14. Spotting tensions in urban greening experiments
Insights from Barcelona

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Introduction

Widely renowned for being a vibrant, pleasant city and a popular tourist destination, Barcelona also faces some of the major socioecological urgencies of contemporary urban areas. With a population density between approximately 400 and 1,000 inhabitants per hectare in the metropolitan core (per the Municipality of Barcelona) and an average of 350,000 vehicles crossing key portions of the urban centre every day (per the city's *Barcelona Metròpolis* publication), air pollution levels in Barcelona have frequently breached the standards established by EU air quality directives. Moreover, due to traffic and other factors, the city has also exceeded the noise thresholds established by the World Health Organization (WHO) (Council of the EU, 2024; per the Municipality of Barcelona). Generating tangible repercussions on the health and well-being of urban inhabitants, these problems are exacerbated by further ecological challenges, in particular those related to droughts, high temperatures, and scarcity of green areas in the city. In fact, as urban authorities point out, at present, Barcelona's metropolitan core – called the *Eixample* in Catalan, or *Ensanche* in Castilian – has an average of 2.01 square metres of green space per person, far below the 6.6 square metres recommended by the WHO (Ajuntament de Barcelona and Barcelona Regional, 2023). Recognizing these problems and linking local urgencies with global challenges, the administration has recently acknowledged the reality of a climate emergency that 'gives us little margin of time to act', and emphasised the need for urgent, drastic, and effective measures to be implemented (Ajuntament de Barcelona, 2020: 4).

Clearly, the above issues raise important urban future-making challenges shared by many other cities in Europe and elsewhere. These challenges relate to how actors – including built environment professionals – take the initiative in tackling key emergencies; what experimental strategies and tactics can be explored, and which turn out to be effective; and, ultimately, what model of the city is desirable and should be pursued (Guy and Marvin, 1999). We can argue that the city of Barcelona, and especially its past administration run by the progressive (socio)political movement Barcelona en Comú, has taken these challenges seriously (Blanco et al., 2020; Sareen and Waagsaether, 2023). In fact, led by the social activist Ada Colau, who served as mayor of Barcelona from 2015 to 2023, Barcelona en Comú has put the socioecological emergency on the political agenda not only discursively but also through concrete interventions implemented in the city in an experimental way. These experiments aim to effect eco-socialist policies of reappropriation of the commons, reconquering of public space, and provisioning of fair access to green spaces by marginalized citizens (Ajuntament de Barcelona and Barcelona Regional, 2023; Pradel-Miquel, 2024).

It is precisely in this context that the recent reawakening of Superblock and green axis implementations in Barcelona should be situated. In general, Superblocks and green axes are public space interventions in urban neighbourhoods aiming to limit the circulation of private vehicles and to enhance public space and green infrastructures for pedestrians and other users (Magrinyà et al., 2023). The idea of implementing Superblocks (*Superilles* in Catalan) is not an invention of Barcelona en Comú; it has been part of the urban planning history of Barcelona since the development of the Ildefons Cerdà plan for the Eixample in the 19th century. Yet, it is only recently that this idea has been experimented with in a vigorous way, through a program that aims to accelerate and expand Superblocks and green axes systematically into the city, particularly addressing the highly polluted and severely congested metropolitan core.

Framing Superblock and green axis initiatives as urban greening experiments, this chapter seeks to unravel what happens when translating a transformative idea into a concrete and potentially disruptive urban intervention. In particular, the chapter focuses on contradictions and tensions experienced by actors when testing these experiments on the ground and aiming to expand them into the urban fabric (Honey-Rosés, 2023). While revealing underlying dynamics and structural challenges that go beyond the particular experiment (Sengers et al., 2021), tensions can also open up opportunities to exercise transformative agency. To theoretically conceptualize these aspects, the following

section outlines literature on urban experimentation and experimental governance, particularly focusing on scholarly contributions that highlight conflictual dynamics in urban experiments (Savini and Bertolini, 2019; Torrens and von Wirth, 2021; Sierhuis et al., 2024). The subsequent section then shows how conflicts can be productively conceptualized as tensions that can lead actors not necessarily to failures and dead ends, but also to possibilities to work out adaptive solutions and envision alternative courses of action. After characterizing the Superblock and green axis initiatives as urban greening experiments, the three empirical sections of this chapter identify and illustrate three distinct triggers of tensions and ways of dealing with such tensions through precise examples of Superblock and green axis implementations in Barcelona. The concluding section highlights lessons learned and reflects on key conditions that contribute to making such experiments either more or less transformative.

Urban (greening) experiments: From collaborations to conflicts

Urban experiments can be defined as temporally and spatially bounded initiatives testing new projects, policies, or practices in and for the built environment while engaging with forms of experimental governance (Castán Broto and Bulkeley, 2013a; Monstadt et al., 2022). Greening experiments, ranging from bottom-up actions such as guerrilla gardening, to transition niches in various fields (Feola and Nunes, 2014), to horizontal frameworks such as Urban Living Laboratories (Bulkeley et al., 2018), up to top-down initiatives like urban climate plans (Bulkeley et al., 2013), seek to address major socioecological urgencies. Particularly when performing specific interventions in urban areas, experimental initiatives often hold the promise of engendering more systemic and impactful transformations beyond specific projects (Sengers et al., 2021).

Several studies on urban experimentation tend to associate experiments with the idea of collaboration or co-production. This perspective considers experiments as safe spaces where actors as diverse as administrative officials, private agents, research institutions, grassroots initiatives, and citizen-users come together to co-design and co-test urban greening solutions (Karvonen and van Heur, 2014; Nesti, 2018). Recalling some key principles of communicative planning (Innes, 1995; Healey, 2012), this perspective conveys an incremental approach to change, based on dialogue and consensus-building. According to this view, as collaborative dynamics unfold, open-experimentation platforms become capable of reducing power imbalances among actors and allow-

ing for shared-knowledge generation (Puerari et al., 2018). Such a horizontal and collaborative approach would constitute the basis for co-shaping new knowledge, values, and practices that can, potentially, affect wider policy systems or institutional structures, leading to socio-institutional change.

Counteracting the idea of an incremental path towards change based on collaborative practices, however, are critical strands of literature that highlight how experimental initiatives are, in fact, not free from conflicts (Savini and Bertolini, 2019; Sierhuis et al., 2024). In particular, connecting experiments with issues of power and politics, some scholarly contributions recognize how potentially progressive initiatives are often doomed to failure as they can be assimilated and co-opted by hegemonic power structures, thus losing their innovative charge and radically diminishing their transformative potential (Karvonen et al., 2014; Savini and Bertolini, 2019). Savini and Bertolini provide a clear example of these dynamics by describing experiments of temporary housing occupations in Amsterdam. The authors show how, failing to generate radically transformative outcomes, squatting experiments in Amsterdam resulted in processes of marginalization of these alternatives by dominant power structures (Savini and Bertolini, 2019: 841). After all, several studies show that, when it comes to real-life testing and scaling, experiments in critical policy fields such as alternative mobility or urban greening are inherently conflictual (Anguelovski et al., 2018; Bertolini, 2020). Particularly mobility experiments aiming to implement radical alternatives such as low-emission zones, congestion charges, new tramways, or slow mobility systems can lead to harsh conflicts and unproductive polarization dynamics among actors (see Günay in this volume). These hurdles occur because experiments counteract established values, habits, and ways of 'doing' that are typical of car-friendly urban users. Furthermore, experiments create antagonism because many power structures are deeply rooted in the dominance of private vehicle use. Acknowledging these dynamics, some authors observe that, when it comes to assessing the actual impact of experimental initiatives, there is little evidence suggesting that 'experiments create institutional change outside their area of authority' (Madsen and Hansen, 2018: 293).

In synthesis, the manifestation of conflicts demonstrates how power imbalances and agonistic logics do exist, as actors, organizations, and institutions hold divergent values and conflictive interests (Savini and Bertolini, 2019; Sierhuis et al., 2024). We could then conclude that although performing experiments helps to align actors towards shared purposes, when it comes to ground-

ing projects in concrete physical or political arenas, conflictual dynamics can occur that leave the transformative stance of these initiatives deeply uncertain.

Reframing conflicts in urban greening experiments as 'tensions'

To shed light on how conflicts are experienced, addressed, and variably negotiated by actors, including built environment professionals, in this chapter I propose a conceptualization of conflictual interactions as 'tensions' occurring between opposing or contradictory dynamics in place. Here the basic assumption is that, on the one hand, the intention to implement a socioecologically transformative experiment pushes actors to unite towards a common objective, building networks and mobilizing resources accordingly (Van den Broeck et al., 2019). Yet, on the other hand, tensions are likely to pop up, revealing (sometimes deep) frictions between diverse actors' logics, underlying power dynamics, and structural challenges of the city. These dynamics and challenges lie behind and go beyond a given experiment.

When looking at particular types of greening experiments, tensions between contradictory logics strikingly emerge. In many of these cases, the key contradiction generating tensions lies between the ecological and social dimensions of urban sustainability (Agyeman et al., 2016; Kotsila et al., 2023). Illuminating those aspects, literature on urban greening and green gentrification has shown how, without addressing more systemic and structural problems, ecologically driven initiatives can reproduce or further exacerbate socially unjust dynamics (Anguelovski et al., 2019). These dynamics relate to factors such as unequal access to green amenities across socio-economic groups, the generation of areas of privilege and exclusivity, the socio-economic and spatial marginalization of disadvantaged citizens, and similar. Thus constituting a source of tensions, the socioecological contradiction in question takes place as the greening project, or experiment, inevitably intertwines with wider economic processes and gentrification dynamics going on in the city (Anguelovski et al., 2018). Beyond this particular example, as experiments unfold in place-based realities, different and often contradictory values, logics, and dynamics hybridize with one another, generating tensions that can lead to diverse outcomes.

Taking the above elements into account, the aim of this study is not only to spot sources of tensions, but also to observe how actors, either more or less effectively, relate to such tensions in specific initiatives. Indeed, as tensions

become manifest in place-based experiments, actors are summoned to devise adapted modalities to tackle them. We could argue that, while tensions can lead to blockages, failures or suboptimal outcomes, identifying sources of tension can also invite actors to devise alternative strategies, of governance or otherwise, to either bypass or try to remedy key contradictions. Among other authors providing illustrative case studies, Moloney and Horne (2015) demonstrate this point through examining alternative energy experiments in Melbourne. In particular, the authors highlight key organizational strategies devised by actors to adapt to an unstable policy context. Those strategies include building local coalitions with supportive players and, thus, enlarging networks; improving skills and capacities of actors to develop alternative energy initiatives; and securing ongoing funding to pursue innovative and potentially disruptive projects (ibid.: 2445). Yet, the authors also highlight an unsolved contradiction between the proliferation of local experiments aiming at transforming energy use and generation on the one hand, and the dominance of land-use planning systems and wider-level policy frameworks that continue to support the coal-based fossil fuel industry on the other. Hence, given this challenge, 'the extent to which these place-based and regional scale initiatives can or will drive broad scale urban regime change remains to be seen' (ibid.).

Undoubtedly, the political environment can exert considerable influence upon the ability of actors to navigate emerging tensions. An uncertain or hostile political climate can, for instance, destabilize experiments or put innovative practices on hold, especially those initiatives that are most reliant on institutional support (Madsen and Hansen, 2018). Often fomented by media and communication campaigns, political strategies can easily shift from being facilitative and supportive to being constraining and repressive towards innovative experiments (Savini and Bertolini, 2019). More profoundly, experiments face a fundamental contradiction between exercising a disruptive action in established institutional orders, on the one hand, and building the necessary political consensus so that projects can endure, on the other hand (Battisti et al., 2024). Certainly, the political environment can substantially affect the opportunity to turn tensions into enabling (institutional) frameworks rather than into political opposition and blockages (see later in this chapter, concerning the Barcelona case). Thus, it is critical to understand how experiments can become grounded in the city, and embedded in administrative and institutional cultures, to ensure that progressive initiatives do not fade away with changing political colours.

To summarize, reframing conflicts as tensions among diverging and contradictory elements brings to the fore new and interesting angles of inquiry. In particular, a first element concerns how actors confront tensions and, potentially, learn from them, working out productive solutions. Thus, there is a reflexive aspect to the tensions (how tensions are lived and what we learn from them), which points back to agency (how agency and practices can, or cannot, be improved in light of tensions). A second analytical angle is that the idea of tension allows for a relational lens on the city, which connects the empirical manifestation of a 'conflict' to the underlying dynamics, including politico-economic climates, that interact with a place-based experiment. Thus, the important question is what an experiment reveals about contrasting claims on the city or divergent perspectives on how urban futures should look.

An exploration of Barcelona Superblocks and their tensions

During fieldwork carried out in Barcelona from September 2023 to March 2024, I investigated some of the city's Superblock and green axis projects with the intention to interpret these initiatives as 'experiments' aiming to test a transformative idea in the urban structure (see the following section for more detail). At its core, the idea of the Superblock involves bundling multiple city blocks together – specifically, 9 blocks in a 3 x 3 pattern – in order to shift private vehicular mobility to the perimeters of the enlarged block and liberate public space for pedestrian and community uses, leisure, and green infrastructures at the centre (Rueda, 2020). To observe how tensions emerged from place-based initiatives, I closely examined three Superblock and green axis 'experiments' implemented in the city under the Barcelona en Comú (2015–2023) administration (see Figure 1 for the general location of these initiatives and Figures 2–5 for images of the sites).

I have explored these experiments in their conception, implementation, and current dynamics with the intention to identify the most striking areas of tension but also the lessons learned through these implementations. I therefore engaged in semi-structured interviews with 32 actors, including experts, relevant professionals within and outside the city administration, political leaders of Barcelona en Comú as well as of the current administration, members of grassroots organizations active in the different neighbourhoods, local inhabitants, and a private commerce and tourism lobbyist. Formal interviews were complemented with on-site observations and informal dialogues with

local inhabitants and grassroots groups, and with intermediary presentations of my work in progress to fellow researchers in Barcelona. This was combined with a review of reports, policy briefs, website documentation, press releases, and secondary literature on the Superblock and its developments.

Figure 1: Location of the three Superblock and green axis implementations.
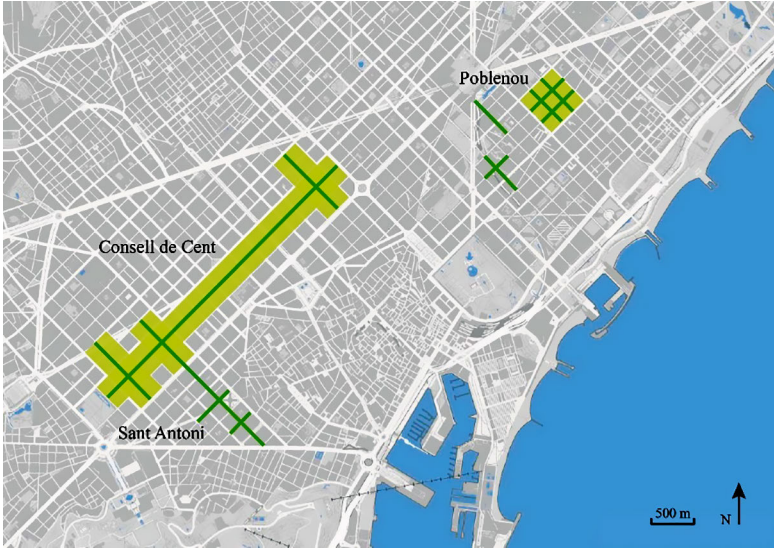
Source: 2024 mapz.com – Map Data: OpenStreetMap (ODbL).

Though all were a product of the political will to accelerate and expand Superblocks and green axes, the three investigated experiments are situated in different parts of the city and have been implemented through different time frames and modalities of intervention. Consequently, these initiatives display diverse types of tensions at play. The first case, the Poblenou Superblock, was initiated in 2016 through tactical urbanism interventions, leading to strong conflictual dynamics. It is situated in the district of Sant Martí, a working-class neighbourhood that has been the site of (green) redevelopment processes and strong gentrification dynamics. Less conflictual but still instructive for the ways in which tensions were resolved, the second experiment, the Sant Antoni Superblock, started around 2017 and is located in the Sant Antoni neighbour-

hood, a dense district comprised of commerce, housing, and related uses. The third case is the Consell de Cent green axis, which was implemented in 2020 as a long pedestrian axis crossing the congested Eixample district. This upscaled project also marks an upscaling of tensions between divergent claims on the city.

Characterizing Superblocks as urban greening experiments

Over time, the concept of the Superblock has been labelled in different ways in scientific and public discourses, being framed as a project, an urban model, a transformative strategy, and a new urban imaginary (Ajuntament de Barcelona and Barcelona Regional, 2023), or we could name it a 'utopia of change'. Referring to key conceptual lenses adopted in this chapter, here I frame Superblocks and green axes as urban greening experiments. In particular, we can observe how, since its conception and first implementations in Barcelona, the Superblock 'experiment' has had a transformative charge (Rueda, 2020). In fact, around the beginning of the 2000s, a newly formed public agency, the Agència d'Ecologia Urbana de Barcelona (Barcelona Urban Ecology Agency), with its lead architect Salvador Rueda, developed the Superblock model as an innovative mechanism to transform the mobility network of Barcelona and foster holistic changes in the city's urban structure and its socioecological functions, including environmental and health objectives (Ajuntament de Barcelona and Barcelona Regional, 2023). Thus, since their beginning, the Superblocks and green axes have aimed to test and bring into being a transformative idea in a specific urban setting (Evans, 2016). As such, the first experimentations of this idea were carried out in historic parts of the city, such as the Gràcia neighbourhood, El Born, and Ciutat Vella (the old town), mostly in the form of street pedestrianizations (per administrative officials in the Municipality of Barcelona). The Superblock idea occasionally re-emerged in the municipal agenda, and Convergència i Unió – the conservative government between 2011 and 2015 – also embraced the idea, foreseeing interventions in five pilot areas that, however, mostly remained theoretical testing cases, not leading to tangible implementations (interview, administrative officials, Municipality of Barcelona). It is in that period that the *Superilla* concept percolated into the Urban Mobility Plan of Barcelona (2013–2018) for the first time, further demonstrating how this idea was at the centre of discussions and debates about urban change, although not in the form of radical experimentations.

Yet, it was with the political leadership of Barcelona en Comú (2015–2023) that a further turn happened in the development of the Superblock experiment. Specifically, the real shifts introduced by Barcelona en Comú include, first, the decision to implement Superblocks in the busy metropolitan core of Barcelona, i.e. in the Eixample, and second, the attempt to scale up the Superblock idea into a veritable strategy for the whole city, namely the Barcelona Superblock Program (*Superilla Barcelona* in Catalan). This program aims to expand *Superilles* across the city through the implementation of green axes. Indeed, there was the recognition that Superblocks could not be implemented as originally conceived by the pioneering actors who first developed the model (Evans, 2016; Bulkeley et al., 2018). In addition, also prodded by social and political movements clamouring for street-calming measures, key administrative and political actors acknowledged how *Superilles* could be more effectively realized by means of green axes (interview, administrative officials; on the evolution of the Superblocks concept, see also Magrinyà et al., 2023).

Moreover, a further element that makes Superblocks and green axes align with the idea of an urban greening experiment is the adoption of tactical urbanism as a key means through which to implement and further expand this intervention in the city. Tactical urbanism is a rather common experimental approach in spatial planning and mobility experiments. It encompasses the idea of testing and implementing changes through incremental and adaptive solutions (Silva, 2016; Barata and Fontes, 2017). By means of tactical and then structural interventions, the Superblock and green axis experiment aims to address mobility, public space, and green infrastructures as intersecting domains through which urban sustainability is improved (interview, municipal experts). As such, framed by discourses on health and the ecological emergency (Pradel-Miquel, 2024), especially in the most recent stage of implementation, Superblocks and green axes have been linked to urban sustainability strategies such as the Urban Mobility Plan, but also to the Barcelona Nature Plan, aiming to enhance green infrastructures and nature-based solutions in the city, as well to as the Climate Emergency Action Plan 2030.

My empirical inquiry into the different Superblock and green axis experiments led to the identification of three key sources of tensions. A first source of tension relates to procedural elements; we might also frame this as 'how things are done'. This point refers to modalities of engagement and processual dynamics of governance, inclusivity, and participation. A second area of tension instead concerns substantive aspects of justice, related to whether and to what extent the greening experiments in question contribute to socially unjust dy-

namics and, in particular, to (green) gentrification outcomes. Finally, a third trigger of tension refers to structural aspects of politics and power; this concerns how powerful political and economic interests collide with the intention to implement and further propagate progressive socioecological transformations. Examples from the three investigated experiments will be used in the following sections, based on their explanatory relevance for each area of tension.

Tensions between divergent approaches to participation and implementation

The first case to be examined, the Poblenou Superblock, was implemented in September 2016 through tactical urbanism operations aiming to experiment with traffic calming in order to regain portions of public space (Ajuntament de Barcelona and Barcelona Regional, 2023). Among the key actors initiating the process was the architect Salvador Rueda, willing to experiment with his pioneering concept of the Superblock in a part of the city (per Barcelona administration interviewees). In agreement with the town planning counsellor of the city district of Sant Martí, Rueda involved architecture students in implementing what can be deemed a real-life design laboratory (Honey-Rosés, 2023). Thus, a suitable portion of the neighbourhood was chosen and, very quickly, streets were closed in order to block or divert traffic and to allow different uses to percolate through the urban space. Moreover, tactical interventions including street furniture and plants were installed and activities and workshops in the streets were carried out in order to test and to suggest what a regained portion of public space would look like (Edwards and Bulkeley, 2018).

Far from being a tame public space experiment, this tactical intervention – which in the eyes of the initiators was meant to become permanent – generated strong opposition from some of the affected actors and groups (O'Sullivan, 2017). In particular, this resistance led to clear polarization dynamics between organized groups that stood emphatically against the Superblock and groups that, on the contrary, were in favour of the implementation (per local interviewees). A citizen-activist involved in the process clearly stated that 'although we were in favour of the *Superilla* model, we could not defend this intervention that was decided in such a short time, without properly informing and

doing prior outreach with residents.'[1] Thus, in a way, the implementation was perceived by many as an imposition coming from the top, obliging local residents and, in particular, car users to suddenly change their habits (per local residents). We could partially infer that, to a considerable extent, these dynamics reveal tensions between seemingly contrasting approaches to how processes are sparked, namely, tensions between top-led approaches on the one hand, versus more collaborative modalities on the other.

Moreover, it is also important to underline the media-driven and political aspects of these tensions. The conflictive Poblenou Superblock rapidly became an example in the press, and various political parties – more or less close to Barcelona en Comú – respectively allied themselves with the group in favour of the project or with the group against it, contributing to the escalation of tensions (interviews, local actors in Poblenou). Thus, these dynamics reveal how procedural aspects intersect with deeper political fractures that would later explode (see the case of Consell de Cent, below). Those tensions surely infused dilemmas and produced discouragement across actors. Yet, the political and media escalation of tensions also ushered in key administrative actors to respond to and work out productive ways forward. In particular, despite the fierce opposition from some corners to the Superblock implementation, 'the Barcelona City Council remained firm in its intention of neither fully nor partially dismantling the Superblock' (Ajuntament de Barcelona and Barcelona Regional, 2023). Thus, the mediating action of motivated civil servants and administrative officials was pivotal to ensuring the resilience of this initiative over time. As a result of these dynamics, after several years the Poblenou Superblock is still in place, being nowadays relatively welcome in the neighbourhood and considered to be a success in reworking public space.

Whereas the Poblenou Superblock is located in a rather peripheral area of the wider district of Sant Martí, mostly occupied by offices, a museum, a school, and some areas with social housing, the second case examined here, the Sant Antoni Superblock, is situated in a different urban setting. Being in the left side of the Eixample district, Sant Antoni has the character of a neighbourhood, dense in housing, commercial activities, and local services. The Superblock and green axis implementation in Sant Antoni was initiated in 2017. That same year, the inauguration of the Mercat de Sant Antoni – a large central grocery market also constituting a neighbourhood landmark – provided

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1   Interviews were conducted in Castilian Spanish; interviews and non-English quotations have been translated by the author.

the right occasion to combine that process with the reworking of public space (interview, administrative officials). In the case of the Sant Antoni Superblock, involved actors were relatively strategic in channelling possible tensions into collaborative opportunities to implement the experiment. In particular, while the Sant Antoni Superblock was an initiative of the municipality, the experiment linked to a local history of bottom-up claims advanced by grassroot associations, proposing actions to pedestrianize streets and to improve the quality of public spaces in the neighbourhood. One association member describes:

> Already in 2001, when I joined the neighbourhood association and I was in charge of urban planning issues, one of our first claims was the 'pacification' of Comte Borrell Street and also Tamarit Street in the proximity of the market. And we kept on proposing that up until 2017, when the *Superilla* project finally started. (Interview, co-leader of the Sant Antoni neighbourhood association)

Further bottom-up dynamics linked to those processes have already been emerging from the surrounding area. Here, actors such as professionals, activists, parents, and schoolteachers set up the 'Camí Escolar' (school path), later turned into the 'Camí Amic' (friendly path), movement, advancing bottom-up projects to shape healthier and safer paths for children going to school. Thus, at the time of implementing the Sant Antoni Superblock, bottom-up initiatives arguing for street pedestrianization encountered the political support of municipal officials, who 'believed in this theme of calming streets, and gave it [the Superblock] the decisive impulse' (interview, co-leader of the Sant Antoni neighbourhood association).

Literature on social innovation and multilevel governance adopts the notion of *bottom-linked* governance to signify the positive encounter between grassroots mobilizations and the enabling role of municipal authorities (Cano-Hila et al., 2020; Galego et al., 2022). In the case of Sant Antoni, bottom-linked governance has taken place thanks to a past trajectory of bottom-up movements synergizing with administrative and political support, leading to collaborative modalities of conducting the implementation of the Superblock. Even though several interviewees report that these processes have not reached the level of substantial co-creation of ideas and solutions by all affected actors, it remains the fact that in Sant Antoni, unlike the Poblenou experience, there was greater engagement in curating participative processes, which led to a comparatively smooth implementation of the Superblock experiment.

Tensions between ecological and social justice

The issue of whether the Superblocks and green axes experiment constitutes a threat to social justice, in the sense of contributing to housing price increases, changes in traditional uses, and even more severe green gentrification effects (Anguelovski and Connolly, 2024), emerges as an area of tension that runs through all three implementations. Yet, it is also true that this area of concern does not affect these initiatives equally. More precisely, in the Poblenou Superblock case, the gentrification threat features less prominently as a source of discussions, or tensions, among concerned actors such as residents, local retailers, or administrative officials. Indeed, although some local interviewees show awareness about dynamics of change in commercial activities and the arrival of new offices in the surrounding area, this particular experiment is located in a rather peripheral area of the neighbourhood, close to social housing units (interview, local residents). Due to these contextual factors, therefore, this particular experiment has little traction as a cause of gentrification.

Differently, in the Sant Antoni Superblock case, the renovation and reopening of the large market had already triggered revalorization processes in the neighbourhood (interviews, administrative officials). Thus, although not being a primary trigger, the Superblock and green axis intervention links to these wider changes affecting both commerce and housing (interviews, grassroots actors in Sant Antoni, administrative officials).

Located in the core of the Eixample district, the third case, the Consell de Cent green axis, is in one of the most attractive areas of the city, with a heated and tight housing market. As such, key interviewees underlined how this green implementation contributes to generate an area of increased economic value and greater attractivity, which risks favouring certain types of users more than others. In broad terms, when looking at urban transformation processes in Barcelona more generally, the insertion of green interventions such as green axes in urban redevelopment dynamics, attracting offices, luxury uses, and, not least, global investment funds, has become a widespread practice in the city, not least in the Sant Martí district (interviews, researchers and local activists in Sant Martí; see also Anguelovski et al., 2018).

With respect to gentrification threats, two distinct positions of actors can be distinguished as arising from across the three implementations. One radical standpoint stresses how

putting this as the core part of a public policy of the city – the act of
intervening in the public space, improving it without being able to com-
pensate for the effects that generates – is very dangerous, especially in
a city where the housing market is already quite tight. (Interview, social
justice activist in Poblenou)

While this gentrification critique is mostly embraced by social justice activists
and professionals, curiously, the same critique has been also used by conser-
vative voices or private players as an element to argue against the expansion
of Superblocks and green axes; yet this expansion is criticized for reasons
that go beyond the gentrification topic itself (see the following section). A
second, more moderate, standpoint, embraced by the majority of interviewed
actors, including administrative officials and actors affiliated with Barcelona
en Comú, argues that

we cannot stop improving public space because of the argument that it
contributes to gentrification processes. We should keep on doing *Super-
illes*, and, at the same time, have policies that tackle the problem of gen-
trification, which is a more general issue in Barcelona. (Interview, party
member of Barcelona en Comú)

To a certain extent, these two positionalities on the (eco)gentrification prob-
lem reflect diverse modalities through which actors have responded to socio-
ecological justice tensions, either by fostering a radical critique about key
weaknesses of the Superblock implementations, or by adopting a constructive
approach that attempts to foster pragmatic solutions. With respect to the
latter, one way in which administrative officials and other built environment
professionals have acted is through the elaboration of use plans (*plan de usos*
in Castilian), which work towards protecting local commerce and limiting the
proliferation of bars, restaurants, or large retail or corporate activities taking
over traditional uses (interviews, former town planning manager, former
chief architect, Municipality of Barcelona). During the Sant Antoni and Con-
sell de Cent implementations, the municipality adopted use plans as a way to
regulate the modification of uses in those areas. Overall, the efficacy of these
measures has varied across areas and it is subject to continued assessment
and refinement (interviews, administrative officials).

   Other actions, with perhaps less impact, have been carried out either in
the form of municipal purchasing policies that allow some housing units to

be taken off the market, or in the shape of policies that attempt to limit rental or sales prices. Yet, these measures are currently more at a developmental than practical stage (interview, former town planning manager, Municipality of Barcelona). At best they are 'surgical' interventions within the dominant dynamic of a wild housing market. One key issue is that, while there is some room for manoeuvre, actors also recognize the structural limits of the municipal apparatus. In fact, acting more structurally against the gentrification problem would require mobilizing legal and policy regulatory instruments regarding property rights and housing markets, which are set by higher levels of government (interviews, association of Barcelona's neighbourhoods and other experts). Furthermore, these structural interventions would require interfering with other policy sectors and global power structures that relate to touristification, privatization, and the huge impact of investment funds in the city.

In synthesis, observing socioecological justice tensions through the Superblock and green axis interventions allows us to untangle how a specific green experiment can interact with more structural questions around economic forces dominating the city (read housing, commerce, tourism, investment funds) and how actors, and especially actors in the built environment professions, seek to respond to those dynamics while being inevitably embedded in them. More profoundly, besides the need to mitigate socially unjust effects of implementations, it is important to recognize the clashes between a 'progressive' green movement which argues for socioecological transitions, and a whole other sector of the economy and society which claims its own space in the city (Zografos et al., 2020; Pradel-Miquel, 2024). Key tensions reflecting similar contradictions will blow up even further in the story of Consell de Cent, illustrated below.

Tensions between contrasting claims on the city and its future

The flagship project of Barcelona en Comú's last term in government, the third case, the Consell de Cent green axis, is the result of the political will to push urban green transformations to the next level. Within revamped discourses on the health and climate emergency, this greening experiment involved converting three car lanes into a pedestrianized, green, and walkable street running through the middle of the Barcelona Eixample district. Initiated in 2020, this intervention was implemented in about 1.5 years through accelerated

procedures involving public competitions to select architecture and engineering teams that would help to reinvent streets and squares as walkable 'green hubs' (per the Municipality of Barcelona). As a result, together with three minor streets that cross Consell de Cent and create public squares at their intersections, the whole intervention has allowed the recapture of 5.8 hectares of public space and 1.2 hectares of new green infrastructure (per the Municipality of Barcelona). As previously mentioned, this implementation was part of a wider green axis strategy aiming to create a network of pedestrianized streets across the Eixample district. This strategy would have led to a total of 33.4 hectares of new public space and 6.6 hectares of green infrastructure in a radically reformed metropolitan core. Yet, the strategy was blocked by the change in municipal leadership following the elections that took place in May 2023.

Overall, there are different perceptions concerning the transformative character of the Consell de Cent implementation. Significantly, radical 'slow mobility' groups highlight how this particular experiment should not overlook the need for more 'structural policies for the city and its metropolitan area that would allow a reduction in the number of vehicles that circulate in town' (interview, slow mobility association Eixample Respira representative). Yet, this actor and others also recognize how cutting space away from cars, and doing so through an intervention located in the middle of the congested metropolitan core, is in fact a courageous action that nobody has dared to accomplish before (per several interviewees). And despite divergences in perceptions about the radical character of this experiment, what is undeniable is that the Consell de Cent green axis has received radical opposition and been heavily contested by certain powerful groups in the city (interview, Barcelona en Comú). Such groups largely consist of private transport lobbies, major commerce and tourism interests benefiting from the flow of urban consumers in the city, affiliated political groups, and managerial staff within the Municipality of Barcelona who hold a divergent political agenda from that of Barcelona en Comú. Fuelled by media campaigns and communication, the opposition reached a very aggressive level, up to the point of bringing the case to both the administrative and criminal courts. Because court cases are still ongoing, in principle, the Consell de Cent green axis still faces threats of being completely reverted. As one of the involved actors reports:

> We presented an administrative appeal, based on the fact that these works were done without the needed legal framework […]. We criticized

how they [Barcelona en Comú] carried out the work without respecting the requirements of the Barcelona Metropolitan Plan. Other organizations presented a criminal appeal, condemning the misuse of public finances. As New Generation EU funds were deployed without having a proper consensus from actors in the territory, this can be interpreted as a misappropriation of funds, and can lead to a penal sentence. (Interview, commerce lobbyist in Barcelona)

On a surface level, these events further show the relevance of procedural and also legal mechanisms of implementation, as these mechanisms can be used by actors as strategies to instigate tensions and to manoeuvre experiments. Yet, on a deeper level, we could argue that beyond the surface of legal accusations there are more profound tensions between underlying power structures and divergent agendas regarding the city. Particularly, incumbent economic and power structures related to private mobility, commerce, and tourism perceived their interests as being threatened by these transformations. Moreover, specific political groups, allied with those economic forces, used the battle against this greening intervention as a strategy to erode governmental leadership. One interviewee announces:

What these pressure groups were really concerned about was the control of the tourist activity, the regulation of tourist accommodations and so on [...]. So, there was an economic type of discussion that translated into a discussion on public space. And these entities have used the public space project in order to keep on attacking the governmental team. (Interview, former chief architect, Municipality of Barcelona)

Undoubtedly, the story of Consell de Cent displays the challenge of countervailing or putting into question the established powers and vested interests that touch upon major social, economic, and ecological challenges of the city (Pradel-Miquel, 2024). As a greening experiment jumps in scale and accelerates in pace, tensions between conflicting interests for the city escalate and manifest with greater strength. The capacity of actors from the built environment professions to remedy these tensions is, in a way, limited by the lack of a strong politico-economic consensus around such greening policies. In fact, despite the Consell de Cent green axis becoming implemented and receiving positive feedback by appreciative citizens and users, with the change of city adminis-

tration in spring 2023, Superblock and green axis interventions are currently paralyzed, and their wider strategy has been put on hold.

Figure 2: View on the Poblenou Superblock.

Source: Author.

Figure 3: A section of the Sant Antoni Superblock.

Source: Author.

Figure 4: Street view along Consell de Cent.

Source: Author.

Figure 5: Plaça Consell de Cent and Comte Borrell on a Saturday morning.

Source: Author.

Conclusions: What we learn from the tensions

By redefining Superblocks and green axes as urban greening experiments, this chapter has narrated what it means to engender socioecological transformations that aim at exercising a real impact on the city. In particular, the focus on key sources of tension has allowed us to put our finger on underlying contradictions and structural challenges that underpin transformative processes. Yet, tensions can be recognized, solved or overcome in different ways, not necessarily leading to failures or further obstacles, but also to lessons learned and opportunities for transformative agency and collaborative practices (Van den Broeck et al., 2019).

Specifically, tensions connected to procedural aspects display the importance of ensuring transparency in processes and of grasping the perspectives of all actors at stake. To quote the words of key administrative officials reflecting on the first case: 'Lessons learned from Poblenou? Never do this without involving the most affected people, without being transparent'. In the second case, of the Sant Antoni Superblock, tensions resolved through bottom-linked dynamics involving enabling interactions between public officials and community groups. In the third case, of the Consell de Cent green axis, however, tensions around procedural and substantive aspects amplified as the experiment scaled up, interacting with structural issues and underlying dynamics of politics and power affecting the city (Savini and Bertolini, 2019). In particular, the accusations raised by key powerful groups towards that greening experiment testify how administrative, planning, and legal instruments can create barriers, with these instruments being impugned by powerful actors opposing key transformations.

Overall, observing modalities for navigating those and other tensions allows us to shed light on the day-to-day politics of implementing and negotiating experiments in real-life urban contexts (Raven et al., 2019). In fact, dealing with procedural tensions entails factors such as addressing questions of inclusivity and representation, preventing potential opposition, forging alliances in order to build social and political consensus, and so on. While there is no 'one size fits all' approach to inducing change processes, built environment professionals and other relevant actors should be mindful about those dynamics in order to form contextually adapted modes of action.

Certainly, as we learn from the investigated experiments, a considerable degree of administrative leadership is key in helping experiments eventually succeed and last over time (Battisti et al., 2024; Pera and Bussu, 2024). Yet, a

solid and continued political support is also crucial to ensure the longevity of a project and to allow actors to surmount relevant tensions. In fact, the story of the Consell de Cent green axis reveals the uncertainty associated with scaling up an experiment, an intervention, or a policy if not supported by a shared, or at least a negotiated, vision for the city. The words of the urban strategy manager of the City of Barcelona explain this point well by stressing how

> there is a contradiction here because in order to make these changes, a strong political will is needed. A political actor should be there embracing this project. Yet, political actors should have been able to sufficiently frame this as a project of the city, and not as a project of a political party.

How to produce an impact that goes beyond the limit of a specific experiment and overcomes the time frame of a political cycle is perhaps one of the biggest challenges to be surmounted. The reality of Barcelona Superblocks and green axes reveals a nuanced picture of positive achievements, but also of contradictions and challenges. While all the investigated experiments have met the objective of bringing a diversity of people to the streets and instigating new ways of planning and living public space, the future of Superblock and green axis policies amidst the current political climate is rather uncertain. In addition, the implementation and further upscaling of place-based experiments requires continued monitoring and critical assessment of their (counter)effects in specific socio-spatial settings. After all, while the future of this specific experiment is hardly predictable, it is certainly part of the nature of (urban) experimentation: the fact of instigating change through the continuous readjustment of modes of action and aspired objectives.

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