disruption as lack of equilibrium*

According to Davoudi (2012), the responses planned by institutions in the event of disruption are geared towards restoring equilibrium. However, in Marais Wiels Lake and Bullicante Lake, the disturbances that led to the disruption are manifold and it is their convergence and perpetuation over time that caused and continue to cause the disruption. A series of blockages have allowed these places to become sites of accumulation of tensions, issues, living beings, struggles, but a new equilibrium or normativity in which to live has yet to be reached. As previously said, these disturbances range from the burial and urbanisation of a floodplain area and the extractive force of a new, more voracious round of urbanisation seeking depth, to the resurgent power of water. These forces are added to by human action, which creates passages, organises learning activities, consults documents and questions the authorities, as well as designs contrasting management scenarios and approaches. Human activity is characterised by support, collaboration, dialogue as much as conflict (Do and Fassari, 2023). Unlike engineering resilience, there is no bounce-back repair, and even the motion to bounce forward, as in ecological resilience, remains inefficient.

Paradoxically, this state of being stuck is the true transformative state, perhaps an expression of evolutionary resilience. After all, this is the quintessence of evolutionary resilience, alias “its rejection of equilibrium, emphasis on inherent uncertainty and discontinuities” (Davoudi, 2012, pp. 306).

#### *Disruption as not settling*

In systems thinking, energy becomes available through the processing of matter based on experience and information sharing (de Roo, 2017). Actors organise themselves to optimise information sharing and enhance their capacity to generate energy: “this is a settling society in action” (Ibid., pp. 12). In this regard, the cases of Marais Wiels Lake and Bullicante Lake suggest that living with disruption means living with uncertainty, which delays the prospect of growth and thus resists institutional organisation and the capacity to generate and extract energy. It means maintaining a high level of information sharing, yet without any certainty about the future. Here, exchanging information remains unproductive at least in terms of the ability to organise material through work in order to extract and produce energy from the context.

#### *Disruption to unlearn and relearn*

Inhabiting the disruption does not necessarily mean experiencing the disruptive moment when forces are unleashed. Rather, it could mean experiencing the outcomes: the legacy of ruins and fragments. Oxymoronically, it

means inhabiting a space that resists the process of settling. A space that remains difficult to navigate. A space that has a pronounced topography or it remains arid and unproductive. The ruins of disruption are what Matteo Messchieri (2018, pp. 15) calls “a mirror of the here and now”, resistant to rooting, recognition and recovery. They compose a space in which identity dynamics are emptied and the landscape is reset to a pre-cultural condition. The same is also true, to a certain extent, of the two lakes. However, Cirillo and Wei (2023) caution against the institutionalisation of forms of life and inhabitation in their discussion of the future of the two lakes. Wei (2025) recognises that the regional authority's takeover of lake maintenance in Marais Wiels is imposing a series of rules of use and management, thereby eroding some of the coexistence practices that had developed. But despite attempts at institutionalisation, inhabiting here remains informal because there is no normativity to which one must respond. In the ruins of urban disruption, habits, patterns and traditions are broken. While the disruption limits living in terms of habitus, custom and practices (Agamben, 2019), it also prevents the establishment of new norms. Disruption enables active living instead, which Ivan Illich (1988, pp. 22) defines as the ability to leave one's mark. At least until now, the signs of habitation are not indelible marks that inhibit overwriting and must be protected by creating a new covering surface. They are instead signs among signs, writings among the diverse writings of a multispecies

assemblage (see Do and Fassari, 2023). Disruption is a field in which new relationships and forms of collective imagination can be explored, but without the realisation of new truths, only relationships that are open to continuous mutation. Remaining in the disruption means staying in a co-agent condition. In this sense, the words of Isabelle Stengers (2021) resonate: according to her, there is nothing to invent, only a reality to rediscover and work with. The two lakes are spaces for social innovation, where new rituals and relationships can flourish (Cirillo and Wei, 2023).<sup>9</sup> Disruption is interpreted as a space for collective reflection and learning, a space for the “continuous social intelligence gathering” advocated by studies on evolutionary resilience for climate adaptation planning (Davoudi et al., 2013, pp. 320). An opportunity is offered to the project by inhabiting urban disruption, to get inside things, to accompany rather than guide and dominate rather than be an exact formulation before and after the disruptive event. While not without paradoxes, disruption, with its divergent forces, is a space of suspension, reconnection and rewriting that is free from the norm as well as rebound and return.

#### *Disruption to experience*

In these chronic slow burns, the preparedness that Davoudi et al. (2013) call for is put into practice. Learning capacity is realised through direct experience of disruption rather than through exploring future scenarios in which disruption plays a central role. As the

examples of Marais Wiels Lake and Bullicante Lake show, a disrupted space provides an environment in which to practise shifting from a *control over* to a *responding to* attitude (to paraphrase de Roo, 2017, pp. 12). There, a state of chaos persists, reminiscent of the idea that in evolutionary resilience there is “no proportional or linear relationship between the cause and the effects” (Davoudi, 2012, pp. 302). The delay in repair or replacement work means that, in the two lakes, it is possible to get close to, contemplate and experience what de Roo (2017, pp. 18) calls “the extreme forces that have pushed the system off track”. Both Marais Wiels Lake and Bullicante Lake exhibit characteristics that align more closely with the forces that disturbed these areas. There, the aquifer can fluctuate more freely as it is no longer buried. It is possible to reconnect with the local hydrography there, understand the presence of groundwater and recognise its powerful agency. According to the principles of systems thinking, the context could be said to dominate; in this case, the context is the floodplain in Brussels and the riparian zone in Rome. At Marais Wiels Lake and Bullicante Lake, the flesh is exposed. More-than-human forces are at work, perhaps more intelligibly than in other widespread abandoned, post-use areas of the urban landscape. They are groundwater and the riparian environment that continues to resist. It is there that Gaia breathes.

## Notes

<sup>1</sup> A recent and well-known application of resilience occurred in response to the disruptive consequences of the Coronavirus pandemic. The conventions and practices that were traditionally endorsed by numerous spatial configurations have been suspended. In response, the EU launched the Recovery Plan Next Generation EU, which aims to make Europe "greener, more digital and more resilient". At the single EU state level, this resulted in policies where resilience is again the core concept on the base of which to implement a large number of spatial interventions.

<sup>2</sup> Smith Aldrich (2020, pp. 2) talks about "amplified disruption on just about every front – political, economic, technological, environmental, and societal". She adds that "there has always been, and always will be, disruption. However, disruption in the modern world is amplified by a 24/7 news cycle and the content and engagement-hungry social media landscape" (*Ibid.*). The daily bombardment of press reports and television scenes amplifies the disruption, which ranges from lost and smashed infrastructure to mega-fires (Cottle, 2023).

<sup>3</sup> A major event may have negligible consequences and not be perceived as dramatic, while a minor local disruption could prove fatal. The former may correspond to a social event, the latter to a more personal event, or vice versa. Furthermore, disruptions can be local and have supra-local consequences, or planetary with cross-cutting or different consequences depending on the context. Major, trivial, dramatic, uninfluential, societal, personal, planetary and local are just some of the possible types. This article does not focus on building a taxonomy of urban disruptions, but rather on opening up a working perspective on disruption that would still require, later on, the elaboration of a taxonomy and the evaluation of the working strategies.

<sup>4</sup> Kaika and Swyngedouw (2000) reminds that infrastructure systems are often physically and metaphorically veiled beneath the surface of urban life. Graham and Thrift (2007, pp. 10-11) also say that "the common reliance on teleological and deterministic notions, and master narratives [...] add to a sense of the infrastructural palimpsests sustaining cities as being homogeneous, utterly internally coherent and

singular machinic systems that are somehow installed en masse as if by magic (Stivers, 1999) – to function automatically, and purely, until they are replaced as a whole by some new technoscientific order."

<sup>5</sup> This ranges from the "natural" events such as extreme weather, floods, earthquakes and tsunamis, up to more "social" events such as wars, terrorist attacks, sabotage, network theft and technical malfunctions.

<sup>6</sup> According to (de Roo 2017, pp. 10), there is not such a strong separation between post and pre-events and "purposeful actions and autonomous change cannot always be seen as independent from each other."

<sup>7</sup> The master thesis was supervised by the author and co-supervision from Allan Wei and Riccardo Ruggeri.

<sup>8</sup> The word *marais* is French for marsh or wetland.

<sup>9</sup> This is the trajectory of artistic practice that the Stalker collective insists on at Bullicante Lake (Cirillo and Wei, 2023).

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