We're Going Down by, Down by, the Muddy River

Federico Broggini (1), Marco Ranzato (2), Andrea Bortolotti (3), Davide Cauciello (4) - Latitude Platform for Urban Research and Design

Abstract

This visual essay reports on collaborative research conducted by Latitude Platform on the cellars of houses that pixelate a large part of the Brussels underground. The cellars of Saint Antoine, one of the poorest and most densely populated neighbourhoods in Brussels, are inhabited spaces tormented by the persistent issue of water intrusion. This includes problems such as soil dampness, rising groundwater levels, sewer backups, street or garden runoff, and the passage of an underground stream. Photographs, micro-stories, maps and drawings reveal the geography of a condition whose causes and responsibilities are manifold. The remedies for this structural problem must be sought by examining the engagement of different human and non-human bodies at multiple scales: from the individual resident's basement to public structural interventions at regional and inter-regional levels, while also considering the essential collaborations that can be fostered. Meanwhile, the inhabitants have embarked on continuous acts of repair, care, and adaptation: great labours and unconventional acts of continuous "building" that enable the inhabitation of fragility.

Affiliation:
(1), (2), Università degli Studi RomaTre, Dipartimento di Architettura
(3) Politecnico di Milano, Dipartimento di Architettura e Studi Urbani
(4) Indipendent

Contacts:
(1) f [dot] broggini [at] latitude [hyphen] platform [dot] eu
(2) m [dot] ranzato [at] latitude [hyphen] platform [dot] eu
(3) a [dot] bortolotti [at] latitude [hyphen] platform [dot] eu
(4) d [dot] cauciello [at] latitude [hyphen] platform [dot] eu

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Fig. 1 - P's cellar is constantly flooded with at least 15 centimeters of odorless water that flows into the basement through a small crack in the wall. Photo by Bruno Dias Ventura.

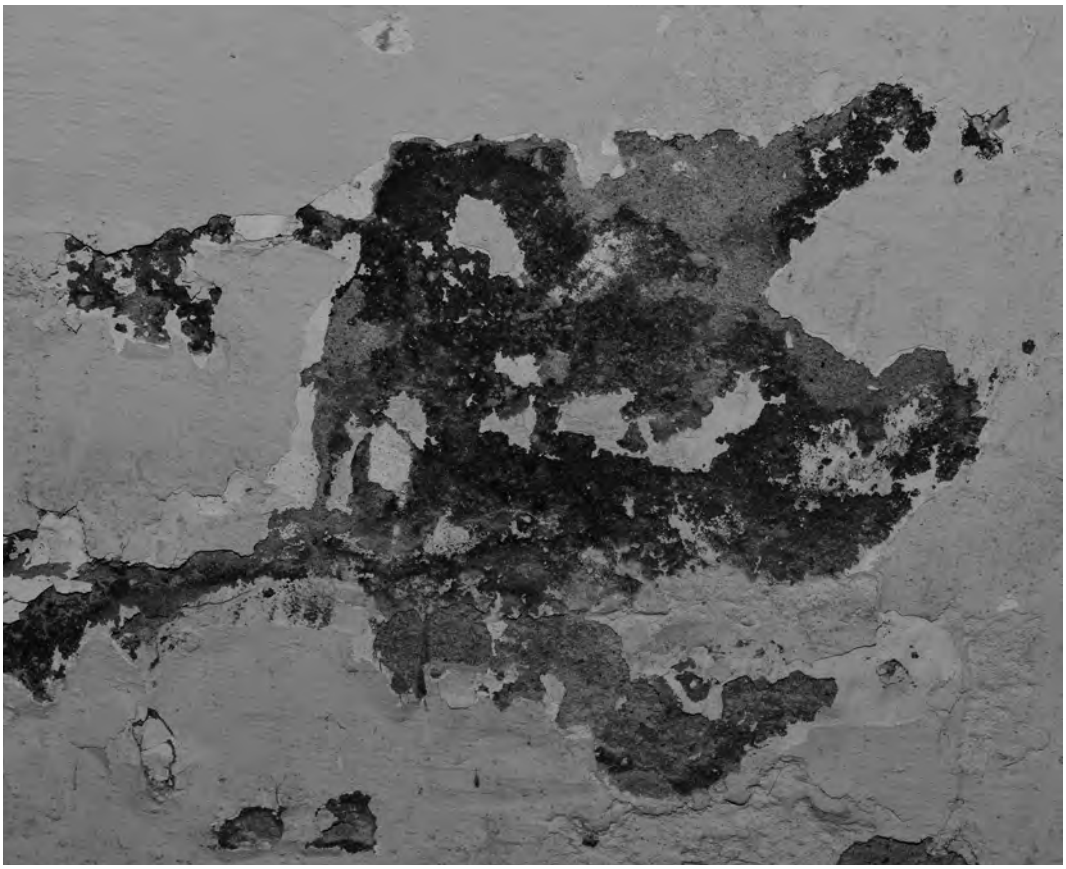


Fig. 2 - The investigation highlighted the widespread traces left by the presence of water and humidity in domestic spaces. Photo by Bruno Dias Ventura.

Fig. 3 - In response to floods, residents have installed devices in their cellars, aimed at blocking water entry, minimizing exposure, or facilitating its evacuation. Photo by Bruno Dias Ventura.

Saint Antoine wet cellars

Saint Antoine, one of the most densely populated neighbourhoods in the entire Brussels-Capital Region in Belgium (IBSA, 2019), is particularly vulnerable because it is extensively exposed to the risk of flooding. Here, the water does not spare the cellars (Fig. 1), which are almost constantly confronted with damp ground, rising groundwater levels, sewerage backups, street or garden run-off, and so on. The walls and floors of the basement seem to be transformed by the water (Fig. 2): the tiles rise, bend, swell, peel, flake off; the wall gets soaked; the inspection vaults allow the water to rise inside; the window openings along the perimeter walls, the window wells and the doors on the partitions allow the water to enter; the broken pipes drip. Dwellers have adopted a series of measures and countermeasures to counter seepage or to adapt to flooding (Fig. 3). They work together to create an ecology in which soil, groundwater, house walls, socio-technical devices, and human activity form an interconnected whole. This is what emerges from Caves, a study conducted by Latitude Platform on flood-related fragility in the municipality of Forest, of which Saint-Antoine is a part (Aragone et al., 2020).

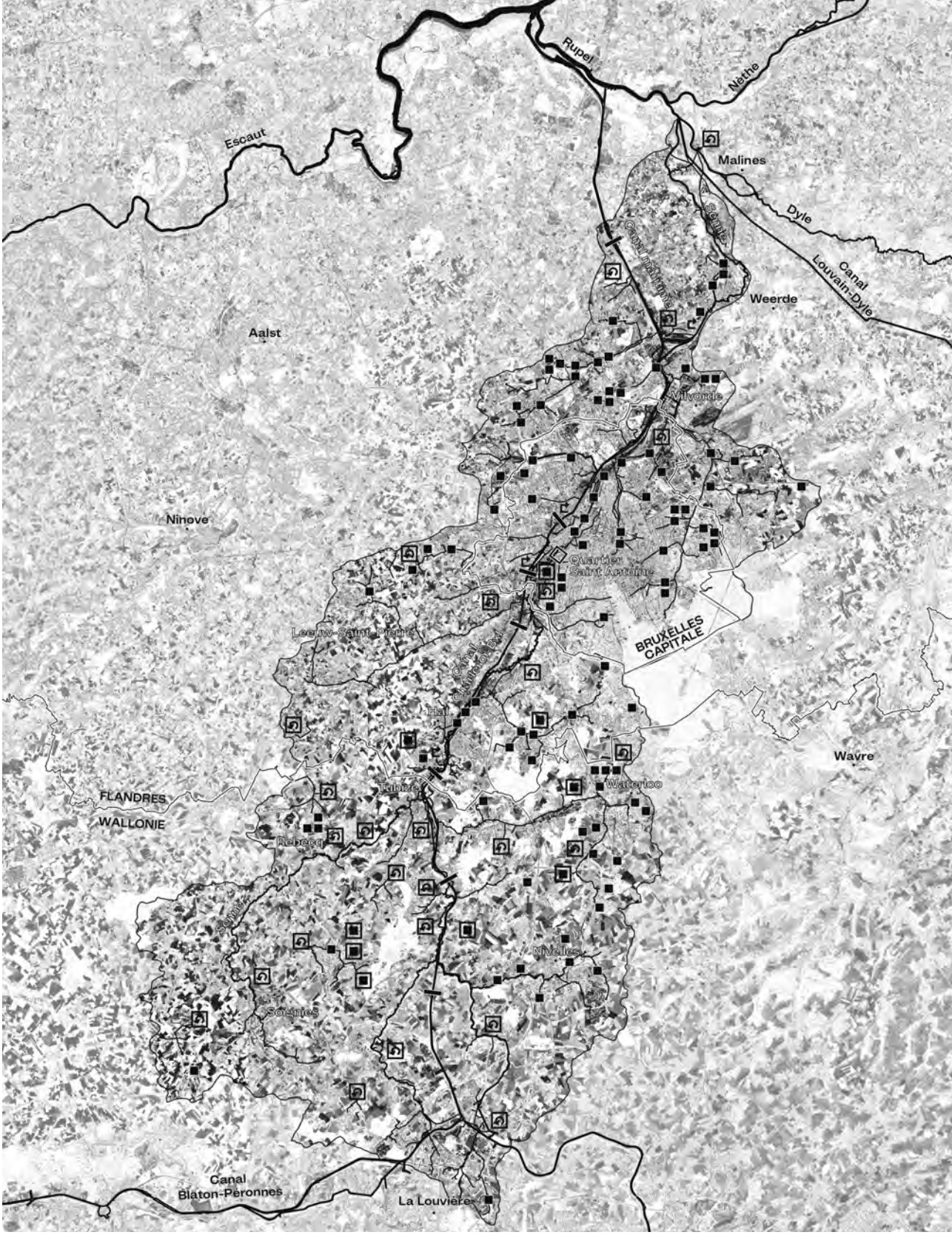
Fig. 4 - The Saint Antoine's cellars in the former Senne's alluvial plains. Drawing by Latitude Platform for Urban Research and Design.

Fig. 5 - Along the watershed hydraulic machines control water.
Photo by Bruno Dias Ventura.

Fig. 6 - The Senne watershed as hydraulic machine. The squares are stormwater basins; the squares with outline are temporary immersion zones; the circular arrows are wastewater treatment plants; the rectangular arrows are storm overflows; the thick lines are locks.
Drawing by Latitude Platform for Urban Research and Design.

Urbanisation of marshes

Some 250 years ago, Saint Antoine was a marshland, the floodplain of the Senne, the main river running through the city of Brussels. The soil was generally wet and the water table was always high. When it flooded, the Senne naturally overflowed its banks for a few hundred metres before slowly receding. This was just a riverine landscape, and cultivated fields were more likely to be found in the higher parts of the valley. Today, if we were to cut through the ground at a depth of about 2 metres, the Saint Antoine district would look like a landscape of damp ground punctured by cellars (Fig. 4). These cavities would extend all the way around, disappearing only where the railway lines, near the Senne river, occupy the upper part of the land. Buried in the mud, the cellars stand like fragile bodies in an inhospitable environment, perpetually battling against water and the damp landscape. In fact, the cellar is an essential part of the Maison Urbaine Bruxelloise (Burniat, 2012), the typical urban dwelling that appears hundreds of thousands of times across the Brussels landscape. Each one is slightly different, whether located at the top, where the soil is often drier, or at the bottom of the valley, where the soil is wetter.


Rupel
Nethe
Escaut
Malines
Dyle
Canal Louvain-Dyle
Weerde
Aalst
Vilvorde
Ninove
Quartier Saint Antoine
BRUXELLES CAPITALE
Wavre
Waterloo
FLANDRES
WALLONIE
Rebecq
Nivelles
Canal Blaton-Péronnes
La Louvière

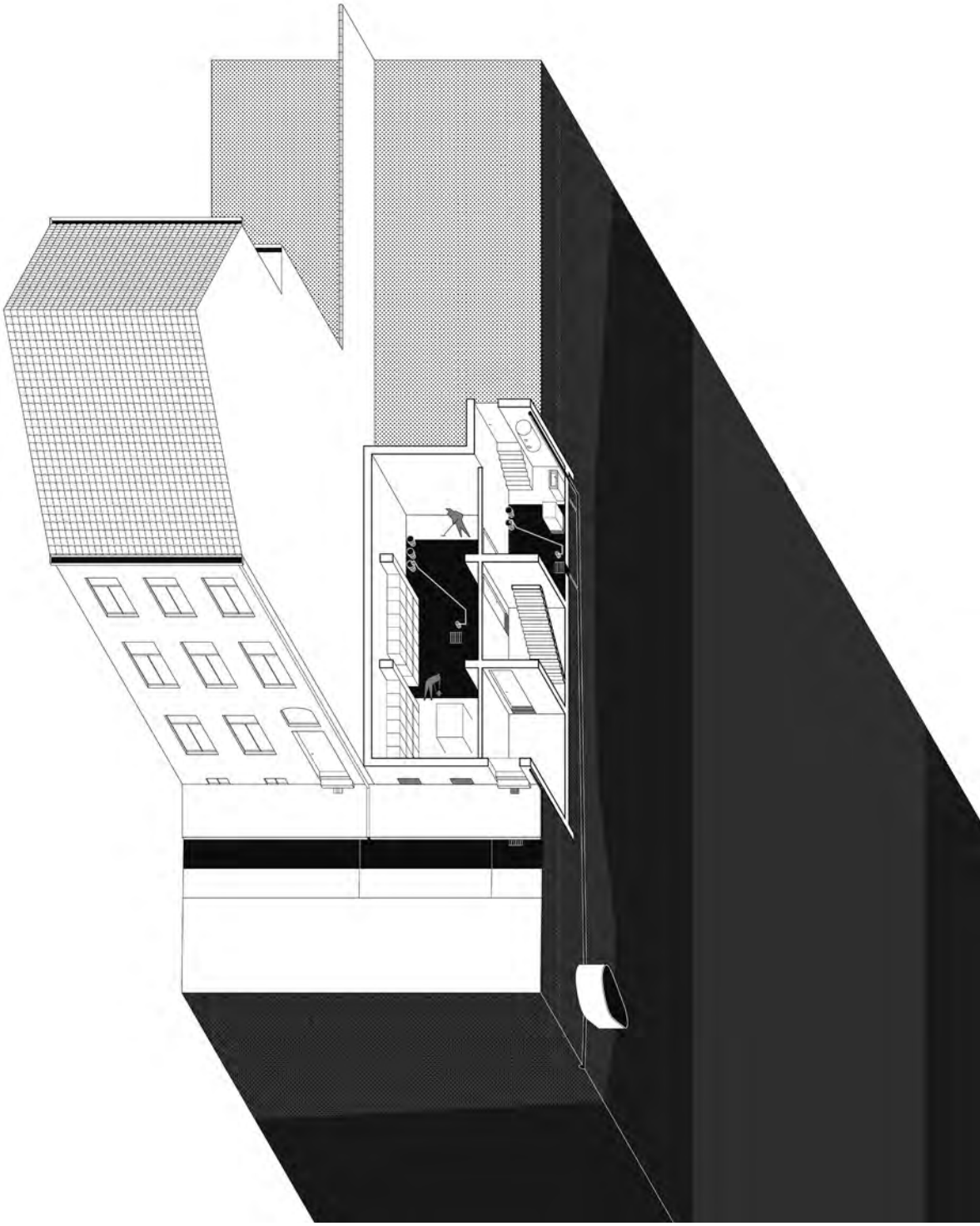


Fig. 7: Soil moisture, sewer backups, rainwater runoff from the street, garden, or roof, the rise of the water table up to the level of the basements, or even the passage of a buried stream. All of these events affect the cellars. Drawing by Latitude Platform for Urban Research and Design.

Even machines fail

This basic house type, which crystallised in the 19th century as an expression of the lifestyle of the Brussels bourgeoisie, became widespread as the modernisation of urban drainage systems became more pervasive and substantial. Bypasses, concrete embankments, a collector or a treatment plant: these by-products of the modernisation process have enabled the growing demands for transporting goods and developing land for agriculture and urbanisation. By removing, collecting or treating water, this infrastructure acts like hinges, controlling the transfer of flows from one point to another and from one body of water to another (Fig. 5). Despite their majesty, strength and sometimes advanced technology, these systems are not immune to failure. The events that took place in the Saint Antoine neighborhood are telling. Despite the numerous water control systems in the surrounding area and the river catchment, claiming to live in a marshy area or its subsoil seems ambitious. This remains true even with the continuous advancements in construction techniques (Fig. 6).

The labour of building every time

Historically, the cellar housed the pantry: its stable microclimate, made possible by its underground location, and its humidity, guaranteed by the contact of the walls and the floor with the earth, have played a strategic role, particularly for the preservation of food (Pien, Thijs, 2009). Today, due to the erosion of the traditional nuclear family model, the diversification of lifestyles, and the high costs associated with buying, selling, and renting properties, the Maison Urbaine Bruxelloise is often larger than necessary. The cellar is frequently utilized for various purposes: not only individual or collective storage attached to residential or commercial units, but also the living space for multi-storey apartments or an apartment itself (Fig. 7).

Although a significant number of residents in the Saint Antoine neighbourhood have their feet in the water, they often do not stand by and watch. Many have taken up the struggle to safeguard themselves and their living space. Paradoxically, at a time when everyone is being asked to take care of essential urban resources, it could be argued that the fragile and challenging equilibrium affecting the Saint Antoine neighbourhood already involves a strong, constant and demanding interaction between people and water characterised by both individual and collective maintenance, care and inventiveness. So many initiatives have been taken that today the unnoticed and unspoken space of the cellar houses a large portfolio of devices all aimed at managing humidity and flooding (Fig. 8). A series of countermeasures is employed to protect the cellar and its surroundings from water intrusion. These elements attempt to block the entrance of water, reduce exposure, or effectively eliminate it. Window panels prevent rainwater from entering from the streets and gardens, while barriers limit water movement from room to room. Small depressions in the floor are designed to collect spills from walls and pipes. Pedestals elevate valuable items that are not waterproof away from potential water damage. Dehumidifiers extract moisture from the air, and pumps and pipes direct any water that does enter to the outside.

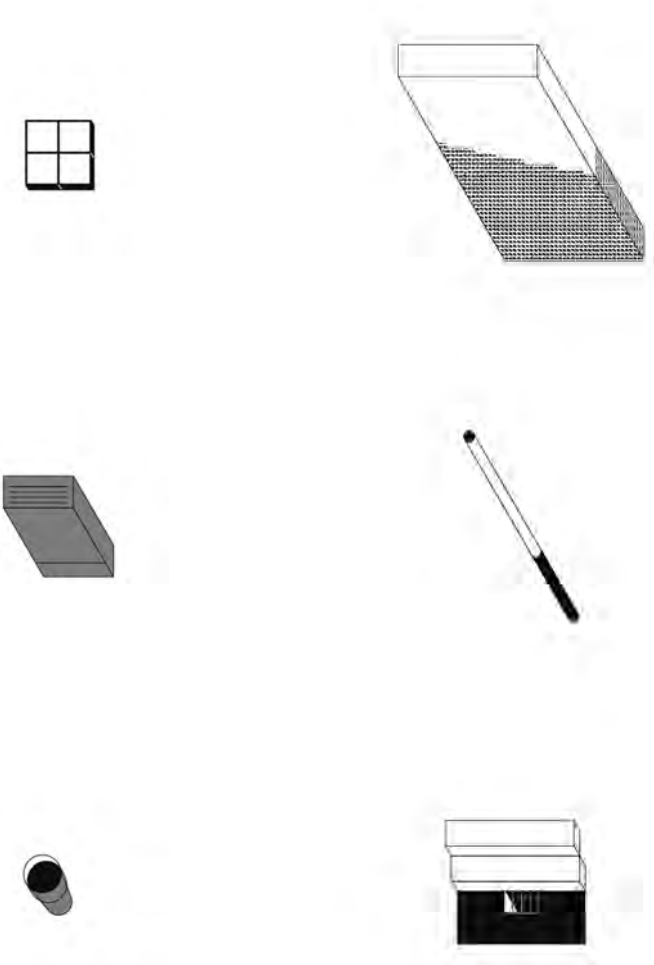
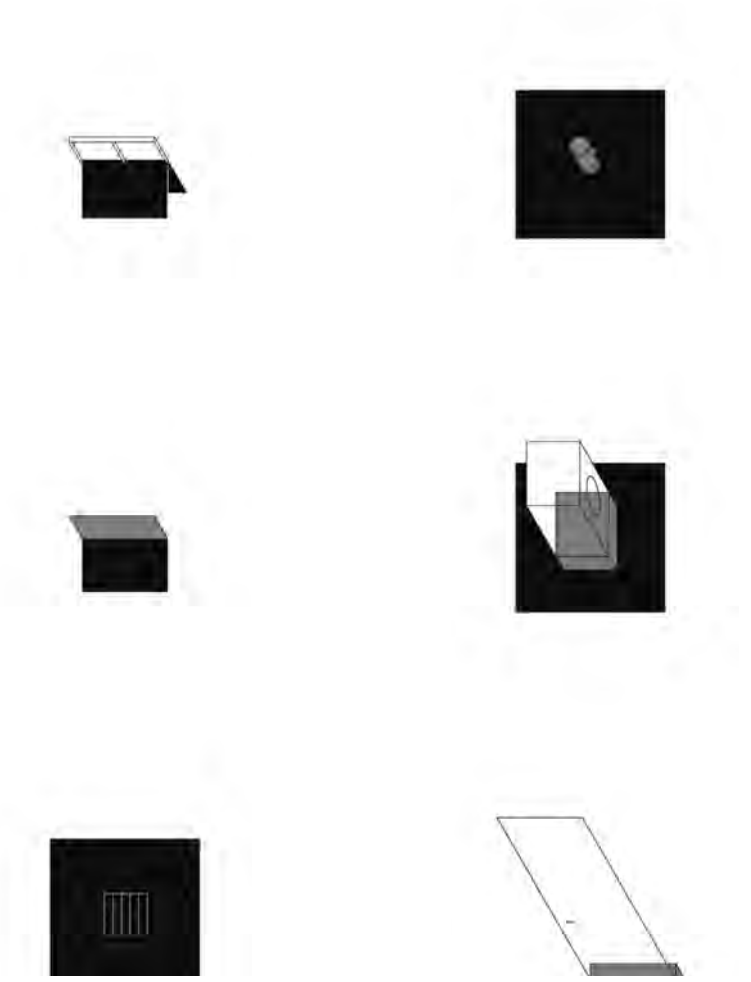


Fig. 8: Building with water results in a series of small and repeated installations made by the residents to deal with its advance. From left to right on page 42: tiles, partition wall, dehumidifier, pipe, bucket, ventilation grate. On page 43: basement window, pump, plank, plinth, inspection chamber, door tread. Drawing by Latitude Platform for Urban Research and Design.

What the inhabitants of this neighbourhood do every day, every month, every time it rains, is "building," however difficult and ephemeral it may be. Their work is a continuous, recursive act of repair, maintenance, adaptation. They inhabit a structural fragility; they stay with the trouble (Haraway, 2016); they dwell an urban disruption (Graham, 2011); they constantly negotiate space with water.

Unfortunately, finding solutions to the structural problems that affect the households of the Saint-Antoine lowlands, but also a much larger part of the Brussels urban landscape, remains rather opaque. The remedies for this structural problem must be sought by examining the engagement of different human and non-human bodies at multiple scales: from the individual resident's basement to public structural interventions at regional and interregional levels, while also considering the essential collaborations that can be fostered between residents of the same urban block, to reach higher levels of solidarity. Meanwhile, the inhabitants have embarked on continuous acts of repair, care, and adaptation: great labours and unconventional acts of continuous "building" that enable inhabiting fragility.



What happens in the cellar of Saint Antoine subverts the very idea of "building," understood as a problem-solving operation, through propositional (and possibly also destructive) actions. Instead, it embodies the reality of coexisting with fragility.

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