Repurposing Places

for Social and Environmental Resilience

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Repurposing Places for Social and Environmental Resilience

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Whilst the 20th century was mostly about starchitects, 21st century is about synergies and the relevant complex dynamics that these allow to grow. This shift happens in parallel to others; reusing, retrofitting, and giving a new life to the existing places, buildings and neighbourhoods, in an environmentally and socially resilient manner, developing ways for the existing communities to grow in a symbiotic relationship with new ones, designing processes of circular economy and upcycling, which allow people to collaborate and find viable solutions. Participation in architecture is a notion that continuously evolves, even more so in recent years. Knowledge and innovation that contributes to social justice and responsible design practices, emerges from complex networks and agile cross-disciplinary collaborations.

In this context, this conference examined the relationship between social and environmental resilience, by looking into designed projects, cross-disciplinary research and investigations, participatory and collaborative design methods. It welcomed architects, designers, artists, planners, urbanists, engineers, academics, educators, as well as researchers and practitioners of other relevant disciplines, who have addressed some of the above themes through their work. Projects on adaptation and retrofitting of places in an environmentally and socially responsible way, as well as participatory projects, were particularly welcomed. The conference also included presentations of ongoing projects and collaborations, which will drive the relevant conversations forward. This volume includes the short articles of the peer-reviewed and accepted presentations delivered at the conference, in London, in March 2023.

It is often argued that environmental resilience leads to social resilience. Indeed, there is an inextricable link between environmental (spatial) resilience and social resilience and the former leads to, or effects, the latter. However, in the context of this conference, we did not consider this as a simple one-way equation, and we aimed at investigating further the complex relationship between the two.

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Keynote speakers: Simon Allford, Juliet Mian, Anna Minton, Prof Doina Petrescu, Alex Scott-Whitby

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Section 1: Projects, Case studies & Critical reflections

Conflict, Urban Space, and Resilience: Reflections on Post-conflict Spatial Requalification Practices in the Syrian City of Raqqa

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Introduction

The 'Arab Spring' brought a new dimension to public space in affected countries; spaces that were predominantly designed to accommodate vehicular traffic were occupied by protesting masses. Al-Tahrir Square in Cairo and al-Shuhada Square in Beirut, are prime examples. In his essay 'The Arab Revolution Takes Back the Public Space', Rabbat (2012) describes this phenomenon as recapturing the 'publicness' of Modern Arab public spaces which were contested for many reasons; their clash with the traditional cities, the overwhelming use as political tools to commemorate revolutions against colonial powers, and lastly for being continuously under surveillance and censorship - a characteristic of Arab dictatorial regimes. During the recent armed conflict, Syria's public spaces were no different. Many squares and roundabouts became grounds for protests and counter-protests. Some became targets for aggression and territorial markers of division-turned segregation.

Soon after armed conflict ended, requalification became a national priority for the Syrian government, which used the most symbolic places to broadcast its authority and narrative with 'love' monuments and billboards installed in many cities. However, Raqqa's case is quite different. Its governance system of local and International NGOs led by the Civil Council focused on recuperating normalcy and reactivating the city through interventions in public space. The city is now gradually recovering its public spaces. However, The pace of these interventions left us the authors in shock, wondering about their reasoning and impacts.

Methods

To assess the efficacy and outcome of these interventions, two assessment methods were employed: assessment through inquiry, for which 10 semi-structured interviews with locals were conducted, and assessment through analysis, for which two case studies were selected based on the interviews to analyse the requalification work from an architectural perspective. Satellite images were consulted to detect the changes that took place as well as to spot and highlight design shortcomings conducive to the raised issues.

Results

The majority of the interviewees agreed on the locations of past and ongoing interventions. Their perception demonstrated a pattern that started with shock and doubt at the moment of announcement, with scepticism on the allocation of funds for such projects, then, after implementation, rejection turned into acceptance and further demand for more. However, the lack of security measures and insufficient light elements raised serious concerns with reported harassment, drug abuse, and vandalism. Internally Displaced Persons (IDPs) and corrupt youth constitute a

disturbing element for locals, commonly blamed for said phenomena. Also, the lack of management and regular maintenance was reported.

The most mentioned places were al-Naeem roundabout and al-Rashid Park. Both are central and the most significant of their kind. Accordingly, they were selected for further assessment through analysis.

Al-Naeem roundabout

A key population hub, gathering space, and central attraction point abundant with fast-food shops and cafes. What was once ‘Paradise Square’ became associated with traumatic memories during the rule of IS. In a collective act of condemnation, locals substituted the name with the ‘Inferno Square’ in their daily exchanges. Its requalification by the Essential Services Program was the first in the city, funded by the United States Agency for International Development (USAID), aspiring to erase the traces of IS and neutralise traumatic memories. Consequently, the roundabout was completely redesigned.

To this aim, the intervention was considerably successful as the original name was publicly restored. The square regained its significance as a key venue for leisure. However, some people still refuse to visit due to unresolved trauma. Moreover, it is not seen as a friendly or safe destination, especially for women and families. Satellite images show that the original site planning was preserved as well as its shortcomings; access to the roundabout remains dangerous as pedestrian paths are not well-established and traffic and parking remain highly under-regulated.

Al-Rasheed Park

Located in a central location, nearing Al-Rashid High School and the 'Suq' (market), Al-Rashid is the most known and frequented park. Sadly, it was abandoned and reduced to a mere crossing point during the war. The park was given the highest priority for intervention. However, it was limited to maintenance work of tree plantation, wall and pavement restoration, and light provision.

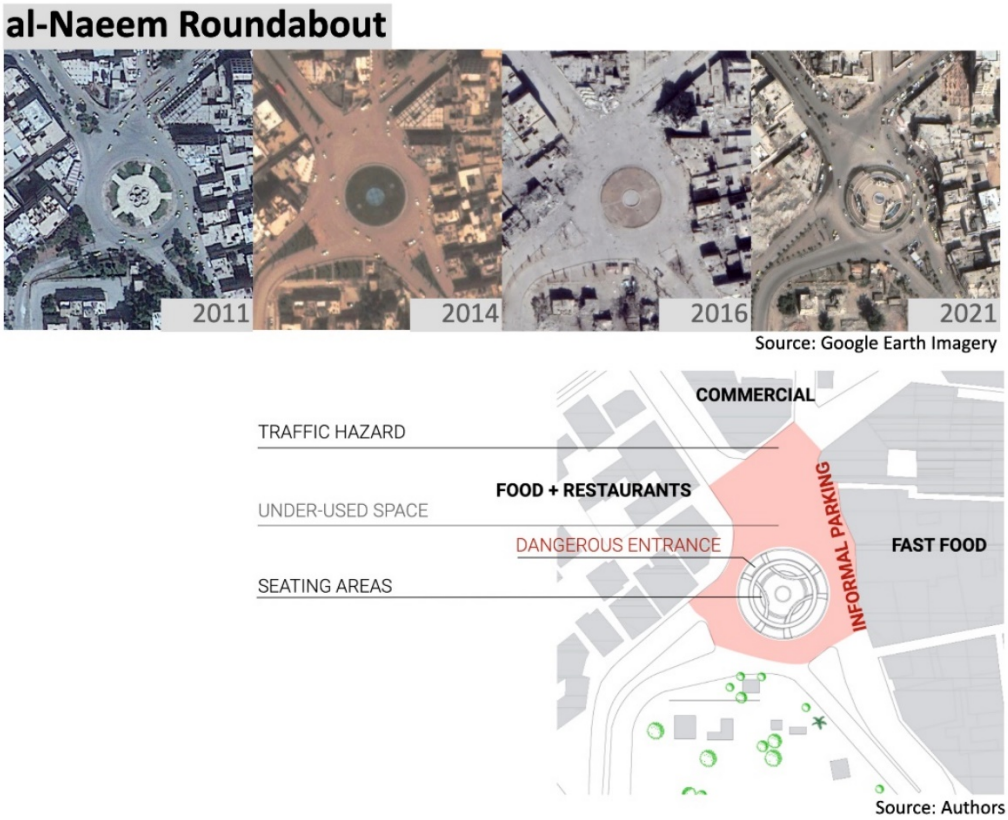
Reportedly, the park is now attended by various social groups. However, polarisation between locals and the incoming IDPs was evident with the latter being accused of undesired practices. Satellite images show that the design was preserved. Entrances remain poorly located at busy traffic points. This also applies to the playground located at the southern corner near the entrance, which threatens children's safety. The park's fencing and strict geometric design can limit movement and facilitate harassment and assault. Inadequate illumination and areas with high tree density may be used for drug use and undesired activities.

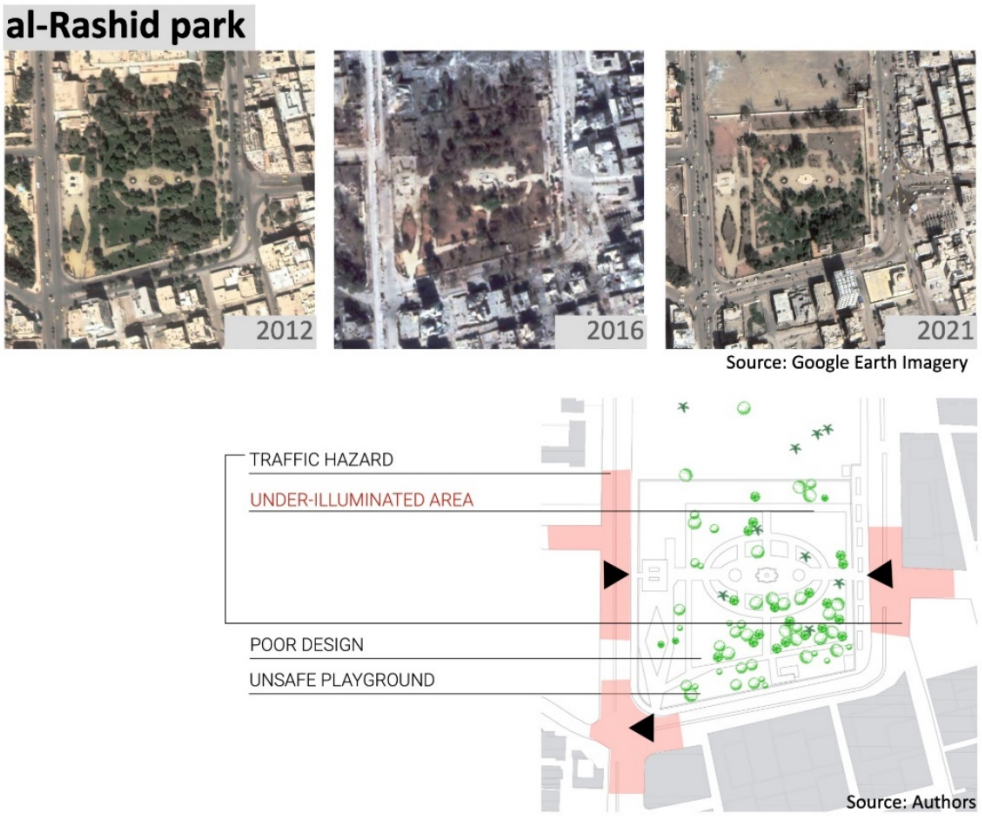
Discussion

Interviews demonstrated that interventions were limited to recovering landscape elements, which with the spread of corruption and lack of execution quality and regular maintenance were not spared from locals’ criticism. Issues, both pre-existent and emerging, that could have been addressed became missed development opportunities, rendering these efforts as shy attempts to restore normalcy instead of instigating sustainable change.

Focusing on the social resilience aspect, several interviewees reported public demands being ignored. When asked about society involvement, most interviewees had not heard of any relevant efforts. Others mentioned limited surveys for the selection of intervention locations. This exclusion from decision-making and active participation evidently led to the initial public rejection of requalification work. Rightfully noted by one interviewee is that this exclusion impacts the sense of ownership and belonging to public space, which also translated into cases of vandalism and misuse. Furthermore, on

the impact of requalification works on social cohesion, some denied noticing any contribution, while others saw positive signs and mentioned their role in introducing families and encouraging involvement in social activities. Nevertheless, the issue of cohesion between locals and IDPs was central to the discussion, with some expressing a lack of trust and others indicating polarisation, territorialisation, and spatial segregation.





In conclusion, these findings expose the limitations in the adopted intervention approach and failure to address emerging societal issues, which points up the importance of comprehensive approaches that integrate the social aspect for sustainable outcomes. As the safety factor is compromised, elements of comfort and pleasurability become an afterthought for potential users (Mehta, 2014). Requalification aims should not be limited to spatial quality standards (Carmona, 2019), but aim for attaining the potentials of public space to the fullest, whether as a tool for psychological recovery (San Juan et al. 2017), social cohesion (Gaffikin & Morrissey, 2011), or as a platform to exercise and express the values of democracy, freedom, and agonism (Bollens, 2013).

Conclusion

While the global understanding of public space has shifted from spaces designed to accommodate for traffic into active spaces occupied by the masses that serve as hubs for various activities, the local understanding is predominantly faulted and limited to it being more of a crossing point than a destination, a confined place that requires high security, gates, and walls. However, we can argue that the Arab Spring has instigated a shift by recapturing the 'publicness' of public spaces and turning them into contemporary sites of meaningful memory. Public space is now perceived as a potent political tool for the expression of values of democracy, freedom, and agonism. In this light, we argue that the responsibility of post-war processes is to build upon this shift not only for the restoration of normalcy, but towards further development.

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The architecture of synergy: rewriting the meaning of a profession

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Focusing on the works of the Global Award for Sustainable Architecture's laureates, this article intends to critically present the (design) process behind built projects and the impact of such works on their surrounding environments. Facing a (western) context that cements the understanding of architecture as technological system reliant upon engineering problem-solving to achieve environmental standards, the aim here is to present ways of thinking and doing architecture that bypass the meaning of the brief, the scope of the profession, and the outcome of the project. From Patrick Bouchain's HQH (*haute qualité humaine* = high human quality, paraphrasing the French certification HQE - *haute qualité environnementale* = high environmental quality) and Philippe Madec's consideration of time as design framework to Diébédo Francis Kéré's, Carin Smuts's and Estudio Teddy Cruz/Fonna Forman's architectures of social engagement, the intention is to establish a mapping of processes and, often, political protocols that open up emancipatory perspectives for a synergetic appropriation of the territory.

In Diébédo Francis Kéré's work, local (African) construction and land-use planning traditions based on climatic principles and more sophisticated occidental technical processes are interlinked: Kéré transposes the 'ecological rationalism' of Germany where he studied to the climatic and social conditions of Burkina Faso. He therefore creates an endogenous economic sector. The egalitarian treatment of indigenous and imported architectural cultures through the critical synthesis of the acquired knowledge in the projects, makes it possible to seek the right balance between the climatic logics of Western countries and the economic solidarity of vernacular societies. Most importantly, Kéré situates the development of *each man* and for *all men* in the centre of his work process (Beygo, 2016). That's why he considers architecture as means for satisfying a social need, in accordance with his principle of 'help to self-help'. As praised by the Aga Khan Foundation, his projects - envisaging a regeneration of the existing, here and now - often have a ripple effect: from a social angle (e.g. access to education), to the economic benefit (development of construction skills and learning of new building techniques) and cultural implications (valorisation of local materials and endogenous architectural traditions).

Carin Smuts in South Africa talks about social performance per square meter (rather than energy performance). The inhabitants are involved in the building process to adapt the program, introduce missing functions and ultimately transform disadvantaged neighbourhoods into places of exchange, imagined as meeting points and public spaces. By doing so, Smuts follows an interactive process where empathy and collective intelligence become (the) keys to understanding places through the human life they contain (Frey, 2016): for Smuts, participation is a means of social reintegration allowing to overcome ethnic tensions (particularly in mixed-race areas). Thinking beyond environmental attributes, Smuts decides on techniques and materials to use with the intention to create employment for the local workforce, suffering from endemic unemployment. Similar to Kéré, local subcontractors and young people are therefore included through training workshops or reintegration projects. In essence, the architectural project becomes an infrastructure that contributes to a new economy, a dynamic to convey the development of the neighbourhood.

Patrick Bouchain, working with Loïc Julienne, bypass the traditional role of the architect, by becoming developers, managers, advisers, even performers; overall turning into some sort of mediator who translates the needs of communities and groups into buildings. These buildings often target specific matters, depending on the nature of the programme and the site. How? By taking advantage of the French policy where public buildings have to dedicate 1% of their construction budget to a work of

art, they apply policies linking this 1% into social aspects ('solidarity 1%'), research aspects ('scientific 1%'), training aspects ('education 1%') or even generational aspects based on transmitting knowledge ('elderly 1%'). Bouchain and Julienne advocate 'HQH' architecture, 'high human quality', paraphrasing the French certification 'HQE' (high environmental quality). To achieve this, they insist on the involvement of future users. Often, the first step is to set up a network of interested parties, including not only the usual professions involved in the building process, but with an emphasis on residents or neighbourhood groups. These parties establish a sort of participatory democracy, a dialogue between architects, builders, whilst having in mind the different and successive users of the project. The second step is to enable interaction. This takes place in the form of construction workshops, on-site training in building trades and self-management of collective spaces -that can be from an office to a restaurant. What is primarily built here is no physical project, but a network of ideas and relationships, where data are constantly questioned, discussed and reinterpreted. The outcome is to define what is appropriate and useful for the site, inventing the 'brief' after inhabiting the site (Bouchain *et al.*, 2012). In this context, the construction site becomes a meeting place where ideas about the project could be shared, discussed or adjusted. Perceived as an open process, it becomes a tool aimed at transforming the construction process into a cultural and social act.

Questioning the role of the architect, Philippe Madec highlights the responsibility to control the brief by altering the programme, emphasising on the opportunity to exceed the original demand (by adding functions). On that end, he takes advantage of the policy in place, particularly the Local Housing Plan (*Plan Local de l'Habitat* (PLH)), allowing to include 20 to 25% of social housing in every new urban development. By doing so, not only does he facilitate an equitable accession to low-income households, hence accommodating social diversity, but also, by combining different housing densities, he controls urban sprawl. To structure living relations, Madec introduces the *bio-îlot* as a spatial, environmental and social structure enabling the interweaving of spatial scales through time frames: the intention is not to simply position buildings on a site, but to implement them and articulate the programs between themselves. In other words, the bio-îlot establishes porosities and forges connections in between the different nodes of the system. Reminding the most recent debates around the concept of the '15 minute city', this temporal dimension that the architect promotes for each project becomes key in understanding and designing space since it allows to consider programmatic strategies based on procedures rather than designs (Madec, 2021). This consideration of time turns public consultation into a pre-requisite to ensure the project's appropriateness and experience once completed: it is via imagining the (future) experience that the building(s) obtain(s) an identity (what Madec calls *idiosyncrasy*).

This sense of interconnections and articulations between different scales that transcends Madec's work is expressed differently in the work of Teddy Cruz and Fonna Forman. After thorough observation of existing socio-spatial dynamics and whilst imagining emerging possibilities, they end up designing systems, what they call policy frameworks, in the sense of a network of relationships. Cruz and Forman are driven by the belief that the future of the city depends less on building and more on the reorganisation of social and economic protocols (Cruz and Forman, 2023). That's why they provide a network of programmatic nodes, where marginal activities are anchored alongside dominant ones. For instance, housing types are thought in parallel of local economies, and all are embedded within an infrastructure of socio-economic and cultural programming. Ultimately, architecture plays the mediating role between top-down resources to support bottom-up creativity: the original request (that the architect has to respond to) is dealt with through some short of magnifying glass. Essentially, the project becomes (a peripheral) part of an agenda that actually targets the overall context at its root, giving to the project itself a social and financial dimension, exceeding what a conventional brief would be. As a result, beyond providing physical spaces, the studio develops a determined position (political activism) summarised in their recent book by 'socialising architecture'. By designing 'micro-policy' systems, able to facilitate construction permits or even loans and subsidies, Cruz and Forman's intention is to empower each neighbourhood to respond to its own needs.

Such thinking and doing mechanisms briefly described here reveal not only how a building serves a (its) purpose, but also how it shapes behaviours. The imaginative nature or interpretation of urban policy activates bottom-up sensibilities, turning architecture into infrastructure, in most cases plugged with social and cultural activity. What is common denominator is the social relevance of such architecture(s) where the design process exceeds a spatial exercise of environmental performance and obtains a political dimension.

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Discerning the Historic City - A study on appropriated Houses of Downtown Madurai

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Evolving spaces call for its architecture to evolve alongside it. One of the implications of evolution, happening with regard to architecture, is that of the growing city. Many of these present-day cities have their historical lineage. The architecture of older times, seen in these cities, acts as a manifestation of that historical significance. The discovery and preservation of such heritage is a process that is underway. The rapid growth of the economy around the globe insists on the rapid growth of these historical cities as well. This milieu, which asks for competing development, leads to the adaptive reuse of many of the heritage spaces that aren't sophisticated enough to be brought under preservation.

Adaptive reuse architecture has had conflicting arguments regarding its role, existence, and efficiency. One such conflict is between the designer's vision and the user's needs. The use of any design for anything other than its intended use has been contested for the integrity of architecture itself. Despite there being a conspicuous need for discourse in this assertion, there resides a constant opposition in the evolution of any architecture. The same goes for a growing city especially a historic one, with its architecture shrouded behind the curtains of growth, development, and the espousing of the modern life.

Despite the raising constructive scrutiny towards this embrace of modern life, there still lingers a fallacy of the promises of modern life. The argument that regards this fallacy to be one of the sunk costs however is facing scrutiny. This is especially true for commercial uses, defined by their revenue generation. This eventually results in a binary that lacks constructiveness toward the advancement of the field of adaptive reuse architecture. This can be picked up easily from several arguments, be it the CIAM's regard of cities destroyed by war as opportunities for an unshackling from a cramped past or be it the readily available examples that witnessed the retrofitting of designed space to accommodate changing needs. Although we are far past the scenarios of war-torn cities, there still exists the centers of historic cities, that are subjected to the changes resulting from our changing lifestyles.

Urban centers of historical cities, apart from being the commercial pot of the greater city to which it belongs, are also the regions that exhibit a diversity of architectural styles with a composition made of contrasting old and new. The city of Madurai, much like any other city, was built by retaining the earlier architecture and new architecture superimposing the old. Once a primarily residential zone, the downtown of Madurai has transformed into a commercial region. However, in most cases, these regions retain their original architecture, exacting for the adaptive reuse of these spaces.

Studies of such historical cities have yielded an acknowledgment of the conflict between the two. A deconstruction of this binary will enable the emergence of numerous possibilities. This will enable the advancement of adaptive reuse architecture in a way that is in accordance with the growth of the historic city.

One major criticism from the mid-20th century towards the inchoate paradigm of adaptive reuse architecture was about the nostalgia that was carried along with the drive for the reuse of these historic architectural styles. This can be discerned from the criticisms towards the reinhabiting of Ponte Vecchio and the ensuing rebuilding of the region that surrounded the bridge. However, such criticisms subdued the discourse that arose during the late 20th century with polemics that discussed the need for an understanding of the diverse nuances of urban life rather than a blind adherence to

the glorification of the metropolis. The criticism towards CIAM's concept of towers-in-the-park is that it glamorized the crowded metropolis. The criticism of the Garden City concept of satellite towns is that it isolated various functions of urban life from each other and disregards the inadvertently and exponentially happening embrace of modern life. Even though the adaptive reuse of old buildings was birthed purely out of necessity, there is also a normative way of viewing the field. The rising argument that old buildings of any city help in the perception of the city itself are of significant importance. The heritage of a place helps shape the stories that took part in the evolution of these spaces.

These arguments can be regarded as the ones that laid the steps for an urban design framework that would later evolve into something inclusive of the idea of adaptive reuse. A discourse is significantly needed since an inclination towards any one of the contesting sides can only be superficial and unyielding.

With that acknowledged, the further approach is towards contemplation of the inadvertently occurring adaptive reuse, that carries on without any oversight of either the original designer or any other designer. For an establishment of a constructive discourse of these conflicting interests, there needs to be an understanding of the role played by adaptive reuse architecture in the weaving of the tapestry of the urban form which largely encompasses the micro-scale and mesoscale fragments of the urban environment. Three major elements that contribute to the form of a prototypical urban region include the urban plot, urban block, and street. How the adapted architecture influences these elements provides for an exhibition of the significance that adaptive reuse can have in the regeneration of the historic center into the polis that is expected to support modern life.

Urban plot

The adaptive reuse of the building in urban centers results in the changing of the form of the urban plot. However, in other cases, the form of the urban plot is retained while the building is adapted for new use.

Urban block

When it concerns the urban block, adaptive reuse has the opportunity to diversify the uses of the block. Adaptive reuse is mostly driven by access routes to the plots. And when the townhouses of downtown Madurai are adapted for commercial activities, changes are created in terms of land use. The importance of diversity can reflect on as many as three major aspects that contribute to the livability. When the multi-use includes residential and commercial that correspond to the users of the residential spaces, maintenance efforts will be relative. The other influence of the diversification of uses in an urban region is local economics. When multiple business types exist in a proximal region, the sellers of one business also act as the buyers of other businesses. This establishes sustenance of the regional economics. Land use diversity also contributes to the safety of the urban space.

Street

The adapted buildings have just as much influence on the street as the street has on bringing about the need for adaptive reuse. The induction of new activities in an existing space creates new patterns that influence the nature and characteristics of the street. It also has an impact on the activities of the street, which ultimately contributes to the fabric of the street.

An intramural study of such inadvertently adapted architecture has yielded a distinctive relationship between form and function. The conflict between the two is an ongoing one concerning what holds a greater position during the design process. Adapted architecture witnesses a reciprocal influence between the architecture and the function of the building. This is especially true for the examples that are adapted for new uses without the oversight of a designer and are carried out by the immediate use of the space. Compromises are made along both sides to bring forth the most viable functioning of the space. This will prove to be useful with an accomplished understanding that would push our current pedagogy to move past the integrity of either the architecture or the function alone and towards the integrity of the place in question. Despite there being a considerably exponential diversification in the definition of architecture to include perceptual imagery among many more, there is also this need for the rejection of the association of architecture with monumentality and the manipulation of perception directed solely towards the creation of such monuments.

The other fight adaptive reuse has to put up with is one between reused architecture and rebuilt architecture. This is the scenario for the urban centers where the milieu is dominated by spaces of commercial land use. The option to reuse is overlooked with the spaces that are valued for their revenue generation capabilities.

Although the wave of rapid growth can be held responsible for this, a lack of dialogue on the idea should also be paid heed to. Prevailing economic conditions might be the ones forcing the overlook of the need for the evolution of the paradigm. But growth can only be achieved when the idea of adaptive reuse is regarded to be a part of the reciprocal contributions between place and man.

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Urban tactics for the co-production of social resilience. The case of the temporary intervention ChatterBox in Portsmouth.

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Introduction

In urban environments confronted with unprecedented challenges, where disadvantaged inhabitants increasingly face structural conditions of exclusion, impoverishment and deprivation, fostering social resilience has become a primary objective for policy makers and urban communities. A vast literature (Lara Hernandez & Melis, 2020) shows that temporary appropriation activities in the public space are effective tools to achieve resilience, intended here as the community's capacity of adapting to changes in times of global crises. Among these activities, Temporary Urban Practices (TUP) can provide a secure, flexible, and experimental space to include citizens in the city-making process while training social capacities that contribute to social resilience. This article offers insights on the outcomes of the Multicultural City ChatterBox, as a paradigmatic example of TUP encouraging social minorities to repurpose an unused urban space, fostering urban resilience through agency, collaboration and co-creative endeavours.

Placemaking, social capacities and community resilience

As anticipated in the previous paragraph, temporary appropriation of public space develops the adaptive capacity of a community. Participatory planning and the involvement of citizens in the city-making are pivotal tool through which this is achieved. Placemaking through co-creation goes a step further, putting users at the core of the design process. Placemaking's value lies primarily in the process of collective creation, producing social capital through the engagement of those involved (Matarasso, 1997), such as skills learned and connections earned (Iwińska, 2017). As Guinard (2018) remarks, public art is a method for generating knowledge based on life in the local community. Madsen (2019) suggests that 'collaboration, connectivity, space creation and altruism can be potential mechanisms leading to a stronger sense of belonging, social cohesion and inclusion' which improve the adaptive capacity of a society in times of global crises. Interestingly, Berkes and Ross (2013) integrate a series of social capacities -some of which related to placemaking- into a spiral leading towards social resilience. Similarly, Faulkner et al. (2018) characterizes the capacity for social resilience as dependent on attachment to place, community networks, community cohesion, knowledge and learning, claiming that attachment to place provides the foundation upon which the other capacities depend. Within this context the ChatterBox case demonstrates how the greater diversity of the co-creation agency constitutes a reservoir of possibilities and, therefore, a further strengthening of the adaptive capacity of a community through the re-appropriation of the public space.

The ChatterBox Project: Addressing the challenges of Somerstown

The local community group Chat over Chai (CoC), from a Black, Asian Minorities Ethnic and Refugee background, participated to transform a neglected area in central Somerstown, a high-density neighbourhood of Portsmouth, which remains within the 10% most deprived areas in England (Smith et al., 2015). Somerstown faces challenges such as a lack of public spaces, socio-economic disparities, and social exclusion of minority groups. The ChatterBox project aimed to address these challenges by empowering the local community to repurpose an unused urban space and foster social resilience.

CoC members were empowered to make decisions and define the project brief for the intervention. After selecting a design idea from student submissions, they participated in co-design and co-creation workshops alongside the researchers. A small 1:10 scale model simulated the main timber structure and aided design thinking. A series of painting sessions at the university lab developed several tiles designs to be fitted on the structure. The final artwork included a composition of tiles representing their group logo. A 5-day construction residency workshop facilitated hands-on building, and the completed project was celebrated with an unveiling event attended by around 120 people, including CoC members, university representatives, and city council members.

The process was structured around these key steps:

- Definition of a design brief by the community group (deciding what & where)
- Preparation of concept ideas through design competition open to architecture students
- Selection of design proposal to-be-built by a jury formed by community group
- Collaborative Design Development, including:
    - Co-design meetings (Assuming the mantle of the expert, Construction-game scale models)
    - Co-creative workshops (Artwork creation)
- Residency Week (1:1 Fabrication)
- Unveiling Event

Methodology: Co-Creation and observation

The co-creational methodology followed the Double Diamond innovation framework (Design Council, 2021; Hawryszkiewycz & Alqahtani, 2020; Tschimmel, 2012) and drew inspiration from three main design toolkits: human-centred design (IDEO.org, 2015); the DIY (development, impact and you) kit (NESTA, n.d.) and Recipes for Systemic Change (Boyer et al., 2011). As Manzini (2015) notes, design tools are fundamental in coordinating the relationship between expert designers and non-expert designers, aiding a clearer conversation between them and a more effective empowerment. The main tools we used were:

- Assuming the mantle of the expert - Participants roleplaying as experts to gain confidence in construction and problem solving (Robazza & Smith, 2022).
- Using construction-game scale models Deepening participants' understanding and make their contribution to the design more meaningful.
- Holding creative workshops (Polaine et al., 2013) including painting, writing, and sewing.

The research investigation included continuous field observation and informal conversations, gathering semi-structured conversations, structured and filmed interviews and written feedback. We also valued casual conversations (Eggins & Slade, 2004), realizing during research that these reflected what people felt and thought of the process. Through thematic analysis and coding (Braun & Clarke, 2014), we wrapped our reflections around: agency, attachment to place, knowledge and learning, and networks.

Findings

On agency. The design process was a collective one, the participants appreciating the ability of the researchers to listen and act on their views and ultimately seeing their ideas fully materialising in the finished pavilion. Participants referred to the outcome as 'our own design'. Agency and empowerment were present throughout the process though it is unclear what impact this had beyond the duration of the project.

On attachment to place. The CoC group demonstrated a consolidated attachment to the city of Portsmouth. The design process winnowed several ideas down to a structure that should inform of the city of Portsmouth and celebrate its diversity and beauty. Their pride, sense of purpose and caring for others was manifest in a creation designed for all residents, projecting the explicit inclusive message that 'everyone is welcome'. The care of the space contributed to reinforce the group love for the city.

On knowledge and learning. The participants were exposed to an entire design process of a temporary structure in the public realm, learning on navigating a complex urban management process. During the co-design phase considerations were focused on the qualities of the design, such as accessibility, safety, vandalism, maintenance, and how the design could promote sociability and inspire interactions. The 1:10 scale model was instrumental to discuss and take informed decisions about the openness and porosity of the space and evaluate its potentials for gathering people. CoC participants valued learning the 'how it is done' and said that observing how the design process worked had alerted them to new perspectives. Learning DIY skills was also valued, particularly learning new hands-on craftsmanship skills. A recurring consideration was that the project's challenged instilled anxieties which ultimately vanished, enlarging the boundaries of participants usual life and mitigating their initial fears. Participants equally noted the visible socio-geographical barrier between the local community and the university in Portsmouth, while praising the project dynamics for diminishing this barrier. Exploring new territories, such as university spaces, and workshops was considered valuable. However, some also had to face personal self-esteem and sociability issues or anxieties in engaging with the project or being accepted by researchers.

On networks. The ChatterBox intervention connected CoC members with other communities, participants expressing feeling to be positively affected by the intergenerational collaboration process with the students, and their conversations with them. Collaborating with a common goal and sharing a purpose was recognised as supporting people to connect faster and more intensively, lending sense and meaning to their collaboration, in a task that could be completed only with teamwork. The project also created opportunities to connect with other local action groups and public representatives, local MPs, national politicians and City Council officers.

Conclusions

Collaborative placemaking interventions like Multicultural City ChatterBox can stimulate a range of social capacities and support participating in city-making activities, developing networks, setting new boundaries, acquiring knowledge and skills, and fostering a sense of belonging to a place; these are social capacities that social scientists identify as contributors to social resilience. Further research is needed to assess the actual production of resilience beyond the TUP itself, but during the intervention these social capacities have been stimulated and developed, demonstrating TUP could be considered safe, experimental and transitory training environments to reinforce social capacities intimately interconnected to resilience.

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Everyday Placemaking. Six Days in the Life of People and Places in Phnom Penh and Hanoi

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Initial motivation to utilise the tool *placemaking*

Globally, the urban population will have increased to 6.7 billion people by 2050, with almost 90% of the growth expected to happen in Africa and Asia (UN DESA, 2018). In light of this rapid growth, two things become obvious. For one, infrastructure that secures livelihoods must be built and maintained. At the same time, the importance of qualitative aspects such as the increased quality of life in cities needs to be focused on. In order to strengthen urban liveability, the development needs to be people-centred, should enable participation and promote responsibility for urban spaces (Mehaffy, Elmlund & Farrell, 2018, pp. 4-5; Haas & Mehaffy, 2018, pp. 1-2; United Nations, 2016, pp. 6, 8-10, 19, 24, 28). Therefore, especially in fast-growing cities, tools are needed that foster social sustainability and people-centred planning to create places that are tailored to the peoples' needs.

This article takes the people-centred development of urban spaces as its starting point and, narrated through exemplary case studies, asks the question:

What can be learned from everyday patterns (everyday placemaking) in order to achieve a socially sustainable and resilient design of places (strategic placemaking)?

A short definition: everyday and strategic placemaking

Generally speaking, placemaking can be classified into an *everyday* and a *strategic* approach. *Everyday placemaking* is understood as the sociocultural appropriation of space (Healey, 2002, as cited in Henkel et al., 2010, p. 361). It is assumed that social structures can be experienced in *spaces* and that every society produces its own *places*. Thus, places are not only *physical* but also *social constructs* that result from human interactions and are structured and shaped by a community. Therefore, *the urban space* is inseparable from *the everyday place*, while the latter is created through habits and routines (Healey, 2010, pp. 33-35; Healey, 1998, p. 5; Lefebvre, 2019, pp. 81, 88, 94, 97, 189, 197, 201-202; Lefebvre, 1991, p. 31, as cited in Löw, 2018, p. 26).

Strategic placemaking refers to a spatial design strategy that is guided by a planner and implemented by a collective. The aim here is to improve the quality of life and the quality of place, by bringing creative, cultural and social processes together. Through strategic placemaking, *(physical) spaces* can be transformed into *(socially meaningful) places* (Healey, 2006, pp. 97-98). As an integrative planning approach, placemaking has been increasingly discussed as a possible effective tool to enhance socially sustainable urban development (Ghavampour & Vale, 2019, pp. 196-197; Healey, 2002, as cited in Henkel et al., 2010, p. 361; Healey, 2010, pp. 44-45, 77-78, 226-227; PPS, 2018, pp. 14-18; Relph, 1976, p. 71; Stern & Zengchis, 2018, p. 270; UN Habitat, 2016, pp. v, vii).

Patterns of the everyday placemaking

To approach possible answers to the initial question, a case study was conducted in September 2022 with a team of local researchers in two currently fast-growing cities – Phnom Penh in Cambodia and Hanoi in Vietnam (United Nations, 2018, pp. 20-21). For six days, the researchers participated in the life of six different places and analysed the places' rhythm by applying methods such as mapping,

observing and photographing. In the following, one of the places – *the Tan Mai Ward* in the south of Hanoi (Vietnam) – will be described.

The Ward is an informal communal and typical residential area. The place's continuous surface is bounded by mostly three-story houses. Each building faces the place and is complemented by a ground floor zone, which is set off from the surface by a small step. The ground floors are lively and mostly commercially used, so that the houses can be classified as shop houses.

The middle of the place is marked by a parklet which structures the place and divides it into an eastern and western part. The ground floor zone has a rather private character, while the parklet is a communal space.

The Ward is a green area with many plants concentrated within the parklet and in front of the houses. Both in the parklet and on the ground floors there are elements such as plastic chairs and tables that invite people to sit and linger. Typical elements in the place are hanging laundry, colourful canopies, power poles and wires that lend a tangled appearance to the urban landscape. Part of the scenery are handwritten texts on walls, houses or self-made signs. The texts include i.e., advertisements for renting houses, prohibitions of harmful activities or simply the names of the house owners. These handwritings illustrate the dynamics of this neighbourhood and show the pattern of behaviour to improve one's own living space.

In *the Ward*, a lot of everyday activities and social interactions such as communication take place constantly. People seem to know each other well, as they simply sit together, or gather to eat and drink. Immense appropriation can be observed when people care about their environment, i.e., when they clean the scenery and water the plants. While one group socialises over a game of chess, others sit in the parklet or in front of their houses and observe the neighbourhood's life. In addition to stationary activities (i.e., observations), a lot of movement takes place. Certain spatial patterns, such as areas with fast traffic dominated by scooters and other areas with slow movement such as walking and cycling, become evident. Movement generally occurs in the middle, while social and lingering activities are concentrated at the edges. People sit directly in front of the buildings so that social life takes place on the ground floors. It is these very zones that function as *outdoor living rooms and kitchens*. The social activities, as well as a variety of objects, that wander from the inside into the place, cause smooth transitions. This spillover creates communicative hotspots that can be described as social magnets; areas, where intensive exchange takes place. These 'magnets' show the neighbourly cohesion and the close community of *the Ward*.

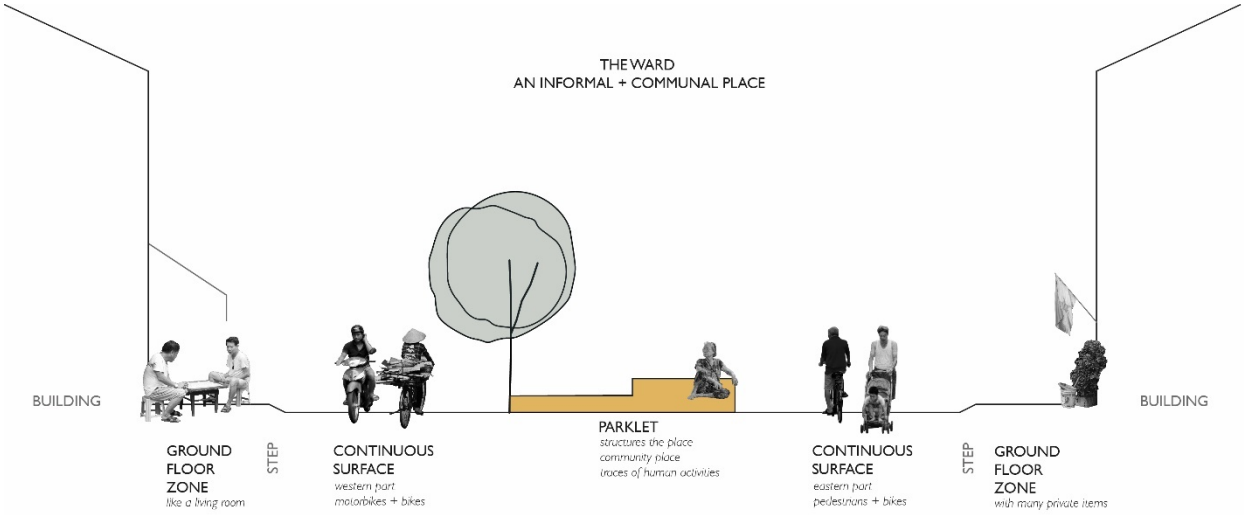
However, the place is not static and changes its rhythm in the course of a day: In the early morning there is a rush and many people are on the move. In the morning, the pace of movement is quite slow and people just calmly get on with their day or gather in groups. Around lunchtime, people do not linger as much, as it (usually) rains at this time and people stay inside. In the afternoon, there is a revival of the place and people from young to old come out of their houses for several (social) activities. This activeness lasts into the evening and the alleys stay buzzing, while increasingly leisure activities take place. In the late evening, the place is rather quiet, private and introverted.

Learning from everyday placemaking for socially-sustainable and resilient places

As experienced in the case study, mobility is a significant issue that affects the observed places. The major means of transportation is the scooter which influences all places, especially around rush hour. However, despite its dominance and loudness, community life – the social practices – take place in front of the house. These activities are thoroughly resilient. In many ways, the places are the urban living rooms and kitchens; many doors are open, which is a symptom of the neighbourly community and a signal of mutual trust.

In general, there is an observable interplay between the people and the place, because people add purpose and meaning to a place. In return, places offer people a special relationship, the framework for social interactions (Schneekloth & Shilbley, 1995, p. 17). Thus, it can be said that, in addition to people who care about each other and their place, the opportunity – a place – is needed that allows appropriation and offers an invitation for lingering and meeting others. This case study shows that in this regard the best places are the informal ones – the spots in front of houses and the ones that offer people room to express themselves.

In conclusion, an essential task of planning in the sense of placemaking is to strengthen the connection between people and places through a collaborative process (PPS, 2018, p. 0) and to take the rhythm of the place as the baseline for future improvements.



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Spaces of resilience: a typology of places and practices in two Dutch cities

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Introduction

The term 'resilience' is ubiquitous, but is often poorly defined, presented as politically neutral, or used to justify neoliberal projects of austerity and state withdrawal (Mackinnon & Derickson, 2012; Shaw, 2012). Existing research on resilience largely operates either at the scale of systems or of individuals, with community resilience less developed. Resilience literature also tends to focus on responses to crises or disasters rather than a) the conditions that create those crises and b) the idea of progressive, desirable change rather than reactive adaptation (Kaika, 2017; Davoudi, 2018). Furthermore, there is a lack of understanding of existing practices of resilience; that is, what are people doing on the ground to develop resilience, how do we define and recognize these practices, and how do their practices cultivate capacities of resilience? How do they access, use and transform space, and how does this impacts the city? This paper therefore aims to identify, map and categorize existing everyday practices of resilience in two Dutch cities, Rotterdam and Eindhoven, along these dimensions: *practice*: what the group does on a practical, everyday level; *domain*: their concerns and aims; *capacities* which they develop; and *resources*, with special attention for space as a resource.

Theoretical framing

A review of the literature shows definitions of resilience as forming a spectrum ranging from resilience as resisting stresses and bouncing back, to resilience as systemic adaptation to change and crisis, to transformative resilience as a position acknowledging people's ability to imagine and enact alternatives - thereby avoiding crisis rather than reacting to it, and seeing change as potentially desirable (Brown, 2013; Walker et al, 2004; Porter & Davoudi, 2012). Our approach to community resilience sees it as co-produced through shared action (Petcou & Petrescu, 2015), and highlights the importance of agency in shifting resilience from a position of "coping" to one of "meaningful, intentional action" (Brown & Kulig, 1997).

The production of neighbourhood resilience is studied at the scale of everyday practice, drawing on the arguments of Shove et al (2012) around social practices as key to how societies change or persist, suggesting that intervention in everyday life practices is necessary for wide-reaching societal change and transition. Studying practices of resilience further offers the opportunity to learn from already-existing solutions by which people are experimentally anticipating alternative future lives, and “fostering small-scale shifts in the conception of what is possible” (Cretney & Bond, 2014).

Method

Mapping began with known projects in Rotterdam and Eindhoven, after which a systematic online search was performed with keywords focused on location, organizational forms, and themes or domains. This in turn led to a series of secondary links and existing networks and databases. All cases were then filtered for relevance, degree activity, and bottom-up nature. From the resulting set of 57 cases, a typology of practices was inductively developed. This grounding in empirical cases both responds to a lack of established theoretical models and aids instrumentality in mapping and identifying further cases. The organizing dimension is the *practice*, in line with the research aims of understanding resilience as practiced.

1. Leefbaarheidsteam Achtse Barrier, Eindhoven
Neighbourhood advocacy group based in former community centre

2. Huis van de Toekomst, Rotterdam
Experimental community space in vacant corner store

3. Oes Moes, Eindhoven
Community garden within residential block

Towards a typology

From the above process we have categorized these practices into five provisional types:

1. ‘organizing & advocating’ to improve their neighbourhood and build political capital and representation;

2. ‘meeting & making’, either as open-ended meeting space for various activities, or intentional activities such as crafting or repair;

3. ‘greening & gardening’ in outdoor green spaces, gardens, food systems;

4. ‘sustainable living’ including sharing knowledge about insulation, energy reduction and lifestyle changes, and in some cases local energy cooperatives;

5. 'experimenting’ with alternative economies, housing, infrastructures, and narratives.

The spaces used by these practices are predominantly repurposed commercial or institutional spaces, including existing community centres or spaces which no longer have institutional management or programming. Their tenure is most often through temporary anti-vacancy lease or institutional agreement. In outdoor spaces, there is a combination of appropriation of existing public space, and creation of new green spaces on (temporarily) vacant land.

Three examples can illustrate the approaches of these practices in repurposing urban space:

Leefbaarheidsteam Achtse Barrier is a neighbourhood advocacy group in northern Eindhoven who meet to discuss and address problems, challenges and desires within their neighbourhood, and who have taken on part of an existing community center as their meeting space. In the absence of state-led community spaces and programme, they have thus taken on part of the function of a community centre on their own initiative.

Huis van de Toekomst (House of the Future) in Bospolder-Tussendijken, Rotterdam, is an initiative using collective activities such as baking, repairing clothes, and sharing meals, as forum for discussing energy transitions and how residents will live in the (near) future. Their space is a former corner store in a social housing block, which was no longer fit for commercial use but nor can the housing corporation afford to renovate it. Their activities in the space challenge 'official' narratives of the future, the nature of the energy transition being pushed by the municipality and the socio-spatial changes presented as inevitable.

Finally, Oes Moes in Drents Dorp, Eindhoven, is a community garden collectively tended by residents and the harvest shared among them. Beyond the gardening activities the space has evolved to host social activities such as shared pizza nights. The garden is an appropriation of a collective space within a block of row houses for a purpose desired by residents; in the contemporaneous neighbouring block, this central space is used parking.

Discussion

The presence and prevalence of these everyday practices serve as evidence of unmet social and community needs; citizens do not gather explicitly to 'develop resilience' but because they miss, and desire, a space in their neighbourhood to meet, collaborate, and take action over their living environment. This reflects the loss of social infrastructure and 'third spaces' in the city dominated by market logic. At the same time, the appropriation and repurposing in these examples paradoxically demonstrates that space is available; however, access to that space is severely restricted by the market, even when empty.

Despite their value in furthering social cohesion and community resilience, cultivating transformative visions of the future, and directly meeting the needs of residents, these practices are not valued within the dominant neoliberal logic of urban development. For the market, they serve only to temporarily resolve the vacancy inherent in capitalist development cycles or after crises such as the financial crash or Covid-19 - hence the "permanence of temporary urbanism" (Ferreri, 2021). While citizens' practices

may cultivate community resilience, their precarity risks undermining this in the longer term if they are not supported at structural and systemic levels. The essential ability of local practices to prefigure alternatives to 'business as usual' is undermined by the need to adapt to existing structures, to 'play the game' - or disappear (Druijff & Kaika, 2021).

For resilience practices to be truly transformative it therefore becomes necessary for them to change the rules of the game, to alter the systems shaping our cities. This is a daunting challenge: the current status quo has itself proven highly resilient. It is to be hoped that the new imaginaries being co-produced in these vacant shops and disused fields can be the starting point for a collective belief in and desire for genuine change, a shift in the conception of what is possible, rooted in the everyday but always looking towards a transformed tomorrow.

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Rebuilding traditional houses along Flores Island in Indonesia, repurposing on tourism behalf and cultural consciousness

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Introduction

The culture of building houses then and now is different. One of them was influenced by the influx of modernization and industrial building technology which replaced traditional house-building patterns in Indonesia. On Flores Island, East Nusa Tenggara Province, Indonesia, various traditional buildings can still be found although they are decreasing and starting to be replaced. Since the 2010s efforts to restore buildings that reflect this tradition have been encouraged by various parties, with the same goal, to avoid the extinction of the culture itself. Various methods are carried out, with the intervention of the central government, social assistance from private companies, regional power holders, diaspora communities, and the residents themselves.

The initial process of the building also varied, some came from concerns during visits to these villages, or more coercive conditions caused by disasters such as fires that destroyed the majority of villages. This writing is divided based on case studies and the process of rebuilding that can be seen based on the journey the writer has taken from 2015-2022.

Waerebo, Manggarai

Waerebo village in 2008 left 4 traditional houses in the shape of a conical which was believed to be the only authentic village left in Manggarai at that time. The construction of traditional houses and supporting buildings was carried out for a decade together with the village community and various parties. Drastic changes have been felt since 2014 when visitors arriving have increased and multiplied. The village which is known as authentic has turned into a tourist village that is visited by thousands of visitors every year, both local and international.

The occupational background of the Waerebo people is farming and gardening, with the economic limitations of the people it is difficult to maintain these magnificent and prominent traditional houses. Layers of aid have arrived since the restoration of the 2 houses that were hundreds of years old by the local government in 1998. In 2009, through 2 private foundations, one of the houses was demolished and rebuilt. Its success has invited many parties to participate in building Waerebo. A decade later, Waerebo village has 7 conical houses as its original composition and added several other buildings as support such as an arrivals post, library, lodging building, clinic building, and bathrooms.

Bena, Ngada

The involvement of the local government in increasing regional income from tourism visits has occurred in Ngada Regency, for a long time Bena village has been known as a megalithic village which is still inhabited and controlled jointly by the government and its people in maintaining building traditions including the visual form of the village. Resembling a crescent moon, terraced and lined rows of traditional houses on each side with a large yard at the front.

A few years before 2013, an asphalt road crossed the central courtyard of the village and divided the village into 2. On the 2015 visit, the road was diverted around the village boundary, and the land that had previously been a road had built a new traditional house, and it was celebrated in 2018.

Visiting Bena village today is no longer like entering a traditional settlement, but more like a gallery displaying rows of women selling woven fabrics with local motifs that tourists are looking for. Even when visiting, you are required to pay a ticket of IDR 20,000 (GBP 1.1) just like entering an attraction at an amusement park.

Gurusina, Ngada and Nggela, Ende

Not far from Bena, Gurusina village can be reached in 15 minutes. 2018 was a dark year for this village and Nggela village in the Ende region. Large-scale fires destroyed the majority of the buildings in the village and left only a few.

The commitment from the central government to help rebuild villages that were burned down was realized within 2 years. Together with the local community, they work together to build involvement at each stage. All raw materials in building traditional houses are provided by the government and the entire construction process and rituals are carried out by the traditional community. This development process has been carried out since Waerebo in 2009, where the division of tasks was divided into two: the donor provided the building materials (purchasing) and the local community had to be fully involved in the development. This development process was replicated in several other villages and was considered a success. Within 2 years, 26 houses that were burned down in Gurusina have been rebuilt and traditional processions can take place again.

In Nggela, the construction committee had to work more on collecting materials according to the same scheme. Of the 22 houses that were burned down, 6 were rebuilt with assistance from the central government. For the rest, various methods were used to get funds to buy the main materials. In 2022 there will be 2 more houses that are still not built.

Settlements in Manggarai and Ende

Although previously proven by the success of other villages in building or reviving settlements with the involvement of the residents and outsiders, several other villages did not do this. During the 2013-2019 process, central government assistance was also replicated to local regional governments by spending funds to build or add to the infrastructure of traditional villages in their area. But the opposite of what was expected appeared, in fact, the building that had just been built no longer wanted its residents to live.

The sense of ownership and direct involvement from the community itself must be greater than the portion of outsiders who help, balanced with governance that is fully surrendered by the people who inhabit it. Several cases in the two regions occurred because the construction was fully carried out by the government with work assigned to non-community contractors.

Royal Palaces, Sikka

I recently had the opportunity to write about the process of reconstructing a (pre-colonial) king's palace that was no bigger than the traditional houses discussed earlier. In the Sikka region, there were three main kingdoms that were combined during colonialism. The shape of the palace is more or less like a residential building in general but full of invisible symbols. Development initiated by the family or descendants is the bright spot.

The building that stands is no longer used as a residence. But it is intended for local tourism, as well as proof of the existence of this family in the history of the region. There are 2 palaces that are in the stage of revitalization, the Sikka Palace on the south coast, and the KangaE Palace which is in the highlands. Both have almost the same shape, only the spatial composition is different.

The intention of the development initiated by the family as a memento shows architecture as a monument of existence rather than the built environment. The contrast between the traditional palace buildings and their surroundings suggests an unspoken caste system.

Conclusion

On the journey along the island of Flores, traditional buildings or settlements are no longer merely a residential environment for the people. The need for affirmation from outsiders supports the sustainability of these traditional buildings, as well as the people. Even though it does not reach the ideal of civilization, the efforts made by various parties are a stepping stone to maintaining the continuity of the traditions and culture of the people of Flores.

The Ongoing History of an Unloved Structure; 'Prora' and its Rigid Resilience

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Introduction

This article deals with resilience as a feature of built structures, precisely large scale structures and the continuous influence they can exert on their surroundings. The resilience of buildings is not always positive. On the contrary, it can have a deeply ambiguous, even harmful influence on communities. Prora - a contested building complex on the Baltic Island of Rügen - serves as a case study to highlight more ambivalent features of resilience.

A Difficult History

Prora was erected between 1937 and 1939 by the Nazi organisation 'Kraft durch Freude' (Strength through Joy). It was a central construction and propaganda project of the regime and was meant to hold 20,000 beds, to provide low-cost seaside holidays for workers. As a gigantic vacation-machine without equal in the modern world, it was intended to illustrate the sociopolitical power of the regime.

During the Third Reich, however, no tourist ever saw the sea in Prora. Still in the shell stage, the project was stopped. What remained was an almost five kilometre long structure on the beach. (a structure stretching for almost five kilometres along the beach).

In the aftermath of World War II, demolition attempts failed halfway. As the Cold War intensified, the ruins were rebuilt and transformed into barracks of the communist GDR's National People's Army.

During this process, Prora disappeared behind barbed wire and trees as well as from public maps. In its new function, however, it exerted continuous influence on the atmosphere and social structure of the island: Roughly one third of all jobs on Rügen depended on the military. On the other hand, the relationship of many inhabitants of the island to Prora becomes exemplary clear in a quotation of the later district administrator Hannes Knapp:

'Prora has had something ominous, closed and mysterious for me since my childhood. I associate the term Prora with impressions like barricade signs, barbed wire, machine-gun crackling, the roar of tank engines and helicopters. Prora was the site of war games here on the island, but only to be observed or experienced from a distance, because the site of the action, Prora, was closed [...] Prora is for me a symbol of disaster and violence.' (Knapp, 1994, p. 57)

The quote shows how the baleful effects of large-scale structures from the past can continue to affect the mentality of people and are perceived as a burden for the present.

The Burden of Prora

After the fall of the Berlin Wall, Rügen was confronted with enormous changes: The National People's Army of the GDR was disbanded. Prora was abandoned again and listed for demolition. However, these plans failed when the complex was listed as a Nazi heritage site.

At the same time, a feeling of powerlessness and alienation was spreading on Rügen. Many islanders lost their jobs due to the withdrawal of the military. There was also a fear of overpowering competition from the West.

These fears found concrete expression when it became clear that the federal government wanted to sell Prora in its entirety to an investor from outside. Plans were being prepared for a huge shopping, leisure and entertainment centre with overnight accommodations for up to 6,000 people and 15,000 parking spaces for day tourists.

People on Rügen feared that a repurposed Prora would dominate the entire island, produce extensive car traffic and strangulate small scale developments. Citizens' initiatives spoke of a 'monster of mass tourism' that had to be opposed (INSULA RUGIA e.V., 1994).

Over the next few years, Prora evolved into a battleground of different actors like heritage activists, government agencies, citizen groups and investors. In the wake of this conflict not only the past was fought over, but a wide variety of future scenarios were projected onto the complex.

One of the most striking initiatives was taken by the Rügen District Council. It responded directly to the federal government's plans. The district council passed a counter-resolution:

Prora must be kept free from any 'non-museum use'. A 'buffer zone' had to be declared around the monument, where construction is prohibited. Only with enough distance, an 'appropriate development (residential district, small industries …)' should be possible again (Bürgerinitiative FÜR RÜGEN, 1994).

These measures were intended to turn Prora into a 'memorial to the consequences of large-scale projects' as district administrator Hannes Knapp justified the plan (Knapp, 1994, p. 60). Prora should be raised on a pedestal and at the same time tabooed, to banish any possibility that Prora could be repurposed in the future and manifest its sinister influence again on the island.

To resolve the deadlock, the federal government decided to bring all stakeholders to the table and conduct a discursive process.

Reassessing Prora's Potentials

The contract to carry out the discursive process was awarded to the renowned Berlin development company S.T.E.R.N. S.T.E.R.N. was specialized in the 'gentle renewal' of inner-city districts by preserving the existing structures and involving the residents. S.T.E.R.N.'s mission was to reach a viable consensus for Prora's future development, together with the different stakeholders on the island.

The approach was characterized by a strong believe in the value of communicative interaction based on rational grounds. The process involved discussions, extensive workshops, joint decisions of the different stakeholders and continuous exchanges with the wider public.

A non-binding agreement under the title 'Prora for Rügen' was reached as result of the process. It shows how Prora's potentials and history can be reassessed and used to steer the islands development into a socially and environmentally more sustainable future. Formulated in the words of S.T.E.R.N.: Prora 'offers chances, not additional burdens, chances for Rügen' (Pfotenhauer, 1996, p. 2). By using these chances, it can serve as a 'relief for the entire island' (Hämer, 1996, p. 3).

Potentials of Prora lie in the already existing large buildings and sealed areas, its density as well as existing sustainable transport links to rail and water.

Using them however requires the individual municipalities of Rügen to overcome their parochial politics. The municipalities would have to refrain from planned new buildings for hotels and holiday settlements and direct the tourism development pressure into the existing spaces in Prora. Developing

the complex under these preconditions would allow protecting the unique nature of the island as a touristic asset in the long-term.

This would enable a touristic development on Rügen, which corresponds to the development goals of the Agenda 21 (The non-binding United Nations Action plan for the 21st century with its focus on sustainability, decided in Rio de Janeiro 1992).

Tourism as an economic driving force would allow supporting economically weaker uses in Prora, like affordable housing, cultural institutions, youth tourism. Functions which are necessary for Rügen and its more vulnerable groups in the long term.

In the non-binding 'Prora-Contract' the different actors committed themselves to the joint implementation of the consensus (Grundsätze zur Entwicklung von Prora, 1996). The guideline 'Altruism before Egoism' was agreed as the basis of the Prora-Contract (Schlusche, n.d., p. 6).

Conclusion

The example of Prora shows how failed large-scale projects - even if the reasons for their construction have long since become obsolete - can still have a decisive influence on the fate of a region.

Resilience is not per se a positive feature. The potentials of the past, which buildings carry within them, can exert a deeply ambivalent influence on the present. To advance change towards a more socially and ecologically sustainable future, there must be an active engagement with these ambiguous potentials.

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Figures

Top: Prora, view from the seaside, ca. 2012, photo: Antoine Beaudoin

Bottom: Prora, view from the landside, ca. 2012, photo: Antoine Beaudoin

In the light of Lumen. How to get a 30 years loan of use for a common space in Florence

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Introduction

There are architects that design walls and roofs to let people in, and there are architects that design processes to let people meet. To regenerate an urban fragment, the second ones are as important as the first ones.

Lumen is a physical place under constant evolution: the result of a ten-year experimentation of temporary events. Nowadays, many professionals work across disciplines to regenerate urban spaces, and they define themselves as urban practitioners.

Practice, in this definition, can be interpreted as the Aristotelian Praxis, as opposed to Poiein. They both mean “to act”, but while the definition of Poiein means to produce something, as in building a house, Praxis means to do something that is good in itself without any permanent physically built result, as in building social relations between people that dwell in the same place.

Temporary actions for the collective regeneration of spaces

Lumen started as a happening, in a forgotten shed of a park in the city center of Florence. A group of young people organized a sort of semi-spontaneous event where for one afternoon there was music, live painting and some collective maintenance of the place. In a moment where the few free places of social interaction started to decline, such as the “case del popolo” and squats, this heterogeneous group of people wanted to offer an alternative to the consumerist leisure options that the city was offering. Years after years, the group expanded: the happening became a two days festival free of charge, named “Copula Mundi”. Illustrations exhibitions, live jam sessions and juggling were added to the program. The main associations that managed the event and the informal actors had to become a proper and defined legal entity: the association Icchè Ci Vah Ci Vole (ICVCV). This entity was needed because of an increase in complexity and in responsibility management. After four editions the users of the park changed, as more families started using the garden, overrunning the previous population mainly composed of kids skipping school. This dynamic forced the public administration to increase the affordability of the garden, through various interventions on the space.

Temporary events are an experimental tool for the modification of a space. As an experiment, it is replicable in different contexts, but without a standardized approach.

Experimenting the institutionalization of co-production

Aware of the potential of this approach, the public administration suggested another park to host the festival, bigger than the previous one and abandoned as well. The cultural offer, the actors involved, and the hierarchy grew with the new dimensions of the festival. Being mostly based on voluntary work, public funding and food & beverage, the organizational machine was too big to be a free of charge festival. Moreover, a temporary festival has considerable waste production, that is acceptable if the aim is profit, but it’s not if the aim is urban regeneration.

The idea of establishing the festival and the association in a specific place surfaced between the organizers. How to create a path with the public administration?

A law came in hand along the process of finding a place. A law that allows groups of citizens to ask for a non-residential building that is not listed as historically relevant, and that has a covered surface beneath the five hundreds square meters.

This legal tool was created in 2017 and, until 2020, nobody used it. ICVCV found an abandoned park at the periphery of the city center, nevertheless just five kilometers from the cathedral. The 4000 square meter park has several greenhouses and an old abandoned Casa Colonica, that previously hosted a health facility for addicts. Lumen, the new name of the place, is right now in a strategic place, at the border between the countryside and the city, exactly where a new tram terminal will be built in 2024.

As in every innovative process, the beginning is always experimental. 2023 is the third and the last year of a temporary loan for use, preceding the signing of a thirty-year contract. The bargain is to have the place for free, in exchange for ordinary and extraordinary maintenance of the building and the park. After a brief estimate, the total probable investment will be around 600k Euros. Figure that will become a public profit since the abandoned farm house is a public property.

In these first three years, the interiors are being used as storage, while all the resources are being focused on the exterior of the park. That is because it's easier and cheaper to make a place work in the summer. In addition to that, it would be unwise to focus on the building instead of focusing on building a community, before signing the contract.

Accountability & Sustainability

ICVCV is an association for social promotion (APS), a legal subject that has a clear hierarchy, where the president is accountable, economically and legally, for all the association activities. The problem of accountability is a multifaceted one: it compels a hierarchy that verticalizes social relations and spatial production, it oversimplifies decision-making and makes it easier for the supervisory bodies to identify a scapegoat. This structure isn't a reflection of a common project, and recently this contrast was a further aggravation to a fine that the association received for a question regarding the 2019 edition of the festival.

Any legal or penal setback that occurs to the legal representatives, drives them to isolation.

Any additional burden they bear as individuals is mirrored by a reduction of engagement toward the members, and the decrease of interaction, in a common project, usually drifts members apart. This is the core complexity of a commoning project in Italy, that is linked to the issue of sustainability.

Three freedoms

A common project that is non-profit, that is designed to give to others, works if the people actively involved receive something back, that usually are: to feel useful, a sense of belonging, new skills or new possibilities. These last possibilities can be defined as the three freedoms used by Michael Sorkin to define a good urbanity: freedom of assembly, freedom of access and the freedom of use and expression.

The festival "Copula Mundi" worked on all three freedoms: it opened and improved the places where it has been done, free entrance meant that people were able to assemble there and, lastly, it offered the possibility of exhibition, performance and self-expression. Right now, if an association wants to use the space for a show without a ticket, the space is given free of charge.

The festival "Copula Mundi" is now taking place every summer at Lumen, still free of charge. But the space itself during working days has to safeguard access requiring a membership card, even if a cheap one. That is because of accountability. To safeguard the freedom of access, and to minimize accountability, the association rejected the proposal of the administration to manage 9000 square meters and asked instead to manage the half of it, turning the remaining 4k sq into a public garden. In this way the public space is subjected to the social control of the association activities, it's not its responsibility, and it's actually open also to the ones that do not want to become members.

To keep alive and to develop these freedoms, the architecture of the place is changing every year, to improve them and to create new ones.

Form follows contents

The 'usual' process of constructing cultural and social spaces follows a predefined sequence: the architectural container (or landscape) is designed and then built on the basis of an a-priori model that lives in the mind of the designer, and the social and cultural content must adapt to this given form.

Lumen is an experiment in subverting this predefined sequence, postponing the definition of the spatial configuration to the construction of the cultural and social content. The actual spatial design is, in fact, indefinitely delayed, resorting to provisional layouts and pop-up devices, recursively rearranging the architectural and outdoor spaces, in a permanently ongoing experimentation.

In this way, instead of forcing the social and cultural contents to adapt to a predetermined form, the physical form of the place is incrementally built around the characteristics of the people and relationships it will have to accommodate.

Indeterminacy is one of the main characteristics of a good public space, it has to accommodate the unexpected, just like a good party or a festival. Festival is, in fact, the translation, not completely satisfactory, of the "la fête" concept by Lefebvre. The philosopher stated that one of the most

important aspects of urbanity is the moment where the use value overcomes the commodity value, the moment of creation of the “oeuvre”, that he called “la fête”.

Goethe affirmed : “I call architecture ‘petrified music”. But in the light of Lumen, architecture is more like live music.

Repurposing as Learning: Understanding the Role of Architects in Enabling Owner-Occupiers to Retrofit

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Introduction

In the UK, the residential sector shares 58% of the building's emissions, more than 85% related to heating space and water (UKGBC, 2021). Hence, There is a pressing need to improve the thermal performance of its existing housing stock to fit them for the future, which mainly concerns owner-occupied homes as they constitute more than 63% of existing housing stock (EAC, 2021). Whilst direct legislation is considered too intrusive and expensive to enforce (Lucas et al., 2008), the emphasis shifts to owner-occupiers' voluntary engagement. This is often followed through unsuccessful educational programs based on information deficit models and behavioural change (Abrahamse & Matthies, 2018). Recent research has argued for learning in situations where the inter-relation of energy consumption with bundles of practices that make up the everyday life of households becomes accessible (Christensen et al., 2019). Similarly, practice-based research that explored the practical enactment of house retrofit located energy efficiency within various accounts of everyday realities and emphasised the strategic position of architects in resolving conflicts and incorporating retrofitting in broader house adaptations (Hipwood, 2021).

Therefore, this paper understands 'low carbon retrofit' as upgrading existing house components to improve energy use (Shahi et al., 2020) . However, the study places retrofitting within broader goals and house development projects to investigate architects' highlighted yet under-explored position in making retrofitting sensible for owner-occupiers (for retrofit as process, see Galvin & Sunikka-Blank, 2017). In this context, 'repurposing' does not refer to changing the function or occupation of houses through intervention but to repurposing the intervention process itself - towards greater energy efficiency.

Approach and Methods

The research draws on the theory of practice architecture, which explores learning as initiation or being steered into practice (Kemmis, 2019). In the theory of practice architecture, sayings, doings, and relatings form practices and hang together as projects that are made possible by cultural-discursive (C-D), material-economic (M-E), and social-political (S-P) arrangements. These arrangements are not entirely at the disposal of individuals. Instead, they form as people encounter one another in semantic, physical, and social spaces (Figure 1). Thus, educators can be conceived as co-participants in shared sites that influence local-based arrangements and enable or constrain practices.

Accordingly, through micro-ethnographic observation of communicative spaces that architects come to share with owner-occupiers (Erickson, 1995), the research investigates the educative influence of architects in reproducing practice architectures around retrofitting. To ensure energy efficiency has a chance to emerge within these shared spaces, professional networks are purposefully searched to locate architects with pronounced ambition in employing their expertise to address energy efficiency in domestic projects. The research examines four architect-owner meetings around three projects at different stages of preparation and design (RIBA stages A to C).

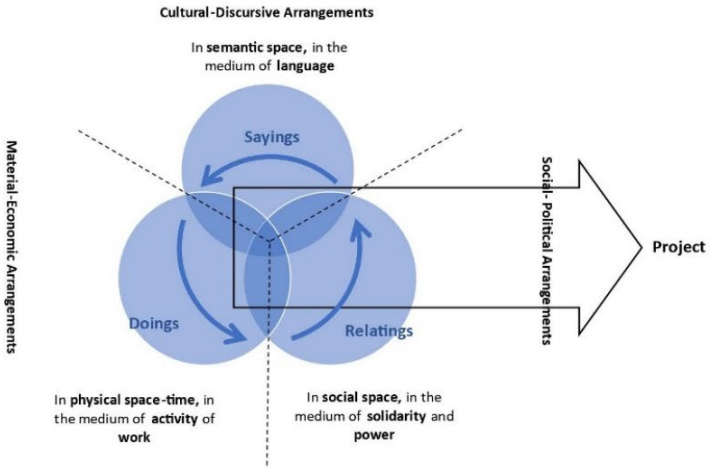

Figure 1- Theory of Practice Architecture- Redrawn after: (Kemmis et al., 2013).

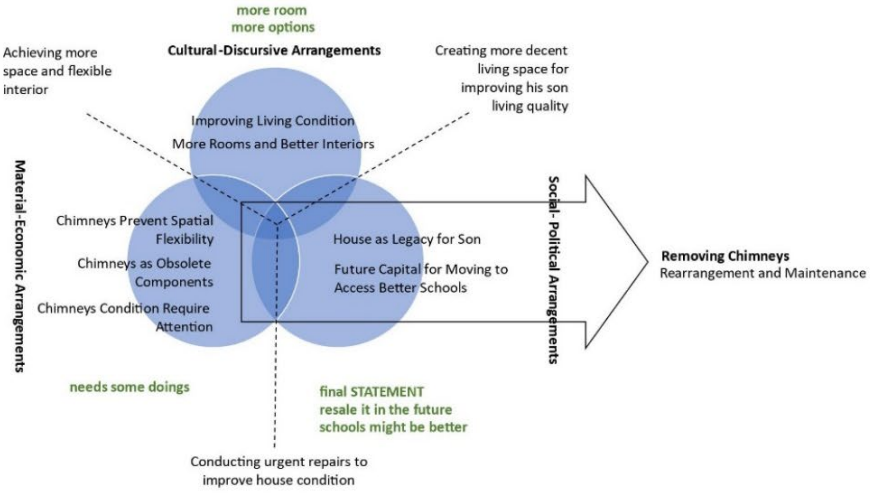

Figure 2- Practice Architecture of Removing Chimneys: Arrangements Found out/ Brough in by Owner

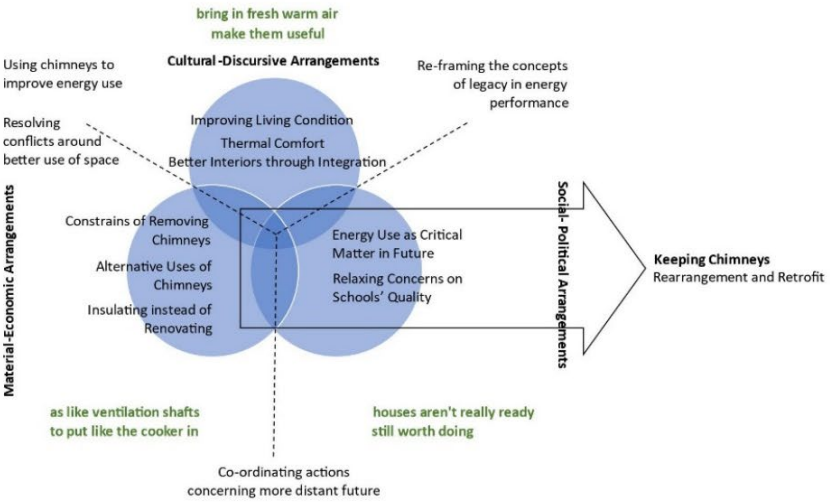

Figure 3- Practice Architecture of Removing Chimneys: Arrangements Influenced by the Architects

Discussion

Exchanges between Owner and Architects 1 and Architect 2 about house chimneys as part of an improvement project are selected to discuss the findings. The following concise narrative is assembled from episodes of talks across two meetings and follow-up interviews. The first part presents the arrangements within which Owner finds removing chimneys sensible, and the second part shows the

reformation of the practice architecture by the architects to keep the chimney and improve the energy performance of the house.

In contrast to the architects, Owner does not have a clear idea of retrofitting. He has a list of projects oriented toward gaining more space and/or attending to maintenance. Chimneys are in a deteriorating condition requiring attention. Also, Owner sees them as obsolete components that limit the flexibility of the interior space. Later, he associates enhancing interior flexibility with improving the living quality of his son, both in terms of creating a better space for him to socialize and leaving what he defines as a 'lasting legacy'. However, he expresses willingness to sell the house and move somewhere else to access better schools. Understanding Owner's sayings, doings, and highlighted relations from the lens of the practice architecture shows how these seemingly unrelated factors connect to each other across arrangements and make removing chimneys sensible (Figure 2):

- Overlaps of Material- Economic and Cultural- Discursive Arrangements: the chimneys' conditions and their perceived negative impacts on space (M-E) direct action to better use of space and improve the interior (C-D).
- Overlaps of Cultural- Discursive and Social- Political Arrangements: seeking space and flexibility are derived by providing good living conditions (C-D), directed by being a father and the ambition of leaving a legacy (S-P).
- Overlaps of Social-Political and Material Economic Arrangements: concerns over access to suitable education cause a sense of instability (S-P) that limits actions to urgent small-scale works, including addressing the deteriorating chimneys (M-E).

Architect 1 suggests keeping the chimneys and using them as ventilation shafts to bring in fresh, warm air and dry out the house. This would also help resolve the dampness problem Owner mentioned earlier. She gives Owner examples of integrating the chimneys into the house's interior layout and making them useful. Architect 1 also raises concerns about the impacts of removing chimneys and the costs of the work. She then warns that selling their house may not yield enough money to purchase a similarly sized property in the current market. Later, Architect 1 invites the owner to think long-term and emphasizes that current houses are not ready to meet the energy requirements of the future. She concludes that improving energy efficiency would be inevitable at some point. Finally, Architect 2 shares her experience of going to the same schools and 'turning out fine.' Looking at overlaps between the arrangements better illustrates the architects' influence in making retrofit and keeping chimneys sensible (Diagram-2):

- Overlaps of Social-Political and Material Economic Arrangements: Reframing the owner position, both as a householder and father (S-P) encourage actions to aim for long-term goals such as energy efficiency (M-E).
- Overlaps of Social-Political and Cultural- Discursive Arrangements: Being in a more stable position opens the possibility of thinking long-term (S-P), which extends the discourse of improving living condition to include thermal comfort and energy use (C-D).
- Overlaps of Material- Economic and Cultural- Discursive Arrangements: Keeping Chimneys as ventilation routes is demonstrated as a straightforward way (M-E) to achieve better energy performance. Additionally, proposing scenarios in which chimneys serve new and wider purposes (M-E) resolve conflict around flexibility and better use of space (C-D).

Findings

Eventually, Owner removed the chimneys but adopted the retrofit measure, demonstrating learning and the architect's roles beyond persuasion to enable the owner. In this example, the architects' influence can be explored around practicality and costs that constrained Owner to retrofit.

- In the overlap of (S-P) and (C-D) the architects initiate the owner into re-thinking their future position and what constitutes good life. They enable owners to think of practicality from broader and different perspective. Therefore, they play a transformative role.
- In the overlap of (C-D) and (M-E) the architects initiate the owner into aiming for more forethoughtful and/or broader goals. They enable the owner to achieve practicality by acting smarter and making most of the situation. Therefore, architects play an augmentative role.
- In the overlap of (M-E) and (C-D), the architects initiate the owner into re-evaluating their future position and coordinate their actions, respectively. They enable owners to explore practicality in vision-driven decision-making and problem-solving over time. Therefore, architects play a scaffolding role.

In general, the architects help the owner to better envision what lies ahead, reduce uncertainty around current actions, and repurpose the interventions to ensure their long-term happiness through optimising energy use. Architects are well-positioned to contribute to this as they have access to the ecology of dwelling practices and the deeply emotional drivers behind them. Recognition of this role is critical for upgrading housing stock and maintaining an ethical practice, which is essential in addressing contemporary challenges (see Samuel, 2018).

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Co-creation and collaboration to create social value: A case of the restoration and retrofitting of Woodstock School Mussoorie, India

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Reimaging Woodstock School's campus, infrastructure and learning spaces to celebrate its 168-year legacy and heritage while providing a modern, flexible teaching and learning environment for the 21st Century to support their pedagogy, as well as vision, for the future. The project has adopted a community-led, people-centric design approach reflecting the school's values of inclusivity, collaboration and treading lightly on Earth. The careful implementation of the project has been achieved through the integration of low-technology, recycling and upcycling of materials within the site, as well as the application of traditional materials and craftsmanship during the COVID 19 pandemic. The entire restoration has been a fully private sector initiative, funded by 250 individual donors from North America (Canada and the U.S.), Australia, New Zealand, Thailand, Singapore, India, Northern Ireland, Denmark, and the UK through the Friends of Woodstock School (FWS), Canadian Friends of Woodstock School, and Lyre Tree Society.

Woodstock School, established in 1854, is a premier non-profit, co-educational boarding school set in 258 acres of wooded landscape in Landour, Mussoorie, India. Although it is not legally protected as a heritage building, it is considered to be a local-level landmark. Recognized as an institution rich in history and tradition by current and former students, staff, administrators and visitors, its heritage environment provides a tangible link to its distinctive identity.

Having grown incrementally over the years to adapt to the changing academic requirements, the individual internal and external changes have had a detrimental impact on the overall architectural heritage value of the school's academic buildings. It recognizes that in moving towards becoming an international educational leader in Asia it needs to initiate change to foster a sense of community as well as impact student learning.

An example of participatory heritage conservation, this project has been entirely driven by the community for the love of their heritage. The articulation of the community's values was achieved through bottom-up engagements with the students, teaching staff, administration and alumni through hybrid modes. In keeping with Woodstock School's ethos of treading on the planet lightly, the project has been guided by the vision of celebrating the rich heritage of the building while providing a modern flexible environment that supports its vision to be a global institution. The core values of the school of encouraging holistic learning, caring for the planet and sustainability have been the guiding force for the project. The heritage values are vested not only in the material fabric, but also in the largely intangible; the legacy of the past as well as the vision for the future.

Sustaining identity is not just about returning a place to its glorious past, it is about endurance and empowering a community to adapt to changing circumstances. The fund-raising campaign for the project has been built around the idea of honouring Woodstock's past by giving towards its future, co-creating and sustaining a collective identity for the institution. Adopting a participatory design approach, the brief of the project was outlined through collaboration and co-creation with all stakeholders.

The objective was to make the 168-year-old buildings future ready, adapting to teaching and learning in the 21st Century while respecting their heritage and improve resilience of the buildings to disasters such as fire and earthquakes. The primary challenges were the structural retrofitting of the building to increase resistance to seismic threats, upgrading the mechanical engineering services and

integrating new heating and ventilation systems for the classrooms and science labs. The architectural interventions included recovering the original spatial configuration of the 1929 building by reorganizing the spatial uses. This included careful removal of incongruous walls and partitions, designing spaces that were collaborative, flexible, student centered and efficient. Original architectural features and fenestration patterns were recovered, original timber windows were repaired and refurbished, and those which were heavily damaged were replaced to match the original design in like-for-like material. The key design elements were recovering the original spatial design of the building, creating spaces with ample natural light and ventilation that facilitated collaboration, enhanced the mood and supported learning and remained a solution that was specific to this site.

Interaction spaces outside the classrooms were created with the refurbishment of the hallways as well as creating a centrally located lounge for teachers and students. The disused open space to the front of the High School was re-imaged as a student interaction space. The landscape design was chosen to be practical, the existing material available on site was reused, the overall drainage of the site was managed and new benches made from leftover materials were designed around the existing trees, enhancing the biophilic qualities of the space. The main entry was re-imagined to create a more visually permeable entrance while maintaining the security, highlighting the original entrance gate which was faithfully restored based on archival references. The security and reception area were designed to merge into the surroundings and built with material already available on site, in keeping with the recycle, reuse and repurposing principle. All new interventions were chosen to be contemporary in the choice of material, colour and expression. The project has created flexible working spaces with the creation of open-plan and collaborative working spaces, centrally shared social and informal meeting areas for teachers and students. The spaces are enhanced by the choice of flexible furniture.

Adopting a community-led design approach, through an iterative process, the project was undertaken on a tight budget using low technology and relying more on human action. As the project was

implemented during the COVID 19 pandemic, several new ways of working in collaboration with the local teams emerged for co-creating solutions that helped in successfully overcoming the various challenges that were encountered. Learning from this experience we have co-created an online open-source platform called the Restoration Toolbox that brings together all stakeholders in the design process and empowers local communities to restore their own buildings in a participatory way.

The Role of Lighting in Supporting Town Centre Regeneration and Economic Recovery

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Introduction

Town centres are struggling due to changing retail trends and the impact of Covid. We live half of our lives in darkness yet lighting after dusk is so often considered only in functional terms and does not fully address human centric needs; the cultural, economic, social and political aspects of our global society. However, considered lighting, beyond just compliance, can engage communities and support wellbeing, but there is little socio-economic data available to define the value of lighting.

This paper explores the role of lighting in town centre regeneration. It explores the potential for lighting interventions to create night-time spaces for people and provides evidence to guide town investments towards encouraging economic activity, and bringing people back into the towns in a safe and inclusive manner using lighting as a key resource.

Context

Lighting plays an important role in enabling healthy, inclusive and sustainable urban lifestyles. It focuses on the human factor and ways to enhance the experience and use of public space during the hours of darkness. Many towns and businesses already understand the economic implications of a flourishing night-time economy. After all lighting design shapes the attractiveness and quality of the night-time experience.

Town centres are often defined by the following characteristics: retail, leisure and cultural hubs, access to public/private sector services, employment, commerce, transport hubs and they are perceived by the community as their town centre.

The Covid pandemic brought unprecedented challenges and towns reacted with streets closed to encourage social activity outdoors. Reaction was positive and now towns are making meanwhile interventions permanent, transforming the urban environment into places for people. Also, capitalising on an increased desire to walk and cycle requires improved perception of safety after dark on these routes to encourage their use.

Lighting can contribute in many ways to easing the pre and post-covid challenges that town centres are facing:

- Supporting a transition from functional covid interventions into a recovery plan.
- Revitalising and enhancing attractiveness and perceived safety
- Catalysing regeneration and sustained economic growth.
- Providing cost-effective, ‘quick wins’ for stakeholders looking to make improvements.

The economic value of lighting can be expressed in terms of the multiplier effect; an initial injection into the economy leads to a much greater final increase in GDP. For example, the direct impact of a lighting festival can be measured by additional spend in food outlets, indirect impact will be enjoyed by the supply chain feeding the event, and an induced impact is the supplier employees spending in the local economy.

Well considered lighting design will help achieve sustainability goals which support well-being, social activity for all, growth and employment and the responsible use of modern technology. The development of a successful night-time strategy will be dependent on private and public sector partnerships. However, the value of lighting intervention must also be balanced with the respect for biodiversity in our urban environments.

Challenges

The paper identifies nine town centre regeneration challenges which lighting can help address:

1. Attracting people in a safe manner
2. Providing attractive outdoor spaces for dwell
3. Reconnecting people with the natural assets
4. Removing physical and psychological barriers
5. Expanding beyond retail, food and beverage, into leisure, residential and co-working
6. Celebrating heritage assets
7. Bringing new life into underused spaces
8. Encouraging community participation and ownership
9. Accommodating retail changes, diversifying to complementary uses

A town's diversity is complicated by an increasing diversity of citizens and more social and economic life now takes place in towns after dark, so 24h thinking needs to apply to towns which now have a wide demographic requiring lighting to respond to their needs.

Case Studies

The sixteen case studies contribute in various ways to the three main dimensions of urban life: liveability, sustainability and economic development and range in size. They focus on the human factors; ways to enhance the experience and use of our town centres after dusk. Three are summarised below.

1) B-Lit NYC

Engaging a community with simple lighting interventions can be used to build resilience, create safer places and reduce antisocial behaviour while building a sense of community. Low-cost lighting interventions were used to promote ownership and pride.

2) Leicester Square

Lighting interventions were informed by pedestrian traffic analysis and they reinforced alternative walking routes though the central park space to unlock bottlenecks. Now occupancy is more evenly spread and the visitor experience less frustrating which promotes dwell and spend.

3) HK Metroplaza

Metroplaza was renovated to create an 'airport lounge' type environment with an enlarged outdoor green space to enable people to take a break, relax and make the shopping trip more of an event. This encouraged a longer stay and resulted in a double-digit growth in retail/leisure spend.

Next Steps

The final part considers the next steps; to scope, plan and formulate a business plan for lighting interventions, namely:

1) Scoping: Prioritise/Identify which of the nine challenges are most applicable to your town, and understand why. Consider which nine town centre challenges are your policy goals.

2) Context Appraisal: identify parameters which will inform the interventions; engage with third parties via collaborative thinking sessions, review the site, scale and scope of the intervention, think about human perspectives of arrival, impression and orientation, appraise the site character and heritage, appraise people's perceptions of safety and evaluate the appetite for change.

3) Conceptualisation: identify the possible interventions, appraise options and prioritise them functionally, physically and financially. Integrate them into the masterplan with defined and measurable short, medium and long term goals.

4) Business Case: now the project is scoped and understood, back it up with fiscal evidence. The business strategy for interventions must ensure benefits are achieved, from meanwhile interventions to a long-term masterplan

Hyperlink: www.arup.com/perspectives/publications/promotional-materials/section/the-role-of-lighting-in-supporting-town-centre-regeneration-and-economic-recovery

Lancaster West Future Neighbourhood Vision: co-designing a resident-led vision for London's largest eco-neighbourhood

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In 2017, 72 residents lost their lives in the Grenfell Tower fire.

Following the Grenfell Tower tragedy, the Royal Borough of Kensington & Chelsea created the Lancaster West Neighbourhood Team (LWNT) to work on the refurbishment of 800 homes on Lancaster West Estate (LWE) and work in partnership with residents to achieve a green recovery, codesigning the future of the neighbourhood very closely with the community.

As part of recovery, LWNT worked with 1,800 residents to co-design a Future Neighbourhood Vision (FNV) to deliver community projects and services. Arup was appointed in 2021 by Lancaster West Residents Association (LWRA) and LWNT to work with residents and stakeholders to co-design the next steps of the FNV.

The vision has three main objectives:

- Define priorities for future investment and for delivering services.
- Help LWNT to better utilise their assets to meet local needs and deliver positive outcomes.
- Support their ambition to become a socially and environmentally resilient eco-neighbourhood.

There were some key challenges to overcome during the FNV process:

- LWE (and Notting Dale ward as a whole) is a diverse community with nearly half of residents born outside the UK.
- Over-consultation and engagement fatigue in the local community: due to the context surrounding the LWE, residents of this community are incredibly consulted by various bodies and organisations.
- Covid 19: The pandemic provided some logistical challenges, with the Omicron variant delaying the final project stages.

On an estate where a vision was never in place and that has been historically neglected, LWNT has been working closely with residents to repair their relationship with local authorities and to make this relationship one that is lasting and meaningful, built upon trust and where all parts of the community are heard.

The FNV contributed to nurturing this relationship and helped overcome existing challenges by using innovative strategies to community involvement which place residents at the centre of the process:

1. Resident-Led: from initial scoping to delivery, community representatives have been a key part of the governing steering group, procurement processes, and strategic decision-making.
2. Accessible: using a multi-channel and multi-lingual approach, engagement was embedded in everyday activities and designed to require minimal effort to participate. From the onset, 3 residents were hired as engagement assistants to help overcome linguistic and cultural barriers.
3. Flexible: taking an agile approach to the programme enabled learning and feedback loops, allowing resident to meaningfully shape outcomes at each phase.

4. Collaborative: over 20 organisations active in and around LWE from across public, private and voluntary sectors formed a FNV Partnership Board to work collaboratively on the FNV.

The project comprised five stages of working with residents and stakeholders:

- Empower – empowering 3 residents through employment to shape key strategic decisions and work with the project team.
- Understand – building a picture of the current context using demographic data and resident feedback to form a robust evidence-base for future projects over the next decade.
- Inspire – creating a playbook of best practice solutions from around the world to address identified needs.
- Explore – building a list of potential projects specific to LWE, assessing and prioritising each of these against need, deliverability, funding and benefit to the community.
- Demonstrate – co-designing one exemplar project based on resident demand, which is a training and employment hub.

Key planning principles such as no loss of existing social housing and ensuring any new housing benefited local residents – and would all be flat-level access – were accepted as resident-led non-negotiables from the outset of the FNV, ensuring a truly bottom-up approach was apparent throughout. This was especially important considering one in 5 residents live with a disability and life expectancy in this ward is 10 years less than the borough average.

Some of the positive impacts of the vision include:

- Social value: the three residents hired received training tailored to their context and needs. This gave them skills valuable for their professional future.
- High levels of participation: the team engaged with over 70 residents and collected over 300 individual comments. The vision enabled meaningful co-design with residents and successfully delivered outputs that serve as tools for managing and delivering future resident-led initiatives on the Estate.

- Projects being delivered with sustainable outcomes:
    1. In a ward where only an estimated 31.7% of residents are in full-time employment, the exemplar project, the employment and training hub, has been piloted as a local Green Skills Academy to future-proof skills as LWNT works towards a carbon-neutral economy. The Academy is training contractors, local SMEs, and residents and has trained over 40 council staff members to date.
    2. As a result of the FNV, residents are now congregating at monthly community breakfasts and for activities in community spaces.
    3. FNV has built on LWNT's approach for sustainable development improving the physical and environmental quality of the estate. Notable achievements include 465.81m2 of grey to green space transformation, and 2,000+ new plants by 85 community garden volunteers.
- Partnership and collaboration: Where services were often once disconnected and uncoordinated, the FNV has left the legacy of bringing together 20+ organisations in the FNV Partnership Board to enable collaboration to deliver wider equality outcomes. New collaborations such as vaccination clinics delivered at FNV events saw the NHS vaccinating 127 residents amongst community groups with high levels of vaccine hesitancy. These partnerships are driving the sustainable and quality delivery of projects and enhance outcomes for community health and wellbeing.

The FNV successfully identified community priorities for the neighbourhood to better utilise facilities and spaces to support the Estate in becoming London's first eco-neighbourhood. The success of the FNV is materializing as projects are delivered by LWNT and community partners continue working together as part of various other initiatives, including the GLA's Future Neighbourhoods 2030 programme. The ambition of this community-led vision is to create improved opportunities for residents to meaningfully participate, make informed choices and drive positive change.

This will ensure that social cohesion and empowerment is built to maximise the resilience of the Lancaster West Estate, and its residents.

Re-thinking homes as productive spaces for improved resilient communities

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In 2022, the University of Queensland School of Architecture and School of Business launched an interdisciplinary study to develop design strategies for rethinking the future of Brisbane's work in suburban residential areas. The aim of the study is to challenge the modes of existing workplace arrangements by recognising the residential property as a location for diffused work, microscale business and manufacturing activities. The study has its starting point the structural change around work practices characteristic of post-Covid cities. Adapting to work from home has shifted the city's sites of productivity, as well as working behaviours. What is happening because of this shift, and what does this mean for the productivity and economic redesign looking into the future of work in Australia? We observe how the house in low-density inner-city suburbs is undergoing a radical process of transformation of both its typology and use. Flexible working patterns and increased entrepreneurship are blurring the boundaries between public and private realms (working and living), revealing the significant potential of the house as it accommodates productive activities. In dealing with these issues we have adopted, as our case-study, the city of Brisbane, Australia. Many of Brisbane's current population of 2,000,000 inhabitants live in detached houses of a marked suburban residential character, houses that begin to reveal a diversified range of microbusinesses run by their occupants – a phenomenon still emerging.

This study applies a multidisciplinary lens, interpolating architectural, business and planning perspectives with insights gleaned by on-site investigation conducted in Brisbane sample suburban areas. Drawing on the observational approach known as everyday urbanism (Chase, Kaliski and Crawford, 1999) a close examination of the everyday working patterns of residents embedded in residential neighbourhoods shows an increased tendency in the use of liminal spaces of private properties for on-site production, display and exchange of goods. The types of activities observed include plant nurseries; bike repair services; home gyms; dog grooming services; hairdressers and beauty salons; pottery and art studios and so on ("Business Queensland: Starting a home business", 2022, online resource). The mapping of these small-scale interventions, occurring in Brisbane since the pandemic, and even before it, has cast light on the widespread nature of emerging niche businesses across the city. Taking place in residential zones, fully regulated as such, the productive activation of residential properties has shown how production exists at different scales and levels of occupation, on and within properties, and along fences connecting public and private spaces. However, design solutions to host these activities remain extemporaneous.

Innovation in the research methodology comes from the combination of architectural and business approaches in support of projected futures for urban design and city planning regulation situated through evidence-based scenarios. The research stresses the urgency for councils to liaise with the community and small business owners to understand how (architectural and business) design can enhance the capacity of residential architecture to support novel workspaces arrangements and models. In a nation where 40 percent of workers are employed by small businesses, attention should be paid to the needs of micro-scale and family-run businesses and allow opportunities for them to grow in the suburbs and serve localised markets. To prioritise the design of homes that can promote entrepreneurship, address should be given to the management of mobility and the implication of parking, noise and other environmental impacts as parameters to be meet through design. These include, but are not limited to, couriers pick up, car parking and customer accessibility, pollution barriers (against dust, vibrations, waste waters or products and lighting), signage and business visibility, safety measures, separation and closure elements, availability of storage and workshop spaces. In terms of financial issues related to the integration of production in residential properties, insurance plays an important part, as running a business from home can carry risks often not covered

by traditional home insurance. Public liability and a property's 'change of use' are key factors that constitute the new dimensions of the productive house. While a conventional home office taking no more than 20% of the floor space of the house, with no clients visiting the premises, is usually covered by most insurance policies, other productive activities on the residential property may need separate legal cover, seeding issues for how residential zones are classified, regulated and governed.

Creating opportunities for people in Brisbane to manage their houses flexibly and efficiently as homes for living, and also for the productive activities they undertake, allows people to experiment and develop their own agency based on bottom-up economic initiatives. The house as productive space thus looks toward a new social and political landscape, in which individuals become drivers in creating new economic relationships at a local level. Manuel Castells observes that 'we are currently contemplating the emergence of new social landscapes, in which individualised persons strive to cope with the responsibility of constructing their built environment and networks of communication on the basis of who they are and what they want.' (Hass, 2008, p.10). The research adopts the view that the city, beyond its built forms, is also 'a social product, created out of the demands of everyday use and the social struggles of urban inhabitants' (Hass, 2008, p.10).

We see the productive house as the future of work in suburban residential areas in cities such as Brisbane and look to the capacity of the regulatory environment to acknowledge and support a growing tendency for the creation of grassroots business activities. We propose that design can contribute to absorb these new needs, leading to a rethink of the typology of home. We finally question the role of zoning in contemporary urban planning when related to the future of work in Australia, and develop design strategies for new working patterns, mixité and mobility. The benefits of rethinking the house as productive space are around increasing community resilience by supporting economic practices where goods and services are made, consumed and sourced locally, reducing the need for commuting and facilitating social interaction and cohesion in the community.

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Dialogue with Light: Social Impact of Inclusive Lighting Planning

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Introduction

Dialogue with light is a purposefully chosen title to cover two phases: lighting planning and social impact assessment methodology development process. The roots of the word dialogue, As David Bohm explains, come from the Greek words dia and logos. Dia means 'through'; logos translates to 'word' or 'meaning'. In essence, a dialogue is a flow of meaning, communication. “Dialogue with Light” positions light as a medium to allow communication among children and the caregivers, the municipality and the designers to open a new way of thinking and planning in the field of night-time design.

Starting with a lighting masterplan, the “Dialogue with Light” aims to go beyond the best practices. Depending on evidence-based outputs, the process aims to integrate vulnerable groups into planning process and provide measurements to comprehend the social impact of urban lighting actions on children and the whole district to enhance sense of belonging and sense of community.

The first prize winner of LUCI Cities and Lighting Awards in 2022, the plan might be the first lighting masterplan which positions “Children” in the core and add “PLAY” as a permanent night-time planning layer. The paper offers a socially innovative proposal for urban lighting policy making process with an emphasis on the power of lighting being an inclusive planning tool to involve vulnerable groups, especially children and their caregivers.

Urban Lighting Planning and Night-time Playscapes

Arup was appointed as a design and lighting planning team for Konak-Kemeraltı Lighting Masterplan in 2016 by İzmir Metropolitan Municipality. Two phases planning process has been developed for the traditional marketplace and the surrounding residential area of Izmir and submitted in 2022. The plan aims to integrate social, ecological, and economical aspects of planning into the process of creating a sustainable future for the city.

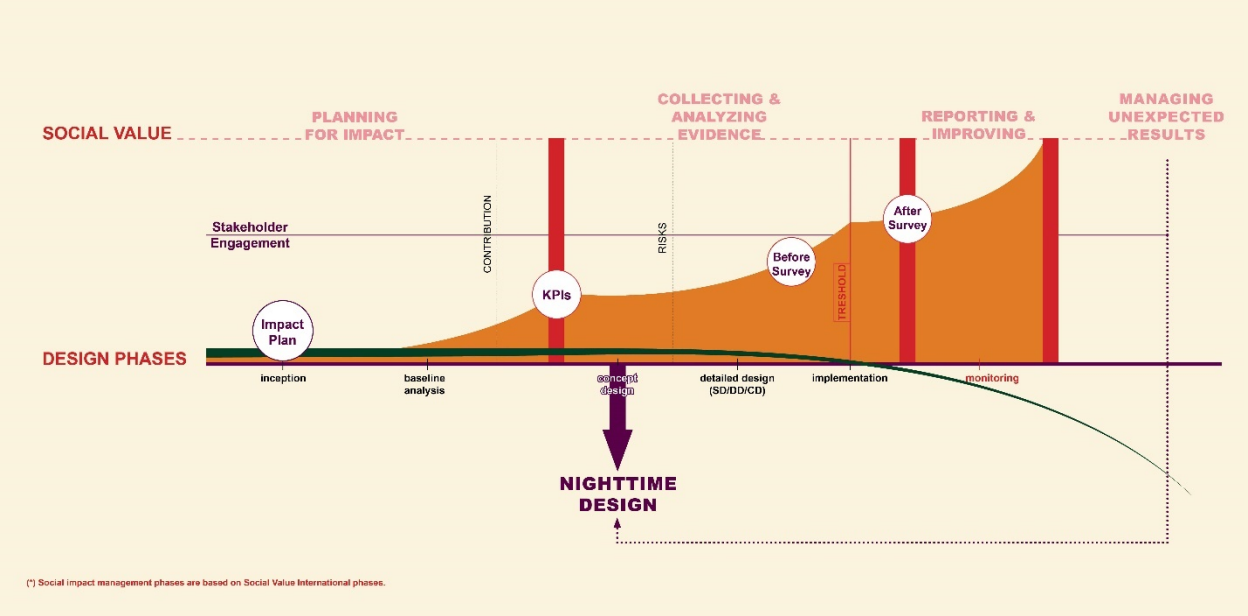
Although the design scope is covering the selected public spaces, parks and streets, as underlined, the planning and design process intended to go beyond the best practices and take the social responsibility to create a holistic night-time schema.

The project area, - Konak Kemeraltı District- is along the Aegean Sea, located in the west part of Türkiye. As a result of its unique location, the area has always been a vibrant commercial hub with cosmopolitan social structure during the history. Nowadays, The Area preserves the dynamic social structure with a low income, multi-cultured fabric that hosts not only Syrian and African refugees but also immigrant families from various regions of Türkiye.

As site visits showed, the streets and public spaces are used by children and women as playgrounds and gathering points. Although there is no common spoken language within the variety of cultures, “Play” creates a strong communication regardless with age gender, ethnicity etc. among the inhabitants. It is also stated that 43% of the population of the central residential district is under the age 19 by Dialogue with History Report* provided by the Municipality.

Considering the social structure and the existing usages of the public realm, while overlapping several urban layers, such as streets, public spaces, landmarks etc., the plan defines “Play” as a permanent planning layer to include children and their caregivers into the night-time city. Positioning “light” as the fundamental actor to convert streets into playscapes enables the masterplan to embrace significantly divergent communities. Lighting not only promotes a neighbourhood where all the members of the community could gather around the playscape together, but also facilitates “PLAY” throughout public spaces and inclusion of children, thus the change in social attitudes of the communities.

The plan achieves the extended, safe, and secure use of public spaces with %50 energy savings and carbon footprint reduction with the proposal. However, most importantly it expands the influence of urban lighting to enhance the sense of community.



Social Impact of Night-time Design

In this respect, the post-plan phase of “Dialogue with Light” is structured on evidence-based design with a research-based approach to understand how inhabitants and visitors interact with the real time playscape to measure the social impact of the design on children’s sense of belonging and community.

Funded by Arup University, the research has started in September 2022 with the professionals from the field of lighting design, urban planning, social value etc. and targeted to be finalized in September 2023. Arup has been partnered with Sokak Bizim Initiatives which is a non-profit organisation focusing on public spaces and urban mobility. The main stakeholder of the project is İzmir Metropolitan Municipality including several children related social departments.

The research methodology structure has three phases. Starting with investigation of the literature and Arup projects, the framework of the process and the theory of change is defined.

Enhanced sense of community is mostly associated with “belonging, wellbeing, safety and security, participations, membership etc. (McMillan & Chavis, 1986, p. 9). When focusing on public spaces, according to the book, Public Space” Carr et al. Carr, the public space fulfils three main needs of human namely: engagement, discovery and comfort.

Moreover, regarding Maslow’s hierarchy of needs theory people are motivated by five levels of needs: Physiological needs, safety needs, belonging needs, esteem needs and self-actualization needs.

Considering all, the play layer of the plan- turning streets into playscapes through light- focuses on fulfilment of the basic needs of the users to provide a strong base. Aiming to improve sense of community, the needs of underrepresented groups, first three level of Maslow's pyramid and engagement-discovery- comfort are correlated to define as social impact indicators in the research.

Regarding indicators, survey questions are prepared. After pilot implementation before and after surveys are followed by final monitoring which takes place four months after the implementation to measure the social impact through understanding the level of sense of belonging.

All in all, social impact and stakeholder engagement are usually overlooked in the urban lighting and planning design processes. However, this evidence-based design research shows that they could -and should- also be integrated in the main steps of design process as to create value considering with social, ecological and economical dimensions together.

As UN Habitat declares, it is estimated that 60% of urban populations will be under the age of 18 by 2030. The paper underlines the fact that it is time to think about new night-time design and social integration methodologies to create socially resilient future for all of us.

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Using multidisciplinary, evidence-led design approaches to embed sustainability and social value in the British Library Extension

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Background to the Project

The British Library Extension creates a new front door, welcoming a new generation of public participation in line with their Living Knowledge vision. Arup has collaborated on unlocking the project opportunity from the start, making possible a sustainable co-existence of culture, commercial science, rail infrastructure and public realm for community benefit.

A new headquarters is created for the Alan Turing Institute and facilities for the conservation and the National Sound Archive, sitting in complement to life science uses in the commercial spaces signifying the epicentre of the King's Cross Knowledge Quarter. New northern entrances open up the British Library, improving accessibility and connection to the local communities and creating inclusive public spaces. Through people-centred design, this once-in-a-generation project will benefit the local community for decades to come.

A multi-disciplinary team from Arup, including engineers, sustainability consultants, transport planners and economists have been working with the British Library and SMBL Developments Ltd (Stanhope, Mitsui Fudosan) on the extension of the British Library.

By taking an outcomes-led approach, Arup have been able to maximise the quality of the user experience, whilst minimising environmental impact. This approach has been evidence led and one of proactive integration across the spectrum of technical demands. This overview will illustrate how our collaborative and evidence led approach enriches and informs the wider design process ensuring robust and sustainable design decisions, with social and environmental value embedded in the fabric of our solutions.

***Experience*Walk**

We want to design places that deliver desired experiences. Preferences, emotions and feelings are critically relevant when assessing experiences. Measuring such variables is a logical step to quantify the experience of a place or setting within a context. Using emotion theory, we are developing a methodology for perceptual data capture, analysis and interpretation across various disciplines including acoustics, lighting, landscape, experiential environments, access and inclusion.

Using the British Library as a case study, we developed a framework for the capture, analysis and interpretation of perceptual data so that we can use it in the design of the built environment. The methodology is based on: engagement and co-collaboration; project context and understanding; quantitative and qualitative data capture; sensory evaluation; in-situ perceptual data capture; immersive theatre prototyping; and verification techniques and data analysis.

Achieving Biodiversity Net Gain and Mitigating the Urban Heat Island

The client prioritised sustainability from the start, with Arup leading a UN Sustainable Development Goals workshop with multiple stakeholders. The entire project team rose to the challenge of targeting BREEAM Outstanding – achieving Excellent as a minimum. Key interventions included:

- Fully electric in normal operation, accelerating decarbonisation - distanced entirely from fossil fuels.
- Air source pumps provide heating
- On-site renewables enhance future resilience
- Rainwater harvesting, greywater recycling, low flow taps and toilets save mains water.

Opportunities for biodiversity were embedded into the design from the outset. The climatic resilience of habitats was considered and species were selected for their tolerance to the conditions predicted in central London; considering project lifetime, which is likely to be affected by the increasing temperatures and extreme weather conditions of climate change. The lighting strategy has been developed with biodiversity in mind, supporting site wide biodiversity goals.

Green infrastructure comprises green roofs and climbing walls, dominated by native, pollen rich species to support pollinating species, along with insect hotels and bat and bird boxes to provide nesting and roosting opportunities. Ground level habitats were designed to provide additional, diverse opportunities for biodiversity and an overall improved connectivity through the site for species. Overall, the site was able to achieve a measurable net gain through provisioning habitats with greater local importance and of an improved condition. Our approach provides improved opportunities for ecosystem services, including; improved health and wellbeing of users, air quality, carbon sequestration and climate regulation.

As part of our holistic approach to microclimate design, Arup is developing a new data driven approach to quantify how design decisions can help mitigate urban heat and improve the comfort, safety and resilience of the urban realm.

Embedding Social Value

When the team behind the extension of the British Library wanted to maximise positive impacts, they turned to Arup. Through people-centred design, we ensured this once-in-a-generation project will benefit Camden residents, researchers, workers and visitors for decades to come.

To support the client's planning application to London Borough of Camden, we undertook an exercise to map and quantify the social impacts of the development. We drew on insights from five years of community engagement and local socioeconomic analysis to create a tailored and quantified Social Value Framework. Having mapped the various design, programming and operational interventions that the scheme has and will put into place to support social value, the team worked to identify new opportunities to enhance the design of the building. This included working closely with our Access and Inclusion team to consider how the building and surrounding public realm could best serve a broader range of users.

Typically social impact is only considered during planning and construction, British Library had a different idea, posing the challenge, 'How can we require future occupiers to continue the legacy once the scheme is in-use?'. With this in mind, we developed a Social Value Compact that will encourage future occupiers to promote local jobs, develop skills and raise aspirations of local students through mentoring and workshops, and create a subsidised incubator space for creative and socially responsible small businesses. This Compact will evolve to meet changing local needs, steered by a committee involving local stakeholders and coordinated by a Compact Manager based in the community. The design incorporates high quality space open to the local community including the foyer of the library, and a Learning Garden incorporated within improved public realm and managed in partnership with local charity, Global Generation.

Maximising and evidencing social benefits in this way strengthened the client's planning application. This was approved in early 2023, ongoing and meaningful community engagement is central to the scheme and will continue to be carried out over the next eight years as the project develops.

Royal Street; community and stakeholder engagement drives 'beyond best practice' health and wellbeing strategy in built environment.

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Improving the health and wellbeing of end users is a driver for many projects in the built environment. However, identifying health and wellbeing targets and implementing measures that meaningfully address the specific needs of the community and stakeholders can be a challenging process. On Royal Street, a mixed-use masterplan focused on the medical-technology sector near Waterloo, London, the multi-disciplinary Arup team has worked with Guy's and St Thomas' Foundation and Stanhope to create a framework that can deliver quantifiable and positive health, wellbeing and social value outcomes in support of the key stakeholders' shared vision.

Royal Street has three overarching health and wellbeing aspirations: to create a place that promotes better health and wellbeing for people and the community, responding to global drivers as well as local challenges and opportunities; to use an evidence-based, outcome-focused approach, which utilises data and research to define the vision and objectives and ensuring measures can be implemented and monitored; to partner with local stakeholders and integrate health and wellbeing into the design to deliver real value for individuals and the community.

Arup led the research and stakeholder engagement process that defined the health and wellbeing vision for the project.

Through extensive research, relevant global drivers and trends were identified, including urbanisation, ageing population and climate change, alongside local challenges such as social deprivation, air pollution, obesity, and the rise of mental health issues. Local health data from GP surgeries in the site's vicinity and socio-economic data were reviewed to identify the specific health challenges of the community. Additionally, to better understand the needs of the community, end user data were collected through surveys and community engagement, gathering views from staff, patients and students in the adjacent St. Thomas' Hospital as well as from local residents and visitors. Examples of specific needs identified included locations for hospital staff to go on break and de-stress and meeting spaces for local community and volunteer groups.

Stakeholder engagement was also key to the development of the vision. Five key stakeholders were key in driving the health and wellbeing vision at Royal Street: Guy's and St Thomas' Charity (the landowner), Guy's and St Thomas' NHS Foundation Trust (the adjacent hospital), King's College London (the hospital's academic partner), Stanhope & Baupost (the developer) and Lambeth Council (the local authority). Through multiple workshops during the engagement process, we identified the key strategic priorities of each stakeholder and refined our health and wellbeing strategy to best address their drivers.

This evidence-based approach led us to identify the social, health and wellbeing outcomes that formed the basis of our vision and a set of strategic objectives, defining areas where the project committed to achieve a measurable impact of value to all key stakeholders and end-users. Three specific 'beyond best practice' objectives were defined (Improved Air Quality, Inclusivity of Public Realm, Community Cohesion and Local Employment) reflecting the stakeholders key priorities, complemented by six additional 'best practice' areas complete the vision (Greater connection to nature, Positive mental health, Healthy eating, Increased sense of safety, Comfortable outdoors environment, Physically active community).

These objectives were then translated into measurable and achievable targets, through a process of scoping the issue, brainstorming with all disciplines and stakeholders, reviewing relevant research and best practice' examples in the industry. This framework became central to the decision-making process during the Royal Street's concept design and planning stage and establishes a route map for future design development, construction and operation.

For the 'Improved Air Quality' objective, the targets included a minimum 40% reduction on particulate PM2.5, PM10 and NOx emissions during construction compared to the current GLA baseline, reducing operational traffic on-site by 25%, achieving air quality positive status and 75% of the WELL Air Quality Optimisation score post-construction, and meeting WELL A01 (current best practice air quality standard) in operation for at least 3 years.

Several interventions have been incorporated into the design so far to achieve these targets. For example, the logistic strategy includes the design of an off-site consolidation centre which will drastically reduce the daily vehicle movements and require electric vehicles to be used from the consolidation centre to site. The scheme will include zero car parking provision on-site (apart from Blue Badge spaces) and generous cycle storage. Construction policies such as zero emissions for small construction deliveries and use of electric construction machinery contribute to the objectives, as well as the buildings services strategy which advocates for no on-site combustion for heating and domestic hot water generation, 20% increased ventilation rates compared to BREEAM, demand-controlled ventilation and air quality monitoring.

To meet the 'Inclusivity of Public Realm' objective, targeting relevant criteria in the WELL standard and BREEAM helped the team define a 'beyond best practice' approach (WELL C13 Accessibility and Universal Design criteria, WELL V05 Pedestrian Friendly Environment criteria, BREEAM Hea 06 Security exemplary criteria). The Design and Access Statements (DAS's) for the scheme were informed by these targets, expanded to consider site-specific populations and agreed to be progressively reviewed throughout the design stage. Post-construction, 50% of WELL Community Optimisations are targeted and surveys are planned to provide feedback to future phases.

The last 'beyond best practice' objective focuses on creating a cohesive community that advances employment opportunities for local residents and supports those furthest from the labour market into employment on the site. To achieve this, specific employee targets were set during construction for local residents, NEETs (not in education, employment on training), ex-offenders, long-term unemployed and disabled people, as well as targets for apprentices and construction spend with local SMEs (Small and Medium Enterprises) and VCSEs (Voluntary, Community and Social Enterprises). Local employment targets were also set for the operational phase such as the building management companies meeting 25% local employment for the first 5 years of operation. An enlivenment programme focused on health and wellbeing is also planned during operation.

To realise the outcomes of the health and wellbeing strategy, the implementation of the identified interventions needs to be monitored throughout design, construction and operation and the outcomes need to be measured. These form the next steps for our strategy.

In summary, creating a successful forward-looking and 'beyond best practice' health and wellbeing strategy relies on several ingredients: establishing a people-centric approach from the start, identifying the needs of the local community, partnering with local stakeholders to understand their drivers, focusing on measurable outcomes, creating a clear framework to measure success and ensuring the impact is not diluted through continuous monitoring. Royal Street is a unique case study where this framework is being implemented, ultimately intending to deliver real value for individuals and the community.

Section 2: Neighbourhood & Urban Issues

Curating Neighbourhoods.The role of curatorial practises in shaping and transforming neighbourhoods

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Introduction

Curating neighbourhood is a doctoral research exploring the ways neighbourhoods are being transformed, curated by new urban development models in Tel Aviv, Israel. These models are targeting certain profiles of residents who are increasingly seen and treated as consumers, and are often aimed at young professionals. The research aims to shed light on the ways these emerging phenomena are leading to the privatisation of communal life.

Such targeted groups are defined as privately owned and managed neighbourhood groups and are examined within the setting of urban entrepreneurialism (Harvey, 1989). These groups have been emerging out of the private sector, created either by residents, primarily via platforms such as Facebook, or by private companies which provide services ostensibly for the development and the maintenance of community life.

The concept of curation and specifically urban curation is used here as the framework for exploration (Raco and Tasan-Kok, 2020; Canelas and Raco, 2021). The act of 'curating' represents several practices simultaneously, that involves selecting [sorting, filtering], organising [editing, reproducing, translating, shaping], and representing [displaying, positioning, exhibiting] (Merkel, 2015; 2019).

Tel Aviv was chosen for this research due to the strong presence of the prospering tech industry (Alfasi and Margait, 2021) and the sheer scale of regeneration taking place in the city. Those are leading to significant challenges in terms of increasing socio-economic and spatial inequalities.

For gaining a better understanding on the privatisation of communal life, two trends should be taken into consideration:

- neighbourhoods and neighbourhood groups
- the neoliberal citizen

Neighbourhood and Neighbourhood groups

Neighbourhoods or 'the neighbourhood scale' has been paid much attention by local and state governments, practitioners, and academia over the past decade, and in particular during the Covid-19 pandemic. Even though the pandemic prompted a global crisis, its ramifications have been felt, perhaps most starkly, within the local setting. Lockdowns, closures of local businesses, citizens falling ill, a loss of public trust and growing uncertainty are only some of the challenges that neighbourhoods have had to face. Research has shown that the importance of local communities has increased as a result of growing socio-economic divisions, and the extensive use of social networks and social media platforms during this period highlights the role that the neighbourhood plays in nurturing a sense of safety and familiarity (Batty, 2020; Florida, Rodríguez-Pose and Storper, 2021).

Neighbourhood groups began to be formed by individual users via Facebook in 2010, and during the past decade several start-ups/companies have identified the demand for such communities. These groups operate in hybrid spaces (i.e. virtual and physical spheres) and could be seen, at times, as virtual gated communities.

This research has identified two types of neighbourhood groups. The first are neighbourhood groups established by an individual resident or private company. These groups are operating on a neighbourhood scale and may be seen as an infrastructure of sorts. The second type of neighbourhood group is bound mostly to new developments, where often the community is being promoted as part of the marketing package. In the cases of new developments, the community is seen more as an ecosystem, and operates differently in each context. In some instances, a (commercial) entity is put in charge, on behalf of the developer, while others hire external agents; and the involvement of local councils also varies between places.

In both types of neighbourhood group the development and maintenance of community life include:

- the gathering and displaying of local news and information;
- the (dis)promotion of local business and services offered by residents;
- taking care of safety issues;
- organising social, cultural, and political events; and
- establishing subgroups such as mothers on maternity leave, people who work from home, homework clubs for kids, singles, and so on.

The neoliberal citizen

Practices associated with privately owned and managed neighbourhood groups represent (new directions of) urban entrepreneurialism (Harvey, 1989) that highlights the roles of local governments and local elites and their power to shape and transform urban spaces. It is characterised by the search for new ways to make the city more flexible and responsive to market trends, by seeking new entrepreneurial, speculative and innovative paths to search for capital circulation and capital accumulation.

These practices have led to uneven spatial development, in which areas with a potential for higher returns are being prioritised, ending up with what might be defined as ‘prosperity clusters’ (Kemp and Margalit, 2017). Entrepreneurial strategies push citizens to become ‘active’—to take responsibility for themselves and for their communities, mobilising what is required for achieving their desired urban lifestyle (Raco, 2014). Such practices are leading to increased uncertainties and inequality between and within cities, with only certain voices heard in the conversation about the development and maintenance of city life (Wilson, 2017).

What could be seen as a reaction to such critics are the latest attempts of local governments and elites to search for other development trajectories, placing a spotlight on urban sustainability and urban resilience. These initiatives are conceptualised as ‘new directions of urban entrepreneurialism’ (Peck and Whiteside, 2016) or ‘urban entrepreneurialism 2.0’ (Phelps and Miao, 2020) and can be found in strategies with headings such as ‘the creative city’, ‘the sustainable city’, ‘the green city’, ‘the eco-city’, and ‘the inclusive city’. If practices of entrepreneurialism that are used for the articulation of cities’ imaginaries promote urban amenities, and are focused on recreational activities, then practices of new directions of urban entrepreneurialism highlight users’ experiences, resilience, and wellbeing. Thus, In the post pandemic era, hybridity in the different temporalities and rhythms characterising cities is seen not only in the re-arrangements of the ways we live and work but also in who initiates or curates these re-arrangements, where collaborations between top-down and bottom-up initiatives are becoming more and more commonplace (Andres et al., 2021; 2022)

The exclusive nature of urban curation and the lack of policy and regulations raise questions such as - Who gets to decide what content is being promoted? What lifestyle is being prioritised for a given neighbourhood? when only certain local business, social events, information and residents' needs and desires get to be addressed. Thus, while unwrapping how urban curation is enacted, the research also questions its wider implications in terms of inequality and exclusion, as well as roles and responsibilities when it comes to shaping and transforming neighbourhoods.

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Sustainable Cartography: Mapping the ecological imagination of cities

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Introduction: What is a Sustainable Cartography?

Maps as mediums of spatial production are strategic elements in the description, regulation, and destruction of human and non-human habitats. The transmission of geospatial facts is a crucial necessity since creatures move in space and need to communicate. As soon as these activities become disturbed, the existence of any creature is in danger. The basic survival of human and non-human species does not necessarily use graphics or words, but some kind of understandable language, to establish a bi-directional information flow. (Jobst, 2009, p.44)

In the realm of urban design, mapping as a communication science cannot produce useful results without considering the effects of storytelling, a form of cognitive mapping of cities. Maps can be responsible for motivation, emotional arousal, and interaction between citizens, urban planners, and local governments. However, as Mehta (2018) writes, the conversation around urbanism these days is like the Latin Mass, charged with specialised vocabulary, jargon, and lingo, reinforcing the barriers around a professional guild:

'As a result, people don't listen to good and professional planners in Mumbai or Mexico City, because planners don't speak in a language that people can understand. […] Meanwhile, the real estate developers invest in professional storytellers to sell their sugared dreams of swimming pools and towers in the park to an uninformed populace. […] If philosophers or literary theorists write incomprehensible jargon, it might hinder the rest of the populace's ability to comprehend philosophy or literature – but it's not going to affect their daily lives. But when it comes to urban planners, their dreams could become our nightmares. The rest of us have to walk in them, sleep in them, live in them. We need to understand the story they're selling us.' (Mehta, 2018, p.82)

In this context, how can we communicate the characteristics of ecological imaginaries and their role in the construction of environmental resilience in cities? By mapping the desires (utopias) and fears (dystopias) of civil society, urban planners, and local governments. Stakeholders that constantly make challenging trade-offs between their environmental discourses, economic development, and pragmatic viability in cities. (Mazzucato, 2022) Additionally, by mapping human, non-human, and technological values (eco-centrism and techno-centrism) in the design of urban infrastructures.

Mapping Eco-Utopias and Eco-Dystopias

One of the properties of a Sustainable Cartography is the ability to identify ecological narratives in the form of utopias and dystopias. Marius de Geus (1999) utilises the term Ecological Utopias to describe the capacity of politics, literature, and art to create fictional, sustainable imaginary habitats in the quest for a just city. The meaning of the word Utopia is literally 'nowhere land', a perfect culture in 'another place', where justice prevails. Utopia is also depicted by counter-images of an alternative society, one that has achieved stability in all the spheres of human reality, including one that protects and respects nature. (De Geus 1999, p.30)

Mexico City, 2022

Ernesto Valero Thomas

Singapore 2020

Ernesto Valero Thomas

Shanghai, 2019

Ernesto Valero Thomas

Mexico City, 2022

Ernesto Valero Thomas

The first three photographs are Eco-Utopias portrayed in the streets of Mexico City, Singapore, and Shanghai. They are counter-images that function as a contrast to ecological problems that these cities experience every day. For instance, Mexico City suffers severe water stress and scarcity in a valley that hosts 21 million people. Canals and lakes shaped the configuration of Tenochtitlan, the city-state of the Mexica Civilisation that inhabited the same valley from the year 1321 to 1525 AD. However, over the last century, official policies from local and central governments in Mexico City have 'hidden' those bodies of water into inefficient sewage lines and underground pipes.

Singapore, with little farming land, imports over 90% of the food consumed in the country. (Singapore Food Agency, 2020) Relying on food supplied from overseas means that the city faces unique challenges in ensuring a steady supply of food for the population of 5.6 million people. Shanghai, which hosts 24 million people, has witnessed a massive rural migration from the hinterland of China

to the city in the last forty years. The photograph illustrates the nostalgia for utopian rural values in this megalopolis.

On the other hand, we can understand Ecological Dystopias as the allegorical metaphor of cities that deplete natural resources due to ecological mismanagement of their habitats. Lands where cultural circumstances, political orders, and scientific communities fail to anticipate and repair the debacle of their cities. Eco-Dystopias expose the lack of comprehensive sustainable practices that eventually cause the collapse of urban worlds (Diamond, 2015). The last photograph is a dystopian representation painted on the walls of a water well in the streets of Mexico City. The city's aquifer is filtrated into a fishbowl and then into a bottle, ending up in the hands of the death, who washes a car.

Ecological Utopias and Dystopias are anticipatory tales of our actions on Earth. They are 'film-make' ideas, transferred to us by sequences of images, texts, and sounds that have been intentionally assembled by the authors. They have a fictitious character and contain representations that are based on invented elements and are usually shaped in the form of a story. The examples in Mexico, Singapore, and China are critical in regards to the present society, and at least in images, contain 'the blueprints' for a completely new environment.

Eco and Techno Centrisms in the Imagination of the Future

Two approaches are often applied in the construction of ecological imaginaries. On one end of the spectrum, the uncritical reception of any technological application, camouflaged as indispensable and inevitable. (Marras, 1999, p.4) This techno-centric narrative has faith in the capacity of science to solve problems such as soil erosion, urban mobility, or water scarcity in the longer term through technological applications. The discourse believes in careful economic management such as project assessment, cost-benefit analysis, and risk evaluation. (Thompson, 2000, p.145)

One example of a techno-centric policy that is gaining exposure is the plan to develop charging stations for electric automobiles, replacing petrol stations in cities. The policy suggests that this action will reduce the ecological footprint of the car-dependent lifestyle. It is a view that focuses solely on the technical efficiency of automobiles, often ignoring the role of walkable cities and cycling districts as the most sustainable policies of urban mobility.

On the other end, eco-centric attitudes demand redistribution of power towards decentralised environmental policies with more emphasis on the informal economy and social transaction in the pursuit of participatory justice. (Marras, 1999, p.4) Eco-centrism bases its ethics on the view that all living beings – and, in some theories, even non-living things like the rain, rocks, or mountains, have intrinsic moral value and therefore we owe duties towards them. (Thompson, 2000, p.143) This approach has limited usefulness if, under the banner of a 'clean' environment, it stimulates a political straitjacket, mass control, and economic stratification of society. (Li and Paredes-Peñafiel, 2019)

An eco-centric policy toward the reduction of our carbon footprint related to food consumption is the development of cultural attitudes, new markets, and infrastructures to ensure plant-rich nutrition at a global scale (plant-based burgers, for instance). The main argument for this alternative to animal-based nutrition is that agriculture, particularly for cattle and animal feed production, is the leading driver of tropical deforestation and associated greenhouse gas emissions. (Drawdown, 2023)

Conclusion

The ambition of establishing environmental justice in cities of the world involves the construction of mapping tools that shape languages of urban sustainability. We need to better understand the way imaginative ideas travel and influence us from a variety of different sources. When we 'draw and read' cities symbolically and spatially, we are able to delineate a storyline of environmental justice that

eventually shapes policies for a sustainable future. For every cartographic system, there is a certain appropriate scale in the city that we can represent. The more intimate activity we map (desires, fears, small-scale infrastructures), the greater is the number of interactions that citizens, urban designers, and local governments can establish with their environments. This is the target of a Sustainable Cartography.

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FIGURE: Eco-Utopias in Mexico City (2022), Singapore (2020), and Shanghai (2019). Eco-Dystopia in Mexico City (2022). Photographs: Ernesto Valero Thomas

Health in growing districts – neighbourhood as a prospect for well-being

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Background

Structural, natural, and social environmental conditions directly impact everyday life and human health. Insufficient quality of living environments can, among other things, cause physical and psychological stress, trigger illnesses and provoke domestic accidents. Especially in urban, densely populated areas, extreme situations can have devastating health effects on residents. Densification processes, environmental stress, and the increase in social inequalities lead to fast-paced transformation dynamics in cities and urban regions. The constant urbanization (densification, conversion, replacement etc.) provides the opportunity for a sustainable transformation of the tension between health-promoting and health-damaging factors (psychological, physical, environmental, socio-economical, individual).

Aims

When it comes to well-being in the growing city, holistic measures in terms of environmental justice, mental and physical health as well as integrative urban health solutions for the local population are needed. By getting a better understanding of health challenges and judiciously combining health resources, one can turn new districts on the outskirts into test fields for social, spatial, and ecological innovations and investments. The research explores and develops methodological and planning approaches for improving the multidimensional understanding of health for the local population in the residential environment. It questions what role neighbourhoods play and when individual and collective levels of proximity and distance have a health-promoting effect. By combining spatial and social perspectives of health one can develop an extended understanding of well-being between (landscape) architecture, urban development, urban sociology, and other professional disciplines. In this way, multi-layered analysis and planning methods can be initiated and stabilized in order to trigger low threshold integrated urban health solutions for housing.

Investigation planning and development framework

The neighbourhood level seems to be a decisive driver for self-determined health promotion in the everyday life of the residents. Interventions at this level can stimulate low threshold impulses in form of nature-based solutions. The research approach assumes that the interplay of different stimuli in the neighbourhood leads to the residents' self-determination of their well-being in everyday life. Spatial proximity and social interaction lead to the formation of networks and interaction between residents (individuals, groups, institutions). The discussion on housing and health requires a particular understanding of neighbourhood that necessarily focuses on both the individual and the collective, while at the same time relating them to the spatial and natural environment. This raises the question of the correlation between special living environment (Lebenswelten) and the more general life settings (Lebenslagen) with its intrinsic logic in relation to a neighbourhood structure (spatial, social, natural). Individuals are differently socialized and anchored in their social context. Depending on the individual starting point (personal behaviour and background), everyday journeys can be shorter or longer and everyday practices can be more linked or isolated in the neighbourhood. Can networked activities in the neighbourhood be seen as a great potential for health promotion?

Methods

The pursuit of these innovations and investments demands integrative methods and planning approaches for urban redevelopment. These methods should aim to dynamically illustrate processes of health and well-being while also accounting for them in the multidimensionality of planning factors of living environment. This does not go without challenges as the immaterial, dynamic qualities of (lack of) health make it a difficult condition to integrate into urban development processes. Previous work, relegates or reflects health as a relation to the built and lived environment through one-sided and sectoral planning methods. To embrace the different angles of well-being, it is valuable to link different scales (from the interior space to larger city building blocks) and temporal dynamics (short, medium, long-term) as well as inter- and transdisciplinarity. The processual consideration of health implies the permanent entanglement of the built, social, and natural dimensions of living environment as well as the dualism of a person-based or lifeworld perspective (human sensory, individual and collective sensing of well-being according to user groups, user-specific requirement, etc.) and a place-based perspective (i.e. spatial access, spatial typologies, and design principles). In a co-creative and transdisciplinary exchange, we would like to look at different aspects of a multi-scalar, dynamic, interactive method development through the inclusion of technological, social, and spatial innovations, which accounts for questions of environmental and health justice.

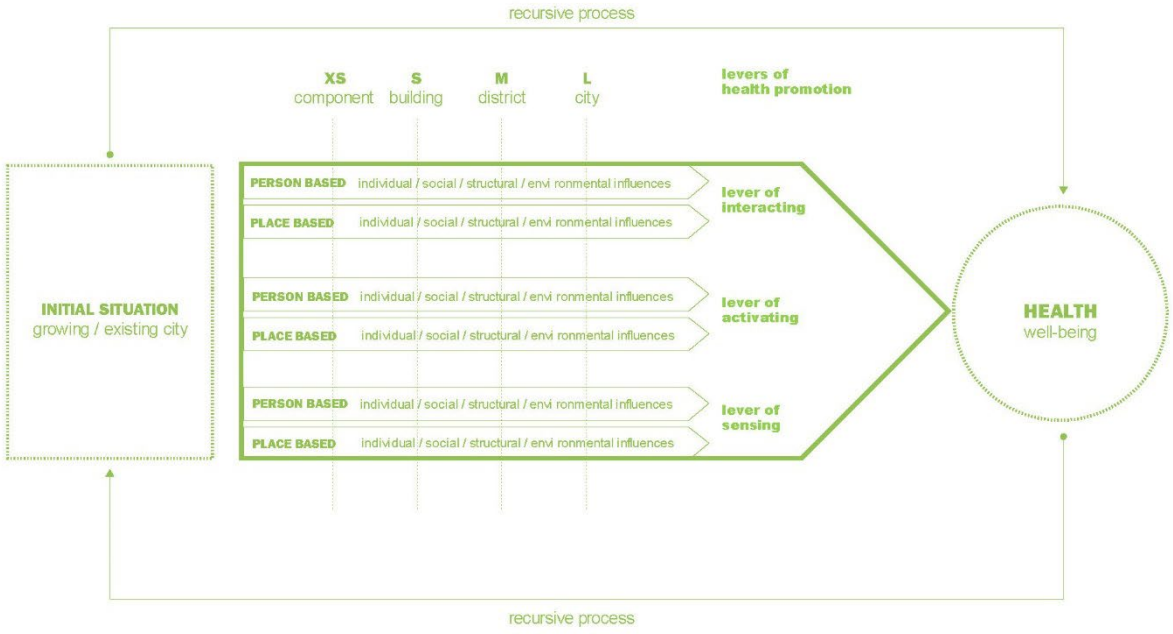

illustration Förster, Schulte

Results

We focus on the concept of the neighbourhood as a triad of health-promoting levers (interacting, activating, sensing) in new residential areas. These are rooted in everyday space, routines, as well as opportunities to build new forms of social alliances in neighbourhoods in order to improve the well-being of residents and users. The 'interacting', 'activating' and 'sensing' spheres of neighbourhood can initiate health-promoting impulses and involve people actively in the processes of the growing city. In a process-based, learning approach, individuals and neighbourhoods can have an active role in discovering, exploring, and appropriating space and also giving feedback – that is when users can evolve from consumer to prosumer. Doing so generates actionable knowledge through a participatory, action-orientated (research) process nudges a transformative planning procedure of well-being in growing cities. The development of mixed planning methods and modules tends to establish a learning and planning process that strengthen growing neighbourhoods. The form of the

triadic framework for understanding 'neighbourhoods,' which can be implemented through the work here is to be explored in an ongoing process-based approach. This research approach, that is in early stages, responds to the development need by envisioning a (learning) toolbox for 'healthy living spaces' as a multi-layered planning approach, to support the (usual) master plan processes of large districts. To deepen the process, new formats for measuring well-being need to be developed. To this end, it is essential to define measurable variables and criteria for the relationship between physical and mental health to enable a scientific classification and assessment of well-being. More generally, the expected outcome of the research approach is to identify requirements and impulses for integral development approaches, uncover experimental fields and low-threshold solutions, as well as initiate a network of partners and projects.

Conclusions

Growing neighbourhoods offer the opportunity to stimulate health-promoting urban development from the planning stage onwards. Alliances in the neighbourhood can play a special role as an impulse for a health-promoting living environment. When community is initiated, strengthened, and cultivated, through such an approach, an adaptable urban society grows together. Different measures are needed in the short, medium, and long term (arrival, establishment, further development) to make health an effective vehicle for neighbourhood development.

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Liminality & Little Guyana: Explorations in Caribbean Culture, History, and Spatial Practices

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Introduction

Like the tide, every day stores goods are unpacked, stretching out onto the sidewalk only to be repacked, receding inside at night. Grocers tie tarps to street signs, clothing retailers hang garments from awnings, and restaurants occupy the street with outdoor seating. *Liminality & Little Guyana* is an ongoing project in which architecture operates at numerous scales promoting legal justice, spatial participation, and cultural expression. *Liminality & Little Guyana* listens to, embraces, and amplifies the voices, stories, and spatial traditions of the Guyanese diaspora. In particular, *Liminality & Little Guyana* listens to the small business owners who are targeted and fined, the plans of forgotten train lines that lay vacant, reclaimed by nature, and the ever-evolving culture that gives the community its own unique pulse all in pursuit of environmental and social resilience. Sited in Richmond Hill Queens, aka 'Little Guyana', the project proposes a series of urban acupuncture interventions that range in scale from humble mounting brackets to community parks. At the scale of the bracket, a humble mounting clip attaches to existing public infrastructure, elevated rail lines, bus shelters, and street signs to give business owners a means to legally extend their storefronts and participate in shaping the spatial fabric of their community. At the scale of a park, an abandoned LIRR train line is converted into a park and participatory pavilion that allows for restaurants, clothing stores, grocers, artists, and the public to reclaim the space shaping it to their diverse set of needs.

At the Scale of History

Liminality & Little Guyana began with fetching what was at risk of being left behind. *The Guyanese-American* (Figure) shows the European countries that colonized the land of Guyana, the west African nations that these countries took slaves from, as well as the Asian nations they took indentured servants from following the abolition of slavery. All these nations and of course the native Amerindian people together make up Guyana and represent one of the most diverse cuisines in the world. Lastly the map tracks the mass movement of Guyanese people to New York.

At the Scale of a Humble Mounting Bracket

In *Liminality & Little Guyana's* DuBois-ian study of Little Guyana Plass walked door to door and listened to the small business owners. They all said one thing: "we are targeted and fined by the city for bleeding into the street and trying tarps to public property." This marked Plass's first intervention, a partnership with the mayor's office to try to develop a humble mounting bracket that is structurally rated as well as new policy that would allow for a legal continuation of these spatial practices.

At the Scale of a Vacant Lot

The Arya Spiritual Center owns a vacant lot in Little Guyana which the organization uses to host annual festivals and events for the community including the Hindu holidays Holi and Diwali. *Liminality & Little Guyana* proposes a multi-purpose replacement to the temporary stage they currently rent each event. This structure has the ability to take on 3 specific uses unique to the Arya Spiritual Center and their members as well as function as a community garden and park. The first use is as a traditional temple for services. The Second use is for their annual Holi celebration. The Third use is for their annual Diwali celebration. Lastly, as previously stated this multi-purpose structure also functions as a park and

greenhouse that can produce Wiri Wiri Peppers. Wiri Wiri peppers are native to Guyana and crucial to making Guyana's national dish Pepper Pot, a dish almost every restaurant serves in some capacity in Little Guyana.

At the Scale of an Abandoned Train Line

This intervention is made up of three elements a new train stop that provides ADA accessibility to the community, a public park that repurposes an abandoned train line, and a new pavilion for the community. This new stop at 104th Street connects the A train to a proposed park on top of the abandoned train line via a ramp that runs alongside the train. Lastly, a pavilion nestles itself underneath the A train and above Liberty / Little Guyana Avenue. This pavilion is focused with providing a space for the community to continue their spatial practices. The pavilion is designed with a flexible rotating-peg wall system that allows the space to be configured for 3 existing spatial practices and help facilitate a fourth. This First use is as a farmers' market that enables vendors to set up small shops in a variety of ways to continue their spatial practices. The Second use is as a pop-up cafe that enables restaurants to not only customize the restaurant to their liking but also allows them to experiment with seating layouts and new dishes. The Third use is as a fashion market that in a similar fashion to the first use, enables vendors to continue their spatial practices and expand the reach of their businesses. Lastly, the fourth use is as an art gallery. The gallery is theorized to open with *Liminal Space* an exhibit curated by Grace Ali, a Guyanese curator and professor now residing in New York who Plass worked with during this project. This fourth use is the most foreign proposal to the site, but it should not be. Guyana and the Caribbean have and continue to produce great artists, the trouble is most of them never make it to the Guggenheim or MoMA for the rest of the world to find out about them. This space acts as an art incubator for not only Little Guyana but the Caribbean diaspora as a whole.

At the Scale of an Online archive

As a part of Plass's door-to-door investigations as he could not be in Little Guyana every weekend let alone every day he proposed a digital platform to continue to reach out to the community and solicit feedback ideas and spark conversation. Plass hosted a call for submissions page on his website for which people would find when they scanned a QR code on posters containing Guyanese poetry, art and history from my research thus far that were hung throughout Little Guyana. In combination with the call for submissions the Instagram account The Little Guyana Archive was born to share research and spark conversation as well as a WhatsApp group with the business owners and community members to keep up with one another and share challenges. In the future Plass hopes to grow this into a fully-fledged digital forum for those who make up the Guyanese diaspora past, present, and future.

Thinging architecture; An investigation of transition spaces as arenas for an expanded understanding of community supportive architecture

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A presentation of the term Thinging Architecture as an approach to understanding how architectural capacities across scales can support residents communicating through things, leading to flexible community building.

In Denmark, at the moment the term ´the mixed city´, which refers to the city as a place of dense populations where all neighborhoods contain residents from across social, cultural, and economic spheres, ranks highly on the political agenda. Concurrent is the word communities prevailing, and developing neighborhoods that are community supportive is a pivotal aim in all city development programs.

But how can we understand the relationship between the built environment and community building, and how can we develop and build housing estates which are community supportive?

This paper introduces the term Thinging Architecture as architectural features supporting community building in social housing estates and through that a lens to increase the understanding of relationships between the built environment and communities in social housing estates in Denmark. To exemplify how architectural features influence residents' communication and community building through things, the paper compares two housing estates and argues how the organization of the estates and the design of transition zones between the private home and the common space influence flexible community building among the residents.

Thinging Architecture

The concept of Thinging Architecture is explained through a combination of the four following understandings and theories.

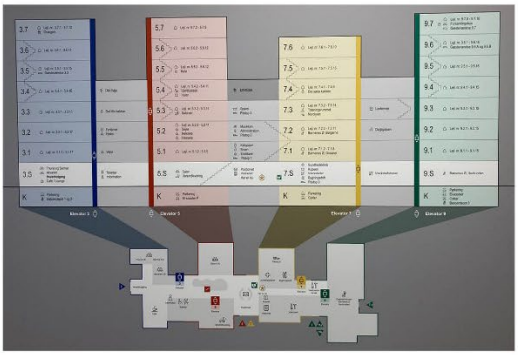
1. Things in ancient Northern Europe societies were places where people assembled to deal with various disputes and where also political decisions were made. A Thing is still used today in our verbalization of Folketinget (the name of the Danish parliament). It is based on the idea of the democratic commons, a foundation of the Danish welfare model (and thinking).
2. Thinging is in design philosophy presented as an approach in participatory design to gathering and confronting heterogeneous perspectives in a design project (Binder et al., 2011; Björgvinsson et al., 2012)
3. Things/Objects in architecture are described as utilized by residents to decorate their transition zone between their private home and the common space. It is in architectural literature described as giving individual joy for residents to watch the displayed objects through their windows (Gehl, 1971; Hertzberger, 1991).
4. Material Culture is a width spread theoretical trajectory within anthropology and archeology that explains a praxis where people create social meaning through physical objects. investigating and understanding the social world through the objects and architecture surrounding people and how they use, engage, develop, and exchange these objects. (Dant, 1999; Prown, 1982).

Thinging Architecture adds to existing theory on material Culture and architecture, by investigating the role of architecture regarding how things become artefacts for the emergence of communities,

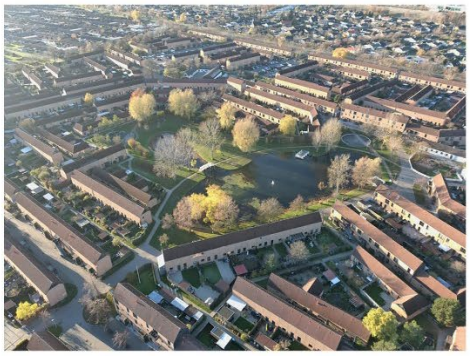
and how different architectural features influence residents´ capability to communicate and bond through things. The act of thinging and the opportunity architecture creates for the residents to thinging can add to the existing understanding of the connection between social life and architecture in different housing estates.

Picture 1: The whole estate of Generationernes Hus

Picture 2: Residents placing things in front of their home



Picture 3: A section through the house displaying the main infrastructure



Picture 4: Overview of the neighborhood

Picture 5: Residents´ Christmas decorations

Ill 1: Plan drawing with highlighted infrastructure.

Two Estates

A comparative study of two social housing estates in Denmark presents how the architecture in one estate creates supportive conditions for thinging while the architecture in the other estate makes it

more difficult for the residents to develop communities through things due to the architectural conditions for thinging, and how both affects the flexible community building within the two estates.

The first estate (picture 1) is Generationernes Hus (House of Generations). It is a high-rise building built in 2020, containing 304 apartments divided between family apartments, apartments for the elderly, elderly needing care, and adults with handicaps.

As displayed in picture 2 residents like to place things in the transition zone in front of their homes (Gehl, 1971; Hertzberger, 1991). We argue, however, that the estate´s architecture doesn´t support thinging. Firstly, because the estate is designed with no visual or auditive connection between the private home and the more public shared hallway. Additionally, is the estate organized so all movements are centered around the elevators.

The residents ´movement patterns happen mainly by utilizing the elevators, thus the residents don´t pass each other´s homes. The things placed by the residents thereby, obtain no relational value, and no exchange or interaction through things occurs.

The second estate is Gadekæret (picture 4) on the outskirt of Copenhagen. It is a low-dense neighborhood built in 1975 and containing 561 housings.

As seen in picture 5 the residents also like occupying the transition zone with things and the architecture allows for the expression of interest. A relevant difference from Generationernes Hus is the organization of the neighborhood and the organization of infrastructure, which is divided into three levels. Especially the path systems for connoisseurs of the neighborhood have great importance.

The pathways provide shortcuts through the area, and they have an architectural value regarding scale, microclimate, and experiences, which makes them attractive connection zones. Another pivotal architectural feature is the windows in the housings. They allow for visual and audio interaction between residents in their homes and fellow residents passing by.

Conclusion

Within the architecture of Gadekæret, the residents create flexible communities as Christmas decoration competitions, they check out their fellow residents´ decorations and they experience through the widow fellow residents commenting on the decorations. It is all together described by the residents as having community-building qualities. In Generationernes Hus a lot of effort is put into arranging many events such as shared dining, coffee clubs, knitting club, and reading clubs in order for the community to flourish.

We thereby argue that some architectural configurations and designs create better conditions for thinging than others. Thinging Architecture relates to architectural solutions on different scales, and it is an important act in order for flexible communities to appear.

The placement of things in the transition zone between private and public not only have an individual value, but it also has a community-building value and architecture plays a fundamental role in order for residents to build relationships through the act of thinging.

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Modern, Postmodern, Meta-Urbanisms: Romancing the City

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Introduction

In the threshold of this third 21st century decade earthlings are getting more and more anxious with their urban survival, mostly in respect to their ecological agendas, that is, to agendas involving physical-environmental matters. More disturbing yet would be if the so-called 'environmental problems' were included on the agenda – i.e., all the troubles incurred by the psychological-environmental changes implicit in the contemporaneity stance attained by cities. For this motif, this text which deals with urban development and environmental sustainability, will also include a psychological bias, a concern not often contemplated in such contexts. The basic query of the text focuses on the elaboration of a diagram that suitably represents the form of a city, indeed, a question quite recurrent in Urbanism studies. Therefore, what would be the generic form of a contemporary city? Would it be conceivable to try to figure out a diagram that suitably represents the likely anthropogenic form of today's city?

Recalling, one can see mankind seemingly on the verge of an Anthropocene change, which Scholars interpret as Earth's most recent geological time, distinguishing it as human-influenced, or anthropogenic, because it recognizes the overwhelming global evidence that atmospheric, geological, hydrological, biospherical and other earth-system processes are being now altered by humans themselves. My research tries to move towards deepening on this direction, by examining the patterns of two of the most symptomatic contemporary global metropolises, London and Los Angeles. In their evolution they have both faced experiments generated by different urbanistic orthodoxies.

The initial calls for this conference argue that "environmental resilience = social resilience". The two types of metropolises, though exhibiting a somehow elusive structural layout, allow to perceive regularities in their shapes, mainly on the way they display the spatial arrangement of their constituent nuclei. As observed by architectural critics, London and Los Angeles have common morphological grounds in their origins, each configuring a conglomeration of small villages spread out in endless tracts of residential units. This image allows to remember of a subtle diagram depicting an urban design displaying multiple centralities. Or, better, a structural urban arrangement depicting a juxtaposition of different places.

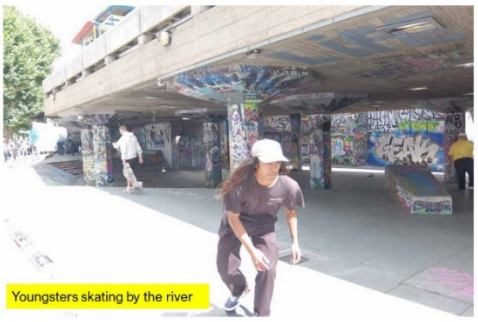
On a recent essay I have considered "the elusive form of cities" (Castello 2019) seeing elusiveness as an adequate diagrammatic representation of contemporary cities.

Traces of contemporaneity in the form of cities

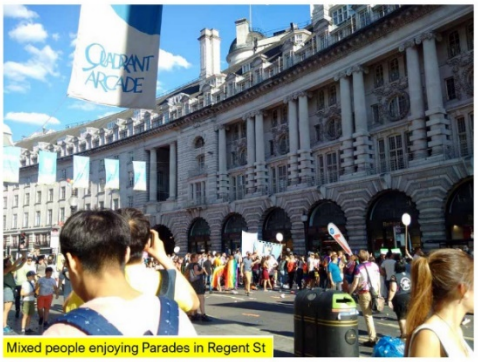
Modernist Urbanism (Le Corbusier and followers) (Shane 2013), helped to produce the expectation that designing functional cities would contribute to make urban residents happier, healthier, and having their quality of life enhanced by the physical amelioration of their constructed environment. This has brought to Urban Design and Planning a cherished tradition: the hope that designing functional cities would enhance the urban quality of life. In the 2019 article mentioned above I argue that Postmodern Urbanism (Ellin 1999) witnesses the introduction of yet another attempt to enrich the quality of life, relying heavily on the employment of newly invented technologies using cutting-edge placemaking and placemarketing strategies, freshly advanced in the progresses of the theory of place (Canter 1977; Castello 2000; 2010). The schemes were mostly intended to increase the experiences cities could offer to their residents in terms of convivial spaces; aiming at expanding the

experience of ‘urbanity’ – that typical urban quality forwarded exclusively by cities to citizens. Most of them included contemporary trends in Urbanism, which particularly favoured the creation of a structured chain of invented places as source of functional, psychological and phenomenological responses to people’s needs. In more recent times, a so-called Acupuncture Urbanism (Lerner 2014) started to liberate a spatial imaginary enveloping exciting urbanistic theories – newly, but serious enough to ascertain the production of appropriate synergies between economic and ecological requirements.


Infants building castles in the sand


Youngsters skating by the river

Everybody delighting themselves in King's Cross atractions

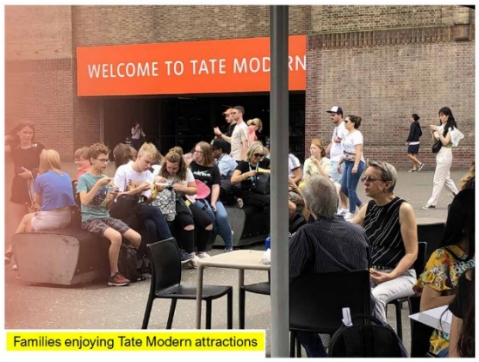


Mixed people enjoying Parades in Regent St


Adults eating in Borough Market spots


People going to a night at the opera

Street Party at Ronnie Scotts



Families enjoying Tate Modern attractions

In this same trend, in the steps of the technological revolution of the network society emerges a renewed cityscape of high-rises urbanization with ‘Delirious Dubai’ deserving to be remembered

because, “(…) over a period of just fifty years, they have witnessed the transformation of a partly nomadic, partly town-based community into a globally active metropolitan society”, somehow repeating the LO and LA composites (https://www.archdaily.com/981753/rem-koolhaas-on-the-high-rise-phenomenon-and-emirates-potential-of-re-inventing-).

The simultaneity of the multicentricity.

As it has been recurrent in my academic papers, I am used to try to balance architectural-urbanistic reasonings with advances in the systems of communication (cinema and information technology). In this respect it seems worth recollecting that one of my initial articles was called “Meu Tio era um Blade Runner” (“My Uncle was a Blade Runner”) in which I have approached the rise and fall of the Architectural Modernist Movement in movies, referring to films such as “Mon Oncle” (Jacques Tati) and “Blade Runner” (Ridley Scott) (https://vitruvius.com.br/revistas/read/arquitextos/02.024/781). Obliquely, I was already chasing for a diagram to represent the anthropogenic form of contemporary cities, attributing a special weight to the area of Humanities (Castello 2021b) over our own area of Architecture-Urbanism.

Eventually, the patterns of contemporaneity expressed by actual city forms became more thoroughly examined (and even, more well construed) by a group of pioneering scholars (e.g.: Ascher 1995, 2001; Lynch 1962, 1981; Minton 2009, 2017; Shane 2011, 2013; Sudjic 2005, 2017, to name a few), who persistently contributed to foster exciting new paths in urbanistic theories.

Finally, it seems a fortunate chance becoming allowed to venture on finding parallelisms between some primary thoughts of mine, and the actual screenplay of the award-winning film of The Daniels (Daniel Kwan and Daniel Scheinert) “Everything Everywhere All At Once”. In an article called “The City of the EXcentric Centres” (Castello 2013) I have examined what I regard as a The simultaneity of the multicentricity, tentatively imagining a contemporary city made up of multiple centralities in which events happen in various places simultaneously, as in some circumstances occur in London and Los Angeles or in The Daniels film.

From this stage onwards I started to romance the city.

Would this provide a likely path towards the quest for the morphology of the anthropogenic city?

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Virtual traces of hopeful places: mapping global networks and local initiatives of digital city-making

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The intersection of city-making and technology is not occupied by global corporations, start-ups and institutions alone, but also by regular people who co-create the city. The rise of digital technology in urban environments and processes has been confronting civil society initiatives with new challenges, but also new opportunities. Local communities can collect data and apply digital tools to address issues they perceive in their cities and neighbourhoods. At the same time, new actors have been joining their cause from a different vantage point. Tech-savvy individuals and networks develop open-source infrastructure to solve urban issues as well. Just as city-makers have been developing and providing urban resources such as community spaces, their tech counterparts provide technological resources such as platforms and data for civic initiatives. Some anticipate these initiatives to make the digital urban future more equitable, sustainable, and resilient. This article charts a conceptual map of processes of digital city-making around the world.

Literature from urban studies and Science and Technology Studies shows certain parallels. First, the evolving role of civil society from passive consumers to active drivers of change. In many cities, civil society initiatives take on increased responsibility, whether labelled as "Stadtmachen" (city-making), DIY, guerrilla or tactical urbanism (cf. Avis, 2016; Beck, 2018; Beck & Schnur, 2016; Willinger, 2014). Meanwhile, end users are becoming increasingly capable of appropriating and (re)developing technology, as is rooted in hacker culture and expressed in open-source software and open data (cf. Cardullo & Kitchin, 2018; Lange & Waal, 2019; Taylor et al., 2015). In both cases, the ultimate goal appears to be justice – on the one hand, spatial justice including the right to the city movement; on the other hand, data justice, meaning who gets what as a result of data systems (Heeks & Shekhar, 2019). Upon closer examination, the two strands do not run parallel, but in fact converge. At this intersection lie processes of digital city-making.

These processes impact cities on different levels. In some cases, technology may be applied directly in a physical space. For example, dead drops are flash drives embedded in publicly accessible walls, meant for sharing data off-line, free from surveillance or censorship. Started by artist Aram Bartholl in Brooklyn in 2010, the project has since grown into a global movement (Bartholl, n. d.).

In many other cases, the impact is on a less tangible level, transforming peoples' perceptions and ideas about a space, rather than the space itself. Digital city-makers translate between space and ideas through data. They collect, manage, and most importantly, make data accessible to others. Data visualizations are used to spread new narratives about spaces. A widely shared visualization by Karim Douïeb shows the street names of Brussels colored by gender, revealing that only 6% of the streets are named after women (Douïeb, 2020). This information was compiled from existing data on OpenStreetMaps and Wikipedia by more than 70 volunteers of Open Knowledge Belgium. Such initiatives often share their solutions locally, but also online, so they can be easily replicated elsewhere. The EqualStreetNames project has been replicated in 43 cities across 17 countries thus far.

Other projects invite users to share their ideas for a space, effectively gathering, and often attempting to manifest, a collective vision for the future. The platform senf.koeln (senf.app, 2023) is an example initiated by university students in Cologne, Germany. Dissatisfied with the city's official process of submitting suggestions, the group developed an interactive map where users can enter and vote on ideas. The best-performing ideas are visualized by the team and shared on their Instagram account, including an augmented reality filter for urban design elements. They also rally for ideas to be

implemented by organizing events in public space and petitioning the city through the official channels.

Even when initiatives work on digital projects, they often gather in a physical location to coordinate and collaborate. City-makers use hackerspaces, makerspaces, spaces provided by the municipality (such as CityLAB Berlin) or other community spaces. Meeting in person to show progress or celebrate successes together, or complain about common issues, is a major source of motivation to sustain the volunteer work. Furthermore, it enables exchanging knowledge and skills, both about technology and the city itself.

Due to their digital nature, these processes are also online, organized in global networks. Code for All is one such network that connects volunteers who „use their skills to shape their cities and communities" (Open Knowledge Foundation, n.d.). Communities exist on different spatial scales, in cities, countries, and regions around the world. From our initial research, which included existing data bases, exploratory interviews, and twitter network analysis, we identified roughly 350 digital city-making processes. Not all of them are in fact local processes per se, but related to local processes in various ways. Categorizing them and tracing their connections, they can be visualized in five distinct layers.

At the highest level, there are official institutions that connect and support local initiatives: foundations such as the Open Knowledge Foundation and non-profits such as mySociety.

The second level is that of supra-local networks, which connect several local initiatives with each other – including the aforementioned Code for All.

The central part consists of local processes themselves, defined as groups of local actors with regular activities. These include the local Code for All brigades, but also standalone initiatives, such as senf.koeln.

Underneath are individual projects, often an output of a local process. These can be one-off activities or products, such as the EqualStreetNames Project.

The bottom group represents resources that were not developed for a specific project, but can be used as a basis by various initiatives. OpenStreetMap is a widely used example, serving as a basis for visualizations and participation tools such as MapKibera or WheelMap.

High hopes rest upon these volunteer groups. That they will become protagonists of a Hackable City (de Waal & de Lange, 2019) as Smart Citizens (Albers & Höffken, 2014; Cardullo & Kitchin, 2018; Cazacu, Hansen, & Schouten, 2020; Foth, 2018; McFarlane & Söderström, 2017; Vanolo, 2014). That activists will use technology to amplify the voices of marginalized communities (Meng, DiSalvo, & Zegura, 2019; Vadiati, 2022). And that through their responsiveness and resourcefulness, they can make cities more resilient. The extent to which this prove true remains to be seen, but understanding these initiatives and their potential better can help researchers and practitioners to support and involve them in co-creating sustainable and just urban futures.

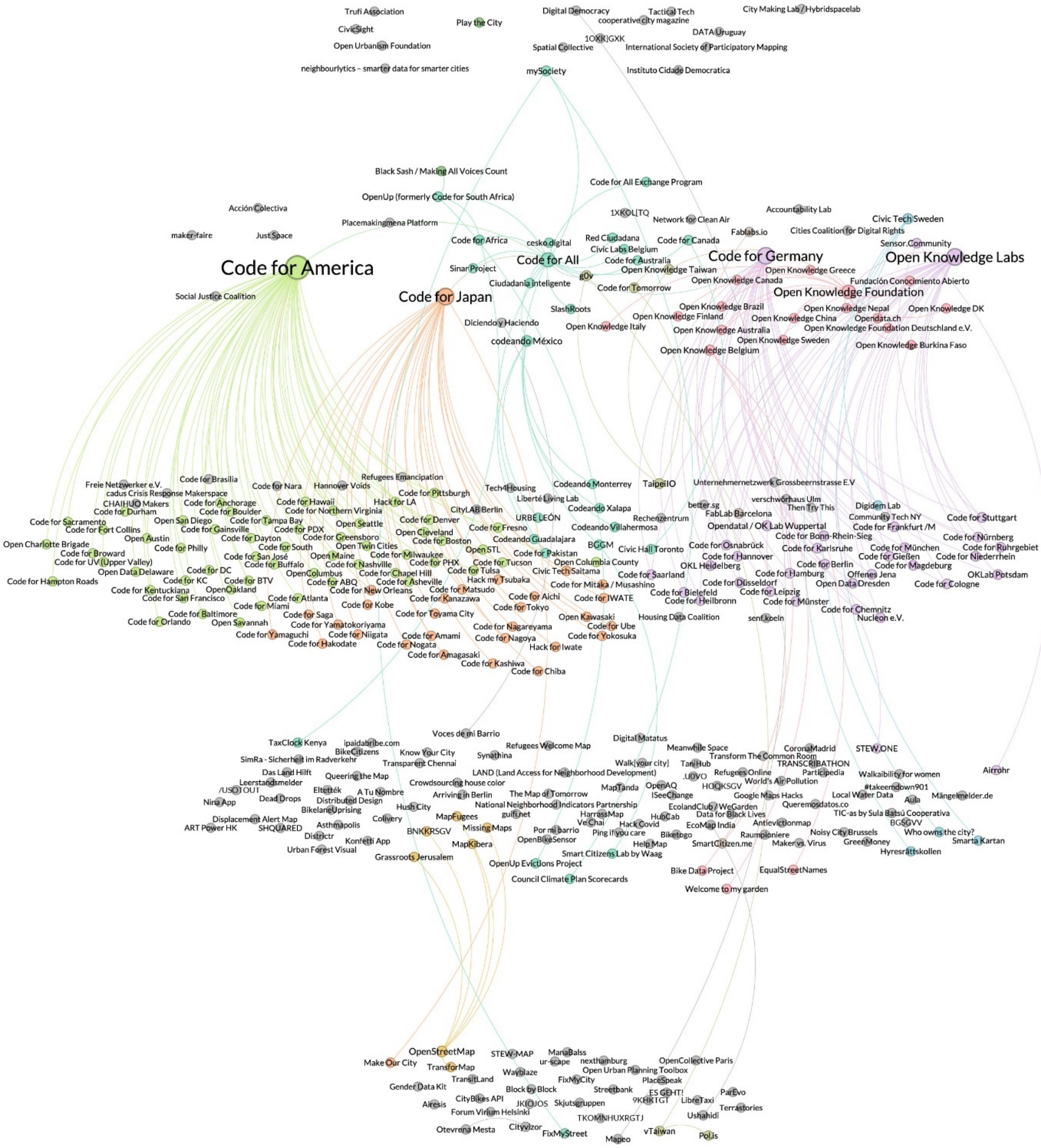

Figure: Visualization of digital city-making processes with related institutions, networks, projects, and resources. Authors’ own representation.

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Decolonizing the notion of 'Urban Commons' to mitigate the fragility of contemporary cities

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Introduction

In recent years, the international commons movement has increasingly joined forces with the global movement of municipalities, putting common ideas on the political agenda in many western countries. Commons have been widely discussed in literature. Broadly understood, commons refers to the practices for collective development, ownership, management, and fair access to resources and artifacts (social, cultural, economic, political, environmental, and technological). However, the concept remains vague, complex, and unclear, especially when it comes to different contexts in which new definitions are needed to better understand the societal and cultural dimensions of urban commons. Decolonizing the notion of urban commons brings into visibility the unseen cultures, infrastructural systems, and communities showing where de-growth and separation can take place. Therefore, this analysis can provide new insights, opportunities, and the need for new theoretical, methodological, and shared approaches. There is a gap in transnational research and cultural understanding within the field of urban commons. This research opens new lines of inquiry relating to the definitions of commons in non-European countries. This may include longitudinal research on the decolonization and potential fragmenting of the commons and in particular 'commoning' mindset, more detailed empirical evidence of the cultural and communal concepts, and how these cultural diversities and new interpretations can be implemented in collaborative governance in a wider variety of non-western contexts. By challenging existing frameworks, this study facilitates the emergence of differentiated, dynamic, and non-linear forms of social and political subjectivity within various socio-spatial domains.

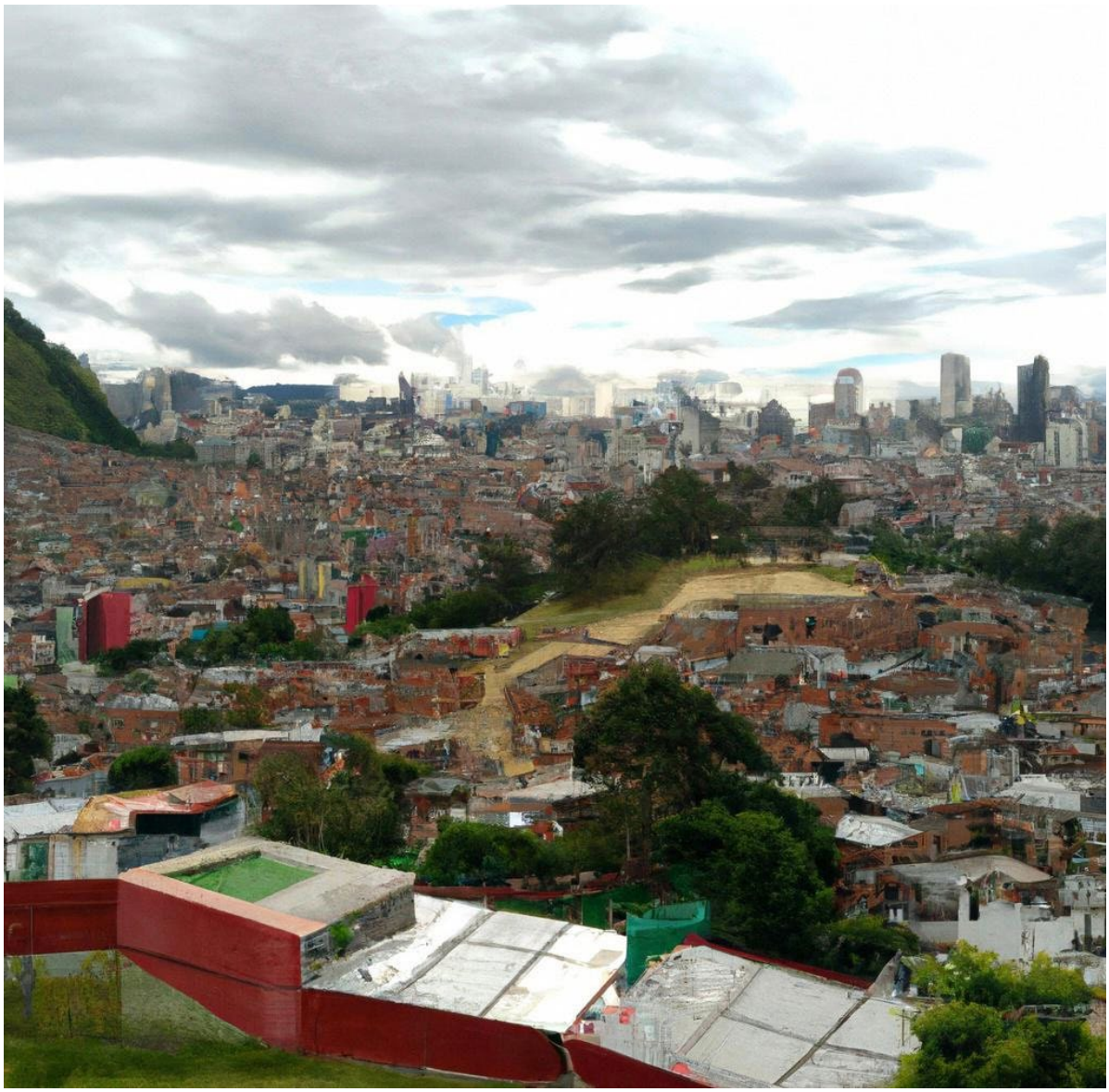
The fragility of the Contemporary Cities

Contemporary metropolises are increasingly vulnerable to complex and multilayered social, environmental, political, and economic crises. The notion of urban fragility is articulated with humanitarian reason, and can function as a vessel for new practices of government in 'peripheral' regions (de Boer 2015). The concept of ‘fragile cities’ is deployed to imagine new forms of humanitarian interventions into the resilience of cities, whereby resilience becomes a naturalized category to think of the subjects of governance (Beall et al. 2013) which can be understood as a ‘problematic of government’ in matters of contemporary racial management from the point of view of the catastrophic and the apocalyptic conditions (Facer and Buchczyk 2019). Here, we follow Roy’s (2016) formulation, in which the conceptualization of the fragile city should not become a more theoretical manifestation that proclaims the history of Europe as a universal history, becoming a vehicle for the diffusion of values and interests (Miklos and Paoliello 2017).

Decolonizing the notion of Urban Commons

In developing and underdeveloped countries, the extreme and negative impacts of contemporary challenges, such as climate change hazards, are often exacerbated, leading to the marginalization of already vulnerable and underrepresented communities and extreme socio-political and environmental degradation (Mehan and Tafrata, 2022). In addition, top-down state-led approaches adopted by local governments, real estate developers, and international corporations have perpetuated power imbalances, exclusion, and marginalization, leading to the erosion of community trust and participation in urban governance. In this context, the concept of urban commons responds

to the need for inclusive, participatory, and equitable governance structures; however, the notion of urban commons often engages with the colonial legacy of conventional urban theory rooted in Western and European theories, which has led to a lack of sociocultural understanding and application of this concept in non-European contexts (Mehan and Mehan 2022). Therefore, by drawing on experiences and theoretical approaches from the 'South,' it is crucial to decolonize the notion of urban commons to address the fragility of contemporary cities and move towards a more global cope towards the 'worlding of cities.'



Conclusions and Further Discussions

This paper emphesizes that the decolonizing the notion of urban commons has the potential to mitigate the fragility of the cities in the global south. The concept of urban commons has the potential to address this issue, but it needs to be decolonized to ensure inclusivity and cultural diversity (Kozlowki et al 2020; Mehan 2020). The lack of cultural understanding and application of this concept in the non-western contexts is a significant challenge that must be addressed through longitudinal research, more detailed empirical evidence, and collaborative governance approaches. By doing so, we can promote differentiated, dynamic, and nonlinear forms of social and political subjectivity within various socio-spatial domains. Decolonizing the notion of urban commons can help mitigate the fragility of contemporary cities and move towards a more global approach to the worlding of cities.

This study opens new lines of inquiry for further discussion and research, and it is essential to consider cultural and societal dimensions to implement this concept effectively in the global south contexts.

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Can we repurpose stranded assets as vertical farms to fill a gap in food supply?

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Agriculture is a problem to be solved

Leaders in our society often talk about the great challenges that we face when it comes to improving the health of our climate, our ecology, and our people. There are discussions about the pollution from burning fossil fuels, about landfill from a lack of reuse in construction and with manufactured products, and about sharp increases in urbanisation, industrialisation and vehicle use across the world. But one thing which perhaps does not get mentioned often enough amongst those with political power is the damaging impact of present-day agriculture, and the inefficiencies of our global food system.

300 years ago, approximately 10% of the Earth's habitable land area was set aside for agriculture, and now that figure is 50% of Earth's habitable land. (Goldewijk et al, 2017) This substantial increase has been demanded due to an eight-fold increase in global human population during that time, alongside our expectation for a higher standard of living, more abundant supplies of food, and significant diet shifts, particularly demanding more meat and dairy in developing nations. Unfortunately, it has come at the expense of taking that additional 40% of land away from nature, including decisions to flatten forests, destroy habitats, and displace countless species of animal, some to the point of extinction. Species extinction and the destruction of ancient forests are irreversible consequences of our actions; however, we do hold the power to improve the ways in which we do agriculture, including to reduce our total agricultural land area, whilst feeding our entire human population to a standard that we have come to expect.

The solutions to an improved food system

It should be noted that we already produce enough food to feed 10 billion people every year, however over 30% of all food is wasted (equivalent to 38% of total energy used in the global food system). (Anonymous, 2022) This is food which is grown, transported, and sold up the supply chain, but is ultimately left to rot before anybody eats it. So, reducing food waste and getting food to those people who do not have enough, need to be important outcomes of an improved future food system.

Another vital part of the solution to an improved and more sustainable food system will be embracing and optimising next-generation farming technologies, alongside regenerative land-based farming. Next-generation farming refers primarily to high-tech greenhouses, vertical farming, and lab-grown cultured meats (and potentially cultured plants and fungi). To one extent or another, all three of these technologies can be classified as "controlled-environment agriculture" (CEA), due to their implementation within enclosed indoor spaces, often with optimised control over the supply of lighting, irrigation, and thermo-fluid conditions, in order to increase the quantity, reliability, and quality of crop yields. (Cowan et al, 2022)

It has been shown that indoor vertical farming performs much better than traditional field agriculture across several metrics. For example, lettuce grown within an indoor vertical farm (consisting of 10 vertical layers) was shown to consume <1% of the water and <1% of the land compared to field-based equivalent. (Avgoustaki & Xydis, 2020) No pesticides or herbicides are needed for controlled indoor farming, which means that harvested crops can be immediately packaged without extensive washing, and the crops are able to stay fresher for longer – this ultimately reduces food waste, and eliminates

the environmental and health risks associated with using chemicals, which are present in other forms of farming.

Similar efficiencies exist when discussing lab-grown cultured meats, when compared to traditional livestock farming. For example, beef grown in laboratories from animal cells has proven to require 100x less land, 25x less water, half as much energy, and to produce 20x less CO2equiv emissions compared to beef from living cows. (Tuomisto & De Mattos, 2011) Equivalent figures have also been published in favour of lab-grown pork and poultry, and further improvements are likely as the technology continues to mature and gain regulatory approvals.

Probably the big challenge requiring optimisation for these technologies is around electricity usage – for example, powering the LEDs (replacing what the sun does for free) and HVAC systems within vertical farms. However, with careful systems design, integration of farms with local renewable energy sources, avoiding peaks in daily energy costs, and acquisition of waste heat from adjacent businesses such as data centres or metal processing plants, then sustainable and economically viable next-generation farms become a compelling solution. (Arabzadeh et al, 2023)

Given that next-generation farms are designed to be indoor facilities, their location is not determined by local climate conditions – the crops have resilience against weather events, diseases, and hungry animals, as well as independence from the seasons, meaning reliable crop production every day of the year. These farms can be located much closer to the food consumers than is the case with traditional farming. This ability to have closer geographic proximity between food growers and food consumers allows the food to reach consumers sooner and in a fresher condition, whilst also eliminating a significant percentage of transport miles from the food system (along with the associated fuel, and the energy for refrigerated storage). The is especially true for food items which once had to be imported from other nations but can now be grown locally, also creating additional resilience to political instability and international trade markets.

Repurposing abandoned buildings for farming

There are significant opportunities which emerge from understanding that food growing can now occur in a wider range of environments, including underground and in disused buildings, often much closer to the food consumers in urban areas. This raises questions about where exactly to locate such facilities. What are the site-specific conditions necessary to have a successful next-generation farming business? Should these farms repurpose existing buildings? Or should they be housed within new-build constructions? There are technical, environmental, economic, social, and heritage arguments which will lead to different conclusions on a case-by-case basis.

Housing next-generation farming technologies within disused or abandoned buildings (often referred to as stranded assets) should be given serious consideration during the concept design stage for any proposed farm. Next-generation farming technologies are still in their infancy, but there is already a long list of successful projects which have implemented such technologies within stranded warehouses (Gaddi, 2022), commercial buildings (Vinnitskaya, 2012), rooftops (Cornelius, 2022), underground spaces (Broom, 2021), heritage buildings (Anonymous, 2021), shipping containers (Boekhout, 2021), amongst others.

Issues such as food resilience, water shortages, regulations against agricultural pollution, regulations protecting natural habitats, and the rejuvenation of urban areas, including heritage structures, are likely to reach higher levels of significance in the coming years. These changing dynamics will make it governmentally necessary and economically beneficial to pursue next-generation farming technologies on a large scale, for the protection of our natural environments, and for the future success of our urban environments, along with the humans and other species who live in both.

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Reimagining vacancy. How temporary projects bring resilience.

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In the Brussels Capital Region 6.5 million square meter is vacant. In response to this, and the additional vacancy periods due to transformation projects and the scarce availability of affordable spaces, bottom-up initiatives have emerged that experiment with and take advantage of infrastructural voids. As such, vacant spaces have become ideal testing grounds for innovative and sustainable practices. Existing literature stresses the fact that temporary projects can illustrate the potential of vacant buildings by bringing social and environmental benefits (Jégou et al., 2016; Oswalt et al., 2013). For example, temporary projects can support collective resourcefulness, where resources, material and immaterial, can be shared and exchanged. But what is the *exact contribution* of these initiatives for resilience?

To answer to this question, we must first have a common understanding of 'resilience'. According to (Bhamra et al., 2011) resilience is 'the capability and ability of an element to return to a stable state after disruption'. Further, (Meerow et al., 2016) proposed a definition for urban resilience. They stated that urban resilience is 'the ability of an urban system - and all its constituent socio-ecological and socio-technical networks across temporal and spatial scales - to maintain or rapidly return to desired functions in the face of a disturbance, to adapt to change, and to quickly transform systems that limit current or future adaptive capacity'. In accordance with these definitions, we believe that resilience should reflect the overall capacity of a city to survive, adapt and thrive no matter what disruptions it experienced. Hence, a place should be able to adapt and move to a new and more desirable state after its vacancy phase.

Temporary projects, in fact, play an integral part in ever-changing city dynamics. They emerged as an answer to the immense number of empty spaces condemned to a waiting loop with no prospect of being made use of in the interim period. Since then, temporary projects take on a flexible approach for the reactivation of unused spaces. For instance, projects, such as *Wood in Molenbeek* (*WIM*) (2017-2020) and *Circularium* (2020-2025) in Brussels, introduce and accommodate new and innovative practices by temporarily organising them in a vacant building. In *WIM*, the neighbourhood and its local initiatives experimented with different forms of wood waste recovery, among which furniture-making in a carpentry workshop. In *Circularium*, the focus lies on the circular, local economy and urban manufacturers that work with short supply chains.

These temporary projects act as a testing phase. Due to their nature and temporal character, they can be set up to be flexible and adaptable. As such, they demonstrate the potential of the space and allow their activities to be observed on the ground, whereafter the needed improvements can be made before making long-term and costly commitments. Therefore, temporary projects can embrace uncertainties in urban planning, prolong the service life of buildings, provide new activities, and boost the local economy.

These benefits for the built environment can also be linked to the direct benefits gained by the neighbourhood. In fact, temporary projects introduce new activities that reactivate a neighbourhood and contribute to its development. Moreover, new activities can accommodate the evolving and varied needs of society. Thus, by bringing together a wide variety of the population, social and culturally inclusive spaces are created where different residents work in synergy rather than autonomously and where activities that answer the neighbourhood's needs are organised.

In *Circularium*, new dynamics and collaborations for resourcefulness are fostered between the multiple manufacturers. In addition, a 'Gratis Winkel' (Free Store) is created where resources, such as clothing and homeware, are exchanged between citizens. Also, a temporary resident in the project, Stonebox Consulting, provides logistics trainings for the operation of machines. As for *WIM*, the local community, that participated in the wood workshops, received a training in carpentry and hardware tools. Such workshops increase **social interactions** between the neighbourhood, as well as provide a chance for social employment or short-term contracts with low-skilled jobs. Therefore, these spaces and the socially and environmentally conscious practices encourage further innovation, adaptation, and flexibility in terms of space usage and societal dynamics.

Citizens also feel the need to actively respond to local situations and want to have a direct influence. Therefore, active participation in local improvements, such as the making of street furniture made from reclaimed wood, is possible through temporary projects. In fact, temporary projects allow to respond to local needs through targeted interventions. Through the multitude of such locally rooted projects, incremental changes can be made for the city. Mobilising this valuable locally created knowledge can enrich the perspectives of urban planners and policymakers, leading to sustainably repurposing places. Temporary projects could thus instigate and accelerate an overall transition towards societal and environmental resilience.

However, current temporary projects take a fragmented approach, and do not always succeed in transferring their added-value to the transformed building. In many cases, existing buildings, which were reactivated by temporary projects, are demolished to make place for new real estate buildings. Moreover, project developers, who are only interested in creating financial profit, take advantage of temporary projects to provide activities that target a specific population. They thus consciously instigating gentrification, that leads to exclusion and social segregation.

If what already exists in terms of materials, knowledge and community would be considered, temporary projects could be created that act as a link between the existing and the new. For instance, *WIM* demonstrates the importance of collaborating with the local citizens when creating an environmentally sustainable project that fosters social interactions. Similarly, *Circularium* illustrates how resourcefulness and short supply cycles bring opportunities for both urban manufacturers and the local neighbourhood.

One of the reoccurring aspects in these two temporary projects is the appropriation of the temporary project by the local neighbourhood. Ensuring this and the other aspects in temporary projects can lead to creating sustainable temporary project that bring value to the neighbourhood and its community. Therefore, such sustainable temporary projects can lead to prototyping spaces in cities that instigate an overall change towards an improved and resilient built environment and society.

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Local Community and Norwegian Peri-Urban Asylum Reception Centres - Learning from relational notions of place

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The frightening scenes in the British tv-series Years and Years (2019) bring us to places where refugees cannot be traced or found. Within this dystopic future, the 'Erstwhile Sites' are established. They are detention camps meant to be totally disconnected from any other community.[1] I wonder how far Norwegian asylum policies will keep us from these fictional yet alarming realities.

To answer parts of this question, I will invite you to join me on a journey through documents and governmental regulations to a representative location for an asylum/refugee reception centre (ARC), in the Southeast of Norway, Hobøl, a small community in the peri-urban territories outside of Oslo. The aim is to better understand the opportunities to improve processes and proceedings of locating ARCs embedded in existing Norwegian governmental regulations, and guidelines. This paper is based on findings from a document study of official publications retrieved from the Norwegian Directorate of Immigration (UDI).

The increasing body of research on refugees and asylum seekers documents a global challenge across national states and in particular EU and the US, in terms of bringing more care and humanity into the refugees' everyday life. The field of forced migration is charged by unresolved questions. Different strands and perspectives of research outline for example lack of interest and involvement by the authorities, processes of othering (e.g. Simonsen, 2020; Parker 2018), lack of inclusion and integration, unacceptable housing standards (e.g. Denizou et al., 2015; Aranya et al., 2018), lack of bureaucratic support resulting in living in uncertainty for years, (e.g. Mierswa, 2016). Research on the interaction between local society and asylum reception centres documents that local community is a key factor for the well-being of asylum seekers.

UDI is the central agency in the Norwegian immigration administration. UDI implements and helps to develop the government's immigration and refugee policy. According to UDI, central to a more careful and community-centered way of hosting asylum seekers, is a close-knit collaboration between the authorities and the local communities in question. However, my main findings in the document study are firstly, that location is not a definite criterion in procurement proceedings for locating ARCs. Secondly, the concept of local community is not explicitly defined in UDI documents. And thirdly, measurable indicators defining the concept of local community are not clear.

This unclarity may be part of the reason why a substantial part of ARCs can be found in scarcely populated and weakly connected areas such as the peri-urban (Simonsen et al., 2019). Places that are located outside and away from the urban realm. Places where – as you can easily imagine – extra struggle is required for a foreigner to find belonging. The implications of locating a substantial number of asylum seekers outside urban centres can, in theory, constitute an act of physical/spatial 'separation'. As anthropologist and media scholar Anne Hege Simonsen explains,

Asylum seekers are, in many ways the ultimate 'others'. No one knows how long they will stay. They do not (generally) speak Norwegian, they do not work and the asylum centres where they live are often located on the periphery of the local community. (2020, p. 231. Translated by the present author.)

From this viewpoint a more definite, developed, and careful consideration from the authorities of where to locate ARCs is crucial. To better understand the authorities' meaning and intentions

regarding the concept of local community and ARCs, I have reviewed 396 guideline documents on asylum matters that were available on the UDI website in January 2020. I found 12 of these documents relevant to localisation and socio-spatial matters of ARCs, by drawing on the following multidisciplinary theoretical framework anchored in a Norwegian context.

To uncover the layered complexity of the concept of local community in a Norwegian spatial context, I bring forward architect and professor Sigrun Kaul's academic body of academic work on local communities (Kaul, 1982).[2] Kaul uses the Norwegian term nærmiljø to describe the sphere and interplay between a local community and a neighbourhood.

In Kaul's topical work from 1982 she defines five analytical dimensions which together constitute nærmiljø, with the integration of a neighbourhood's physical and social aspects and the individuals as the point of departure:

1. physical conditions
2. social conditions
3. social integration with overlapping personal networks
4. contact and interaction
5. equality and complementarity (Kaul, 1982)

From Kaul's viewpoint, a local community should be a tool to activate awareness of a person's closest surroundings and society. Kaul's work stems from ideas fostered in the seventies. In a progressive political landscape, empowered local communities emerged also on the academic agenda. Kaul's interdisciplinary, feminist perspective anchored in spatial planning and place-making, considered local community as an empowerment tool. Her work is a forerunner that resonates well with later relational place theories and more current social waves in urban theories and thinking (e.g. Massey, 1991).

Her attempts to define the concept of local community is based on a multi-layered complexity embracing everything from the deep geological time as part of the physical conditions to fragile human relations as part of the social conditions. She argues for the beautiful right and opportunity for everything and everyone in place to belong in a local community.

Kaul's definitions of the concept of local community/nærmiljø resonate with more recent work on relational place theory (e.g. Massey, 2005; Cresswell, 2015) that conceptualizes 'place' as inherently open and based on processes. Kaul is warning against a common perception of the concept as a homogenous entity, which echoes Massey's argument for place as a process and a site of multiple identities and histories. Kaul emphasizes that the concept is constituted through process, diversity, tolerance, and interest to include others. This sphere and interplay between a local community and a neighbourhood according to Kaul must be seen from an individual perspective as an arena for development and participation. Place is the opposite of strict boundaries and singular identities and histories.

Learning from Kaul, this paper discusses the relation and critical dimensions of governmental policies, ambitions, and practices when locating ARCs. There is a correlation between theories on place and belonging and the different fragments of definitions of local community identified in the UDI document study. However, what UDI fails to include is the multifaceted perspectives on the processes of what constitute a local community.

Finding belonging in a local community is an extensive process that requires effort. When an ARC is to be established or removed by the government, it has many implications. My findings show that the authorities could within the existing political framework pursue the emphasis on local communities to

instigate more caring opportunities to locate asylum reception centres. Preferably far from the dystopic disconnected Erstwhile Sites.

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UDI 2011-045 Relocation from and between ordinary asylum reception centres (external website)

UDI 2011-041 Requirements for work with children and young people in asylum reception centres

UDI 2011-017 Regulations for the operation of asylum reception centres

UDI 2010-039 Routines for reducing reception capacity

UDI 2010-177 Requirements for accommodation in transit reception centres

UDI 2010-167 Requirements for resident-oriented work in transit reception centres

UDI 2008-054 Requirements for cooperation with local authorities

UDI 2008-035 Regulations for financial benefits for residents in asylum reception centres

UDI 2008-001 Requirements for leisure activities during stays at asylum reception centres

Notes:

[1] For a pertinent clip from the series, see (Benjamin Nealon, 2019).

[2] This work has only been published in Norwegian so far. Its title can be translated as follows: 'Local environment and local environmental values: An attempt at a definition'.

Investigating the Outer Zone; Spatial practices and values in the abandoned territories of the industrial city

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Introduction

The country of Charleroi was part of the first wave of industrialization in Western Europe in the 19th century, mainly due to the massive presence of coal in its underground. The extraction sites were directly located around the city. As for workers' housing districts, they were developed in the direct vicinity of these sites, exposed to disturbances and pollutions (see figure 1: Pierre Paulus, *Le pays de Charleroi*, 1911).

As the industry declined, the mining sites were progressively abandoned. Their location, their state of pollution and their topography, with the presence of many slag heaps, made them unsuitable for setting up new economic activities. For fifty years, these sites were abandoned. This study focuses on the slag heaps themselves, as landscape objects and also as places. It questions how these sites can be considered in the context of the urban regeneration policies currently underway, with social and ecological concerns in mind.

The remaining slag heaps are regularly disposed all around the city. Anywhere you live in Charleroi, there is one of these artificial mountains located a stone’s throw away. There are about sixty of them in the urban agglomeration of Charleroi (see figure 2: Aerial view of the urban agglomeration of Charleroi with localization of the slag heaps, 2022).

Inside/Outside

In order to articulate a relevant reading of these sites, we propose to return to some recent theoretical references. In 1995, in Rome, a collective of architects named "Stalker" walked through the disregarded residual spaces of the metropolitan area of Rome. In their manifesto, they propose to recognize the paradoxal richness of these spaces left aside by urban expansion, claiming they were "the places of repressed memory and the unconscious becoming of urban systems, the dark side of the city, the spaces of conflict and contamination between organic and inorganic, between nature and artifice."

In 2000, the young french architect Yvan Detraz wrote a seminal text named "Zone Sweet Zone", dedicated to neglected urban areas. Among other things, it states that these spaces could be “what the street and the square are to the traditional city: a fundamental public space”, and become places where the city can "provide shelter for the wild, the nomadic and the unplanned ; for space that is economically unproductive but socially, symbolically and ecologically profitable."

In Charleroi, forbidden accessibility, long-term abandonment, pollution and depreciation have given to the former industrial areas the status of an "outside" of the city. What socio-spatial values reside in this "outside" ? This is what this study will try to assess.

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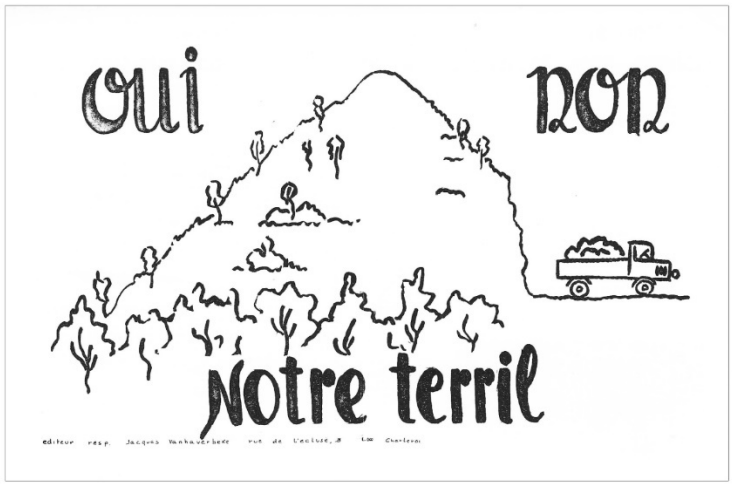
3. 

This question will be considered through a series of figures aiming to represent these spaces. These figures form the synthesis of an ongoing investigation into the historical, anthropological and social aspects of these places. The present reality of these spaces is to be found in the global picture these figures form together, taking into account the affinities and conflictualities that persist between them.

1. *Mounds* - Tim Ingold and the anthropology of the mound

This figure is mobilized not to directly describe the slag heaps of Charleroi themselves, but to put this particular landscape objects into perspective.

In his book "Making", the anthropologist Tim Ingold underlines the vocation of mounds and tumuli to embody the gathered community, as well as the relationship to the cosmos. In traditional cultures, most of them were meeting places where stories and decisions were shared between neighbouring communities. The mound traditionally has this symbolic and political dimension. Moreover, its character is cosmogonic.

2. *Waste* - the industrial boom and the hollow monumentality

The discharge of mining activities from the 19th century has led to a gradual accumulation of mining waste in close proximity of the mine shafts. At that time, industrial development was a priority that put aside environmental and landscape considerations. The Slags heaps were born like this, covering existing fields and forests.

3. *Ruins* - the organs of a tired machine

The decline in mining activity began in the late fifties (1950s). From this time, the coal mines closed down one after the other. The large portions of land that were devoted to these activities became wastelands, but they are still owned today by the mining companies or the legal structures that replaced them.

4. *Playgrounds* - the forbidden games

Long before the coal mines closed down, the slag heaps were playgrounds for children from the working-class neighborhoods. These practices of the space by children were the source of an affective attachment that would be translated, many years later, into political affects, as we will see below. Even today, on accessible sites as well as on forbidden ones, children are among the first to explore the places and leave their traces there.

5. *Resources* - the thwarted exploitation

In the 1970s and in the context of the oil crisis, the Belgian government considered authorizing the exploitation of the slag heaps as an energy resource. Although this new policy was a source of possible economic recovery, it met with fierce resistance from the inhabitants of the working-class neighbourhoods surrounding the slag heaps, claiming these mountains were belonging to their life landscapes and were the memory of their communities (see figure 3 : leaflet for the defence of the Piges slag heap in Dampremy, 1977). These popular movements succeeded in stopping most of the mining permits and in saving many slag heaps.

6. *Reserves* - biodiversity between otherness and spectacle

To prevent the exploitation of the slag heaps, one of the methods used by the inhabitants of the districts was to have scientists carry out studies of the biodiversity present there (plants, animals, birds). These studies made it possible to mobilize a policy of natural heritage protection which slowed down the exploitation. Certain slag heaps are now officially recognized as biodiversity reserves. They are promoted as such by the city authorities and the tourism policy. But the presence of this biodiversity raises questions about how to deal with it : Can it continue to develop spontaneously or must this development be humanly monitored and controlled ?

7. *Shelter* - the refuge of the refugeless

The large amount of available and unregulated space on and around the slag heaps has also allowed homeless people to set up camps in these zones. The presence of these camps near the city center is

problematic for the authorities, who are concerned about the image of the city, but they have difficulty in curbing this phenomenon because of the great poverty in the region.

8. *Productive landscapes* - plant experimentation

The ongoing conversion of parts of these sites into plant production sites has two intersecting aspects: the productive aspect and the pollution control aspect. The plants and techniques used are not the same for both objectives. Here too, political choices must be made because these choices influence the possible uses of these areas in the very long term (25 to 30 years).

9. *Land capital* - continued extraction

As most sites are still privately owned, their social and biological values are always subject to the possibility of being erased behind the financial exploitation objectives of their owners. The proof is the recent emergence of real estate projects on certain slag heaps. It is significant to note that the publicity leaflets promoting these real estate projects mention the biological qualities of these sites as well as the social activities that take place there, even though these projects are likely to cut into the space available for these very uses.

10. *Monuments* - working class memory through attachment

In Wallonia, some slag heaps have been classified as heritage by the Commission for Monuments and Sites. However, this specific mode of protection raises questions about the destination of these spaces: are they objects to be fixed in their current state, or are they places which should be let free for social creativity and emancipation ?

11. *Attractions* - the tourist slope

In the 2010s, hiking trails through these neglected areas were initiated by the inhabitants. They were later made official. In this context, public access to the sites were granted by landowners, but for a limited amount of time, as these agreements are subject to revision every five years. The tourist use of these sites could be a possible outcome for their ecological and memorial valorization, but it must be confronted with the other scenarios mentioned here.

12. *Commons* - towards a recast cosmogony

All of these definitions, existing or projected, human or non-human, symbiotic or conflicting with each other, are to be considered in the perspective of the current reconfigurations of the urban debate, due to raising ecological and social considerations. These situations lead us to question the still dominant role of economic development parameters in urban policies, as well as the decisive impact of land ownership. In the same way, classic categories of cultural or natural heritage seem inadequate to grasp the issues of valorization that apply to these places.

All these principles of action should be adapted in order to better take into account the complex evolution of these places and their emancipatory character for human and non-human protagonists, suggesting us to consider the elaboration of a new cosmogony.

This is the meaning we propose to assign to the action of "repurposing" these places.

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Natural Hypertransformation: Agriculture in Belgium and the Netherlands 2100

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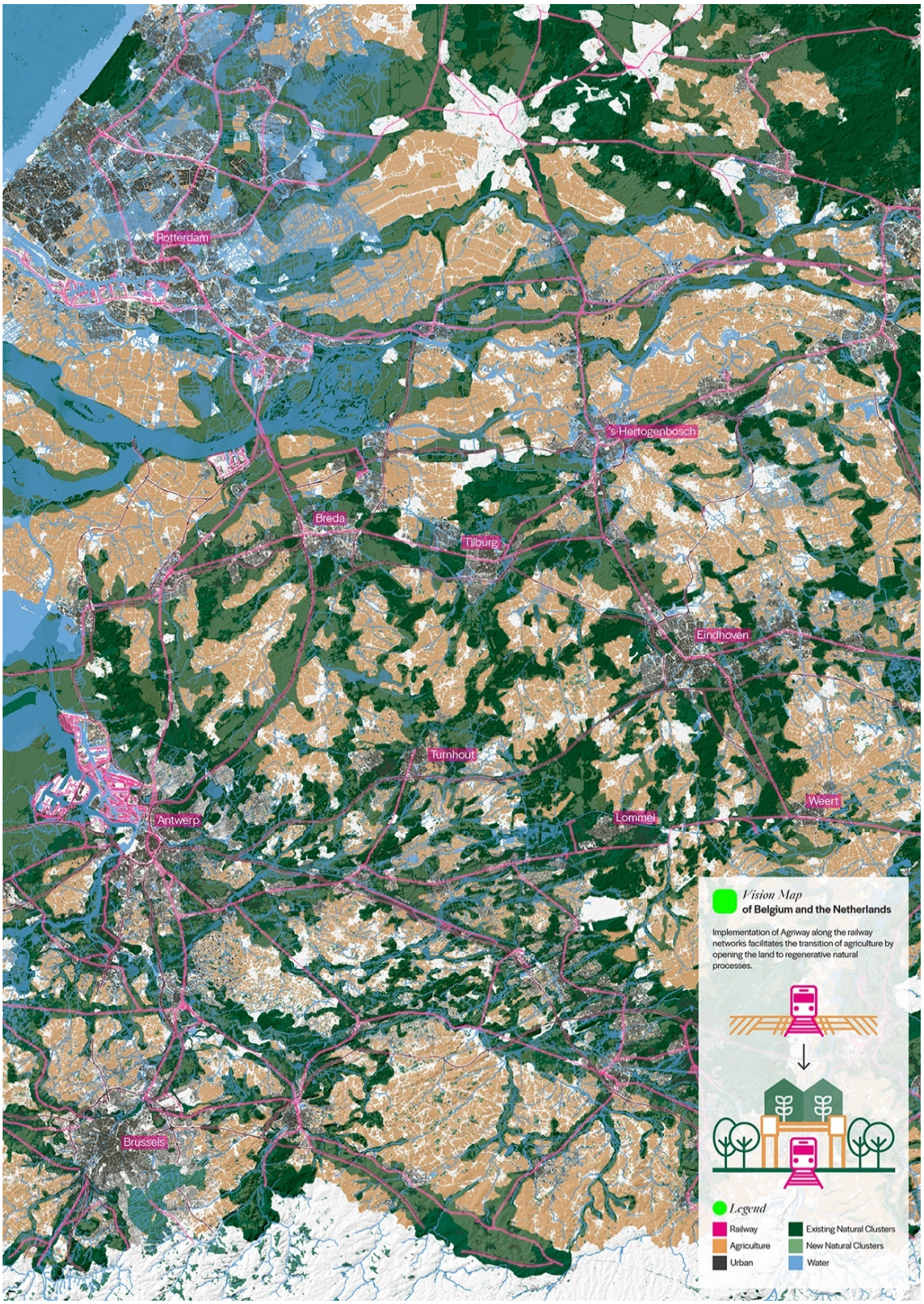
Natural Hypertransformation: Agriculture in Belgium and the Netherlands 2100 is a research by design advocating a new approach to planning large-scale infrastructure, particularly railways, to reduce agriculture's physical footprint to facilitate environmental regeneration in the borderlands of Belgium and the Netherlands. In Northwest Europe, the Construction of new transportation infrastructure, particularly railway networks, is contributing to a significant transformation of the urban landscape. As national borders become increasingly porous, governance structures are redrawn to reflect these changes. The Trans-European Transport Network (TEN-T) introduced by European Commission (Regulation (EU) No 1315/2013, 2013), for instance, aims to create a continent-wide transport network that will improve connectivity between major European cities and new direct connections drastically reduce the travel time between such cities. This condition rises the significance of urban territories as they become even more strategic in social structures due to their connectivity. The large-scale infrastructural projects have the potential to introduce new modes of mobility and commerce, as well as new spatial conditions that will shape the future of urbanization in the region.

The Natural Hypertransformation explores the overlooked potential of large-scale infrastructure in transnational environmental policymaking, as the prefix hyper implies an excessive and intense notion of transformation. The project acknowledges the challenges posed by the climatic shift in Northwest Europe which causes environmental degradation. It seeks new ways to integrate large-scale infrastructures and prospective projects into sustainable development initiatives as it believes they can contribute to environmental regeneration on a regional scale. Specifically, the research explores how railway networks can be integrated into sustainable agriculture initiatives. To this objective, the research is focusing on the provinces of Antwerp and Limburg in Belgium and North Brabant in the Netherlands due to their strategic condition in the socio-economic and environmental relationship between the two countries. The research gives out a brief introduction to the environmental context of the region and its challenges but also by mapping the big infrastructure projects in the region and analyzing their relationship to commercial, industrial, and agricultural activities, it identifies spatial opportunities for reimagining them. Ultimately, it is hoped that this research will contribute to global and continental efforts aimed at achieving sustainable development goals and addressing the challenges of climate change.

The climate analysis of the borderlands of Belgium and the Netherlands suggests a process of environmental degradation in the region. The radical shift in climate that is shared by both states hints at a drastic rise in temperature, flood and flooding risk, drought, and sea level. Though the consequence may differ due to local vigilance, they have been felt in recent years and are going to be more tangible in the future. The authors argue that there is an evident connection between the spatial governance of land and its environmental degradation. They suggest that innovative spatial planning is necessary to promote regenerative natural processes that can reverse the damage caused by conventional practices. In this case study, the land use and greenhouse gas annual emissions data expose the critical status of agriculture in the region. Agriculture, as the most sensitive sector toward climate change, is the fifth major contributing sector to annual national emissions by taking over 9.7% of emissions in Belgium and 13% in the Netherlands (Ritchie et al. 2020). But the particularity of the agriculture sector rises due to its excessive resource consumption in conventional practices that not only results in emission but ultimately in loss of biodiversity, soil degradation, and water pollution. The data shows that agriculture occupies 60% of land in North Brabant (Central Bureau for Statistics, 2018) as does 37.9% in Antwerp (Provincie in Cijfers, 2019) and 42.9% in Limburg (Provincie in Cijfers,

2019). Adding the urban land use to agriculture suggests that at least 76% of the land in North Brabant (Central Bureau for Statistics, 2018) and 78.1% in Antwerp (Provincie in Cijfers, 2019), and 73.4% in Limburg (Provincie in Cijfers, 2019) are artificially constructed: leaving limited room for nature. This phenomenon encourages a radical imagination that would involve integrating natural and social systems in a manner that promotes biodiversity, soil conservation, and water management, namely regenerative natural processes. This may involve developing policies that incentivize sustainable land use practices and discourage conventional practices that are harmful to the environment.



Overall, Natural Hypertransformation seeks alternative spatial arrangements of densification for agricultural activities to first open up land to environmental regeneration while maintaining or increasing production capacity. This is made possible by a stark dietary shift in the future, that enables a more nature-friendly means of production and consumption. As it is suggested by studies our diets have a significant environmental impact along with their health impacts. Conventional Agriculture supply chains leave behind a large physical footprint on nature yet owning to the changes in societal values and environmental policymaking, there is a decline in them. The emerging advancements in alternative protein sources, seaweed and fungi farming, etc., show a rise in the popularity of such practices and the rise of new economic opportunities. With the premise of this dietary shift, it is feasible to propose alternative spatial arrangements that host new means of agricultural production, such as innovative horticultural practices like vertical farming. This is evident in recently popularized vertical farming practices that are capable of yielding certain crops 200 times more than conventional farming by using the same area (Castilo, 2021). It is also crucial to take into consideration that such facilities are capable of being installed in different locations such as urban fabric since they are independent of land.

The Natural Hypertransformation framework utilizes this spatial capability and promotes a physical integration of future agricultural facilities into big infrastructures that are shared between Belgium and the Netherlands. The agglomeration of productive facilities takes place on top and along the transportation axis, in this case, study, the railway network. The new installment, or rather a green megastructure, is named the Agriway. A new large-scale green infrastructure would converge different steps of production within its enclosed geometry and drastically shorten the footprint of production. This new take gives a strategic role to train stations that could foster end-product processing and distribution, further decreasing the overall footprint of production and consumption.

The opened land along the railway is therefore capable of hosting regenerative natural processes. They would change into green clusters capable of reconnecting natural reserves that are severely segregated (fig. 1). This creates an advantageous situation both from nature and human perspectives, as the natural environment will be more resilient and the human settlements are equipping their surroundings with climate-resilient green territories. It is also important to address the gradual shift of land-dependent agricultural activities into the mainland and in between regenerated natural clusters. This change facilitates the implementation of a sustainable transition of agriculture in the rural landscape as it becomes easier to integrate ecological forms of agriculture such as agroforestry into the farms that, in long term, could benefit the regeneration and reconnection of natural reserves.

In conclusion, Natural Hypertransformation not only tackles the issue of climate change but also creates new economic opportunities for the region. The paradigm shift in dietary consumption and production can support the implementation of alternative forms of agriculture that can reduce emissions and restore biodiversity. By integrating such practices and facilities within large-scale infrastructure, the framework not only promotes a sustainable approach to transportation but also creates new jobs and economic stimulus for the region. The resulting Agriway also creates new possibilities for urban-rural collaboration and helps to regenerate natural clusters that promote ecological resilience for the region Overall, the Natural Hypertransformation framework presents a promising approach for the sustainable transformation of Northwest Europe, demonstrating the crucial role that large-scale infrastructure plays in shaping the future of urban life.

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Towards a Framework for Considerate Urbanism: Centering Emotion and Empathy in the Production of Urban Space and Urban Experience

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My interest and work is on the social future of cities and how we live in and experience urban space. I am interested in how we can build strong and resilient social fabric in our communities. Underneath this is an even more core interest about the urban experience; from the exciting and inspiring to the challenging, obstructive, and unwelcoming ones. I believe everyone has the right to have a positive urban experience.

Our culture and society is changing and evolving, as it does with every generation and we are seeing the effects of that in generational attitudes to work, the economy, the environment, and politics. We've got a growing climate change emergency, an ongoing global pandemic, the fallout of Brexit, ongoing political instability, and numerous social justice movements demanding change from our pernicious and stubbornly ingrained lack of social justice and inclusion. We wear our hearts on our streets as well as our sleeves.

Considerate Urbanism is an alternative philosophy and way of thinking about cities and urban life; to make this is a kinder experience but also a kinder future for our people and planet. We know that we urgently need to adapt and transition to a different model of living, existing, and producing on our planet. It is considerate of the sensory, emotional, and psychological dimension of urban space and urban experience. It is mindful of the impact of change and the way we design has on ourselves and others. It is sympathetic to our urge to create and communicate meaning, identity and belonging through the built environment. It empathises with a wider spectrum of people and their needs and lived experiences. So, people can tangibly see and say that they and their needs have been seen, acknowledged, and accounted for in their experience and use of the city. It fosters kindness, empathy, affinity, and caring urban behaviours to help bind our social fabric together.

It's urbanism that likes you - and is like you.

This focus on the human dimension of cities is badly needed. The very shape our urban fabric takes seems to accommodate vehicles much better than it accommodates the needs of people and our environment. This is because we have been building our cities primarily around the needs of the car.

Are we really going to base our urban future on the needs of the car too?

It feels like we need to rethink the fundamentals of what we base our urban form, lifestyles and functions on. And if we were not to base our cities around cars – what would it be instead? Considerate Urbanism is about centring care, empathy, affinity, emotion, and human experience to move us from car-based urbanism to care-based urbanism.

I am convinced that the future of the city and our understanding of its growth, potential, and processes of change, will be governed by more overtly humanised and social drivers. I think we are moving into the age of the social city.

This age of the social city comes at a time of major flux. Climate change is showing us that our lifestyles and systems are fundamentally unsustainable. Economic disparity and persistent poverty is showing us that our economic system is unjust and inequitable.

It feels like this transition to a new way of living, working, and doing business will necessitate a dismantling of the systems, structures and processes we had before. And we need whatever comes next to enable the massive changes needed for us to adapt successfully to a more socially, economically, and environmentally resilient world.

As more of us will live out our lives in cities; cities will become the thing most of us will share and have in common. City life. This means we need to make cities the solution and not the problem.

Fostering considerate urbanism is a systemic and emergent approach that needs to happen on multiple levels, across multiple disciplines and stakeholders, with a variety of lenses and timescales. It is a process, a state and a mindset. Universal and specific. Material and theoretical. It won't happen by itself and it won't happen alone. That is why we are building Considerate Urbanism as a:

- Movement: unifying ideas, connecting people and propelling action.
- Mindset: growing a different mindset and behaviours for decision-making and commissioning.
- Method: learning, developing and applying the concept of considerate urbanism in practice.

Our Seven C's framework helps to weave tangible activities and action from this complexity. The framework is flexible enough to allow the Seven C's to be explored when considering anything from a project or a space, to a whole city or its infrastructure:

- Considerate Framing: this provides the focus for Considerate Urbanism application.
- Considerate Process: helps to ensure the process itself is considerate.
- Considerate Results: this concerns what outcomes, outputs, legacy, objectives and deliverables you are seeking to generate and to what extent they are considerate.
- Considerate Experience: this focuses on the experience that is generated and created for people, what does it feel like, how are people using and engaging with it.
- Considerate Behaviours: this explores what kind of behaviours and interactions are fostered by the experience; how can this create resilient and healthy communities and strong social fabric.
- Considerate Future: this asks us to explore and imagine what kind of urban future are we creating and how it can enables a transition to the next city.
- Considerate Impact: this asks what the overall impact of the project to different stakeholders is, over different spatial and temporal scales and the different types of value.

As our structures and systems change to address the challenges we face together, our cities will bear the strain of their development, form and function being built on concepts and ideas (i.e., cars, capitalism, materialism) at the point of concept fatigue. Time to use our collective imagination and skills to socialise our cities and build a new and more considerate basis for our shared urban future.

The ultra-local place advocacy of HOOPLA

Kathy Waghorn, Nina Patel

HOOPLA, Auckland, New Zealand

HOOPLA are an ultra-local practice producing urban research and place advocacy in Tāmaki Makaurau (Auckland), Aotearoa (New Zealand). Located on a volcanic field positioned between two harbours, the part of the city where we live and research is undergoing rapid transformation, with much housing intensification and other demographic and economic changes.

For HOOPLA our work is all about place. We are interested in how people know, use and value places, and how places can be re-imagined and given new purpose. Our work is always grounded in specific places and the histories, people, landscapes and transactions that construct these places. First then, so that we can tell you more about our work, let us take you for a virtual tour around our neighbourhood. (We recommend that you read the text and images together here, guided by the numbers).

Our work takes place within the suburb of Avondale, in the catchment of the Whau awa (river)(figure 1). With our homes located on each side of the awa, the interconnected land and water of Te Whau has become the location and focus of our work. Here we acknowledge Te Kawerau a Maki and other iwi Māori (tribes) who have long travelled this river. They know and have named its parts, where to fish for pātiki (flounder fish), where to shelter from Tāwhiri-mātea (deity of wind and storms), where to see Matariki (the Pleiades star cluster) rising in winter. In the past iwi Māori used the Whau river to move in waka (canoe) between two large and resource rich harbours. Many other species make their homes here too. In spring kuaka (godwits), returning on their mammoth flight from Siberia, feed on both harbours, using the Whau river as an ecological corridor.

These days you are most likely to travel not by waka, but by bus, car, walk or bike along Great North Rd (figure 2). The shops, schools, community spaces and businesses that line Great North Road make up the Avondale town centre. Between the Whau awa and the town centre you will find the Avondale Jockey Club (figure 3). Still used for horse racing, the track, infield, parking lot and indoor spaces also support a rich and diverse range of community uses. It is home to pigeon racing (figure 4), ballroom dancing, bingo, rugby, touch rugby, cricket, fly-fish casting and golf practice, dog walking, film shoots and driving lessons and many other activities. Importantly the racecourse parking lot also makes room for the Avondale Sunday Market (figure 5). This is the largest and longest-running market in Tāmaki Makaurau (Auckland). Each Sunday morning, depending on the weather and time of year, 10 to 20 thousand people shop for fresh fruit and vegetables, dry foods, seafood, meat, fungi, local art and crafts, haircuts, new and second-hand goods and clothing.

Now that you have visited our neighbourhood, let us tell you about our work as an ultra-local practice producing urban research for *place advocacy*. Places, J. K. Gibson Graham tell us, are entities “not fully yoked into a system of meaning, not entirely subsumed to a (global) order; it is that aspect of every site that exists as potentiality” (Gibson-Graham, 2023). In our work, HOOPLA prioritise the multi-scalar, temporal, relational attributes of place as we aim to influence the disposition of others in their feeling for place. Sometimes we do this through bringing people and things together in carefully calibrated situations.

As an example, for five years HOOPLA developed the *Flotilla Whau* (figure 6), an annual but fleeting parade-like spectacle of boats on Te Whau awa. Drawing attention to the presence of the river that is mostly hidden behind factories and warehouses, the *Flotilla Whau* was an opportunity for people to experience the river and communicate their relationship to it. Involving local clubs, NGO's, schools,

businesses, politicians and river locals, the intention of the *Flotilla Whau* was to foster a kind of place relationship brokering, or to use Jane Bennetts' words, we could see the *Flotilla Whau* as a "distinctive assemblage of affective propulsions", that might activate shared connection to the river through our "bodily movements in space" and our "mobilisations of heat and energy" (Bennett, 2001). Becoming ultra-local bolsters such increased sensory and intellectual receptivity to place.

Other HOOPLA projects have focussed on urban research. An example is our work with Avondale Sunday Market. While the market is well-known and supported, its future is somewhat uncertain. Reflecting changes to the racing industry, the racecourse no longer has the number of races that it once did. As development pressure comes on the racecourse land, there is a danger that the Avondale Sunday Market will be relocated or lost. Acting as advocates for the market, HOOPLA are researching and documenting the diverse economies of the market. We have used forms of mapping to notate data that is spatial, social, material and temporal. (figure 7) We want to capture and communicate the persistence of the market as a less regulated space, an economy and social space that offers a critically important alternative to mainstream consumerist practices. We have gradually grown our research materials; including a photographic census of all 250+ stalls, recording time-lapse video, collecting vegetable price data, counting visitors and having conversations with the stallholders, shoppers and the market owner. We have discovered significant implications for livelihoods, employment and well-being if the market closes. Our analysis shows that fresh fruit and vegetables are less costly at the market than at supermarkets, and how critical this is for those on limited incomes. With a light touch in terms of set up costs and regulation, the market also offers significant opportunities for small business and supplementary income generation. Our research illustrates the importance of the racecourse as a loose, flexible, semi-permanent space that can host this important community infrastructure.

HOOPLA'S methods, such as the collection and mapping of local experience, alongside generating platforms for collectively experiencing and communicating place, coalesce in what we term *place advocacy* (figure 8). Through these actions of place advocacy we act for the continued social and environmental resilience of our neighbourhood. Place advocacy relies on a sensory and intellectual receptivity to multiple situated, yet connected place assemblages, and the capacity these have as 'research tools' to teach us new ways. In HOOPLA, learning from things happening on the ground, we develop methods for such receptivity as we sense the importance of thinking connection and interdependence, convening wider publics and cultivating disparate forms of knowledge from the assemblies, situations and transactions of place.

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Enhancing the resilience of the Urban Web. Simulations of the selection of design projects applied in Greek cities in the last decade.

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The study constitutes a critical analysis of the selection tools applied to enhance the bioclimatic characteristics of Greek cities in the last decade. Tools for the simulation of climatic characteristics and ex ante assessment of proposed design regeneration are urgently needed for the application of bioclimatic characteristics in urban areas to enhance the resilience of urban areas to the increasing ambient temperatures observed in Mediterranean cities.

The work is part of the research started by the newly established laboratory of the School of Architecture of NTUA "Laboratory of Architecture and Urban Planning in an Environment of New Methods and Technologies". The aim of the research is to understand the simulation tools used to control environmental conditions to integrate them into the architectural design process. The aim is for architecture students working on urban planning to understand the primary importance of the impact of the contribution of architectural design in influencing the thermal comfort of urban areas, especially in Mediterranean areas with strong thermal fluctuations for more than 9 months a year.

To develop computational methodological tools that would be available to our students for the analysis of urban climatic features we sought a coherent case study that would allow us to test the effectiveness of the simulation tools in order to integrate them into the architectural design process. To assess the reliability of the software we looked for cases that could verify the software's ability to identify bioclimatic parameters for the regeneration of an area. For this purpose, as a more appropriate case study, the application was assessed in the cases of bioclimatic urban renewals financed by CRES and where for the first time the evaluation of the financing used the simulation of the planned proposals in an organized way. In 2011, the Center for Renewable Sources and Energy Conservation (CRES) developed an Urban Sustainable Reconstruction program. The program with the name "Bioclimatic Upgrades of Public Open Spaces" concerned the planning and implementation of pilot / demonstration projects of urban upgrades within the fabric of the cities of the Greek territory. The program aimed to upgrade and redesign public outdoor spaces with the objective of improving the microclimate by achieving thermal comfort conditions and at the same time creating attractive outdoor spaces for citizens.

In this study we analyze the general and qualitative characteristics of the program trying to assess the correctness of the selection of the cases that were finally funded with the aim to critically understand the simulation tools used to control environmental conditions which contributed to the selection of the funding. Studying cases of urban renewals made with the aim of enhancing the resilience and sustainability of urban systems, the study clarifies the eligibility criteria of several planning projects implemented and summarizes the achievement of the stated objectives. The final goal of the research line is to be able to finalize the simulation and control tools that will constructively assist the planning processes towards resilience and the optimization of living conditions in the public space of the Mediterranean.

Among the 52 proposals submitted for funding 21 managed to satisfy the bioclimatic simulation criteria and of these only 13 were finally implemented. We performed simulations for all 13 cases using free software based on the Rhino/Grasshopper platform. In particular, the software Ladybug / HoneyBee / HB-Radiance / HB-Energy were used with supporting functions developed in Python language. To check the reliability of the simulations, the simulations were also repeated in the

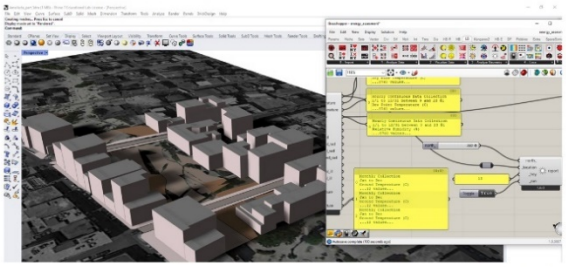
ENVI_MET software in which most of the bioclimatic performance research had been carried out in the period of the original submission.

1 - Chorafa in Peristeri Attica , 4 – Moschato Attica,
6 - Municipality of Pavlos Melas, 7- Rethymno,
8 - Almyros, 9 – Thebes, 10 - Thessaloniki,
11 - Serres, 14 – Amaliada, 15 - Oinophyta,
16 – Amarousio Attica, 18 – Chalkida, 19 – Larisa

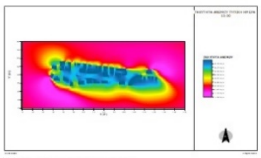
2,3,5,21 in Attica , 12 Katerini, 13 Eordaia ,
17 Mani and 20 in Kordelio although they passed the specifications of the simulations, they failed in the next phase to be financed in order to be implemented.

Reconstruction of public spaces in the "CHORAFAS" area of the Municipality of Peristeri

Bioclimatic Upgrading of the Public open space along the historic stream Chrysorroa of Thebes



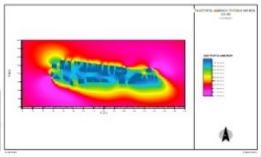
For the estimation of thermal comfort we introduce the PMV indicator (Predicted Mean Vote – PMV interrelates the environmental parameters levels with the levels of activities). According to the results (at 12.00 p.m.) the mean maximum surface temperature is 33,02 oC, since after the intervention temperature falls to 27,18 oC.
The aim to succeed the mean surface temperature reduction about 5 0C is achieved, since reduction is of 5,84 0C.



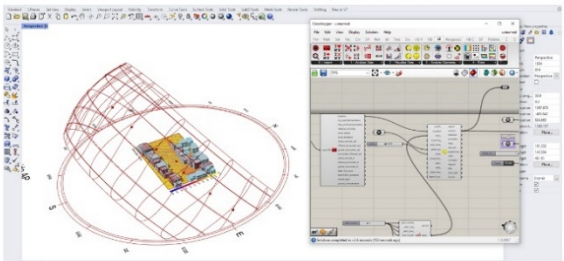
Wind speed before the intervention.

Since, after the design intervention, the average sum of basis grade - hour 26º C reduces 20,26.%, likewise energy is saved through the reduction of air condition units operation. In effect gas emission is reduced.

	Rate Reduction of Greenhouse Gas Emissions	85,32.%
	Energy Savings	85,32.%



Wind speed after the intervention.



Simulations for the Center of Amaliada

Regeneration and Bioclimatic Upgrade of the Center of Amaliada

Indeed, in three cases (of Chorafa in Peristeri, Thebes and Amaliada) the interventions seem to respond clearly to the set climate goals which are verified after their implementation with a reduction

of the maximum ambient temperature by at least 1.5 degrees Celsius in the area. The choice of using extensive soft (soil) surfaces and extensive planting achieves the reduction of temperature and the objectives of improving the local microclimate are accomplished, achieving thermal comfort conditions resulting in the creation of attractive spaces for citizens.

Three more of the 13 cases appear to marginally meet the conditions of the notice. (Rethymno, Almyros and Municipality of Pavlos Melas). With central choice of the use of cool floor materials in combination with planting to cover the climate goal, it is marginally seen in the simulations that they satisfy the goal of reducing the local temperature microclimate. It turns out that the application of materials with a high infrared emissivity (which release the amount of heat they have absorbed more quickly) ensures lower surface temperatures compared to other materials.

The rest of the cases in the sample failed to prove in our simulation that they satisfy the objectives. Moschato, Amarousio and Oinophyta are large linear urban areas that did not offer the basis for the development of the proposed bioclimatic regeneration techniques. The same applies to Larissa with the choice to install canvas linear pergolas instead of trees. Chalkida, due to the very small size of the redevelopment, could not cause a spectacular difference in the environment. Finally, two areas (Thessaloniki and Serres) that used mechanical systems (construction of fountains and water curtains, installation of floor fans and vertical axis fans) could not be fully simulated, and as result we do not have a comprehensive view of the findings, they presented to be financed.

In conclusion, the case of the financing of the reconstructions in Greece in the last decade by CRES based on environmental simulations opened the way for simulations to ensure the success of the reconstruction. The use of expensive software by specialist offices made the venture difficult to replicate on a large scale. But it gave us an excellent example in order to develop open software that will allow the establishment of environmental guidance starting from the guidance of Architecture students.

Appropriation of Space as an Integrated Planning Approach towards Social Resilience

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Social resilience includes not only the ability to cope with crises, but also the capacity for transformation (Davoudi, 2012, p.302). Strengthening the latter through empowerment of citizens in planning processes (while minding the pitfalls described by Davoudi (ibid, p.305) offers the chance to contribute to the co-production of the socio-ecological transformation. A promising approach to increase social resilience is the integration of appropriation into planning and design processes.

Appropriation of space is the active interaction of people with space (Deinet and Reutlinger, 2014, p.14) that shapes and influences both parties, leading to empowerment and identification (Jaeggi, 2002). Furthermore, appropriation is a dynamic learning process (Göbel, 2017, p.222) that promotes interaction and the learning of democratic community and togetherness (ibid, p.234, Frey, 2004, p.229). Studies have shown that informal actors who appropriate space by shaping their environment according to their needs strengthen social cohesion, thereby increasing resilience to crises in their environment (Brocchi, 2019, p.12). This potential is rarely exploited by urban design and architecture, because appropriation is mostly seen as an informal bottom up process that cannot be artificially integrated into a planning process. Approaches dealing with informal processes and appropriation most often pursue a responsive governance (Willinger, 2014) focusing on already visible and organised actors and developments.

This article proposes a new approach where appropriation of space can be enabled and fostered in order to contribute to design and planning processes. Accordingly, the approach strives for a productive and proactive relationship between appropriation and design, between informal and formal, and thus was coined by the researcher as Semiformal Design. It operates within the framework of legal and formal guidelines and follows a design goal whilst creating spaces of opportunities for experimentation and appropriation. Subsequently, citizens and informal actors are supported and empowered in order to shape their environment and to work on visions and strategies. Mediating between formal and informal is a partly goal oriented and partly open-ended approach which introduces experiments to the process. In these additive modules of intensive participation, the planning objectives are tried out. People, affected or interested, are invited to contribute to the project. In the spirit of appropriation, it is up to them to interpret the goals depending on their needs, interests and inclinations. The openness of the results calls for an adaptive planning approach as described by Urban Catalyst and Fezer (2014, p.165). These experiments take place in the physical places that are subject of planning and become subject of appropriation through use and design. Furthermore, the definition of appropriation as a reciprocal transformation process of people and space (Jaeggi, 2002) advocates a performative approach, namely the "execution of social reality through performance" (Strüver, Wucherpfennig 2009:108 according to Mackrodt and Helbrecht, 2013, p.15). Accordingly, the approach focuses on appropriation through interventions, activities and events. Especially because there are psychological barriers (Willinger, 2007) as well as various preconditions (Kaspar & Bühler 2006) limiting the abilities to appropriate, empowerment becomes the main task and challenge. The goal is to encourage and enable the actors to get involved and appropriate a space and then to support them in their activities and the pursuit of their goals.

In the spirit of participatory action research, the approach was explored in the living lab “Join-In-Box” in Deggendorf, a German medium sized city. The experiment was the start of the planning process aiming to repurpose a parking lot into a new cultural venue using shipping containers. Two initial containers were set up and young people being the potential users were invited to use and design the space. The experiment was framed by two workshops but apart from that, the development was completely up to the participants. The researcher´s role was to accompany and empower the dedicated group for three months while continuously reflecting on the process with the city administration. The goal was to determine needs and generate ideas for the project through their practical implementation. In the end, ideas and visions for the place have been created and tried out. The participants appropriated the space through spontaneous experiments, Graffiti and DIY-construction of furniture, a bar and ultimately even a steel canopy. Weekly open meetings, spontaneous usages as well as self-organised public events including open stages and a flea market gave the space a new meaning. As a result, a new place for subculture and encounters has emerged. Through the numerous events, discussions and workshops as well as the fostered exchange between the city administration and the appropriators, the foundation for a permanent co-productive process was laid: The involved core-group has founded an association, continues to run the venue and collaborates with the city on the further development of the site.

To evaluate the concept, the special conditions for this successful implementation and the key role the researcher played have to be considered. Nevertheless, Semiformal Design has the chance to start a development outside of formal processes producing places that communities actually feel connected to and make use of. Overall, the experiment demonstrated that through the integration of appropriation into design and planning processes, social cohesion can be strengthened, social resilience can be increased and the transformation towards sustainability can be advanced together.

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Section 3: Participation & Processes

Towards Partnerships that Continue Beyond the Research Field: Reflections on an Intervention to Address Socio-Spatial Vulnerability in Amman, Jordan.

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Introduction

Jordan, as the second-largest host of refugees per capita globally, has been impacted by numerous refugee influxes over the years. With the lack of public spaces in its capital Amman and reports of conflicts between host and refugee communities, the city's resilience strategy emphasizes inclusivity and active participation to address the socio-spatial vulnerability. This paper discusses a participatory research intervention in Amman that aimed to create partnerships and engage stakeholders in similar spatial modes of thought to support vulnerable communities' access to public spaces.

The project involved partners in a series of collaborative workshops and outdoor interventions to promote social cohesion and access to public spaces for refugees through their participation and leadership. The project had several sub-objectives, such as raising awareness about the purpose of public spaces, providing neutral spaces for knowledge exchange between different actors, and identifying outdoor challenges faced by refugees. Each of the workshops was tailored to the attending participants and included multiple methods such as: creating collages, creative writing, basic cartography, storytelling games, and collecting objects from nature.

While academic discourse often prioritizes successful projects, and although the presented project has yielded moments of noteworthy success. This paper focuses on the unexpected setbacks encountered during the research process, specifically the ongoing engagement with the community and the sustained labour to navigate emerging research considerations. Building on Pillow's (2003) notion of reflexivities of discomfort, this paper emphasizes the importance of reflecting on personal experiences, and of learning through small losses (Sitkin, 2008).

This paper proposes the following reflective lessons learnt from the pitfalls encountered during the project.

Allow relationships to blossom

In the context of over-researched communities, refugee participants may have previous experience with inquiries, leading to predetermined responses, allowing them to hide their real thoughts and match their answers to the mainstream line of thought. This project revealed that time and varied inquiry are crucial in revealing these hidden transcripts (Scott, 1990), as refugee participants gained confidence and became more vocal over time. This led to contradictions between initial and later responses, which necessitated revisiting findings in a frequent manner and retrying creative contextual methods to seek alternative forms of expressions. For instance, storytelling and collage exercises aided in shifting our focus from being outcome-oriented to appreciating the process. Also, the creation of collages encouraged participants to use their imagination and explore areas that instilled hope to envision better spaces.

Do not Over/underestimate an ambitious seating plan

Despite careful study, seating plans in workshops can sometimes be overly ambitious. Our seating plan, while aiming to level out the hierarchy between refugee participants and other public space actors and frontliners, was not democratic nor buzzing. We encountered power dynamics that hindered participants' ability to voice their challenges and needs, leading researcher's position to shift from enabling to advocating and ultimately failing to create the initially intended neutral space. In the absence of a culture of participation, we must experiment with participatory approaches and develop mechanisms. Achieving neutrality is a gradual process and not a one-time outcome of a workshop. However, seating arrangements can be powerful as they convey significant meanings. In a particular workshop, the seating plan reflected the existing layers of segregation in the community, such as host community vs. refugees, women vs. men, Iraqi vs. Syrian, and Christians vs. Muslims.

The outcome is the generator

In participatory workshops, the outcome is not the final goal but a catalyst for new processes and experiences. For example, a workshop aimed to improve mobility and create a multi-cultural map in Arabic, and we suggested a constant revisiting of the map. However, the community iterated the map several times and ultimately decided to start anew, demonstrating how a workshop's outcome can become a generator and starting point for a new process and experience.

Battling the hit & run approach

Contemporary research often involves researchers frequently shifting and changing their research scopes and sites. While this is not inherently problematic, it can be equated to a "hit and run" approach that leads to a 'mindless researcher' behavior and dynamic acts that are inaccessible and difficult to rethink. This approach risks neglecting the iterative process necessary for cultivating resilient research practices that address vulnerabilities.

Therefore, it is crucial to rethink even the simplest researcher-tasks, such as entering and withdrawing from research sites, that may have been overlooked. It is essential to critically evaluate our shortcomings, identify what went wrong, and return to the site with improved strategies to retry and enhance the research process.

Conclusion

This paper underscores the importance of forming and sustaining partnerships that transcend the boundaries of the research field and are not limited by timeframes or donor interests. Although, such partnerships require dedicated efforts to maintain, they are highly needed for the resilience of the studied communities. This paper proposes that researchers should explore the possibility of introducing interesting and interested partners to the research field before concluding the project. As a simple withdrawal from the field of participatory research is unacceptable. Consequently, researchers can expand their impact to the city and engage more enduring partnerships in their work.

It also, serves as a personal call to action for researchers to strive for sensibility. As traditional research training offered by universities and institutions is insufficient for achieving this goal. Instead, researchers must cultivate sensibility in themselves and their students, empowering them to effect change and inspire hope in others. The research process and accompanying human experiences take precedence over other factors such as outcomes, research questions, or donor interests. Therefore, it is crucial to cultivate a sensible attitude towards research, re-engage with the research field, and strive to form partnerships that extend beyond it.

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Participatory mapping for social and environmental resilience: the position of the architect-researcher in an art organisation.

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The Art Hostel is no ordinary place. The first social enterprise hostel in the country to truly transform space into artwork, The Art Hostel has made a great impact on its locality. The people behind the project are East Street Arts (ESA) [1]. As one of their most ambitious projects to date, The Art Hostel was created as a tool to actively support artists and their practice, whilst also offering overnight stays to Leeds' visitors in a unique, fun, and creative space. (Art Hostel, 2017)

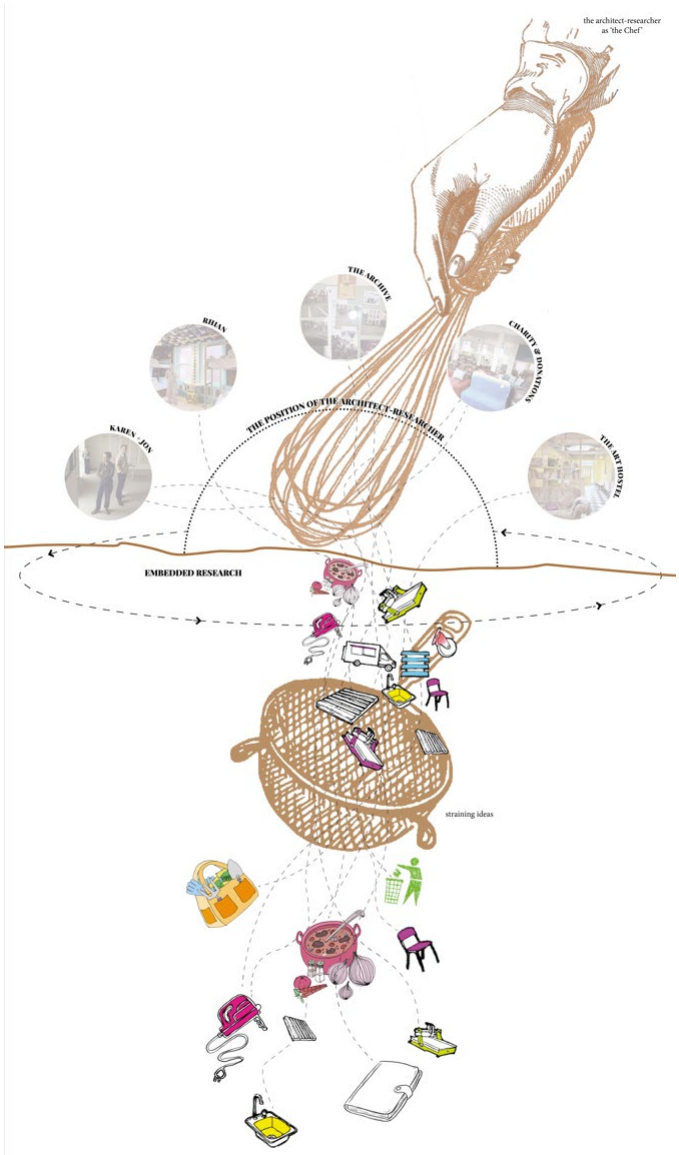
Originally located in the Woodheads Seeds building (Woodheads Seeds Ltd Headquarters), The Art Hostel first opened its doors on Kirkgate as a pop-up in 2016. ESA had planned to operate the hostel for three years as a prototype to determine if a model like this one would work. Unfortunately, the hostel had to close its doors early in 2018 due to a disagreement with the building's landlord. (Parkes, 2022) Nonetheless, in less than three years of operation, the hostel recorded over 10,000 bookings from guests from 117 countries, hosted over 350 artists at more than 125 events, and enjoyed 18,282 brews over 4 kettles. (Art Hostel, n.d.) That is pretty good going, if you ask me…

The Art Hostel later relocated to Mabgate,[3] once the red-light district of Medieval Leeds, where it now forms a key part of East Street Arts' creative Mabgate Complex, next door to ESA's home, Patrick Studios, and art and tech hub, Convention House. Located within the 1894 former presbytery for the historic St Patrick's Church, the hostel accommodates twelve individually curated rooms, each of them uniquely addressing issues such as politics, history and heritage, climate change, and nostalgia. As Lorna Parkes noted in a Guardian article, "the outcome is nothing short of magical—a massive symphony of imagination unleashed". (Parkes, 2022)

As part of the living experience, visitors to The Art Hostel are invited to contribute to the hostel's embedded locality and repurposing culture during their stay. The physical infrastructure offered by The Art Hostel aims to engage people "to make, create, debate, sleep and explore, promoting ethical tourism and accessibility to the arts". (East Street Arts, 2016) Through a series of events, focused conversations or purely through sharing food, guests can learn about Leeds' art scene and ESA's response to climate change. To create an atmosphere where the sustainability agenda can emerge and flourish, as well as building on Leeds' grassroots and DIY art scene, each room has been uniquely designed to spark discussions and imaginations. As such, twelve beautiful rooms have emerged, including a room focused on 1980s protest culture: "It's Up To You" by Mary and Jiem, a fully accessible multi-sensory room: Rooting by Sayang Sound, offering a grounded and nourishing experience, and another room inspired by West Yorkshire's textile industry: "The Wooly Ewe" by Jesse Paul Wright, which happens to also be my personal favourite. The most compelling one for the sustainability agenda is, however, photographer Mandy Baker's "Ocean Galaxy"; this room "explores marine pollution through the medium of found footballs". (Art Hostel, 2022) This room builds up on Baker's work "PENALTY" evolved around the FIFA World Cup 2014. The series title "PENALTY" refers to the price that we will all pay if we do not take care of our oceans by controlling the excessive consumption of plastic that enters them and taking responsibility for their design and recovery from the start. (Barker, n.d.)

The environmental responsibility and ecology stand at the core of the design of The Art Hostel. In an interview with the Guardian, Rhian Aitken, the Art Hostel's manager, says:

“One of the rooms is completely made from reclaimed wood, and even the flooring in the lounge and some of the bedrooms comes from a gym in Poland”. (Parkes, 2022)



Similarly, the interiors have been rendered using donated mismatched plastic-free paint [3] from local, environmentally friendly Earthborn Claypaints, leading to a vibrant play of colours and patterns. Due to its proximity to the A64 ring road, the hostel also benefits from a landscaped garden designed to reduce traffic noise. A hot composting system, a wormery, and butts for water conservation are also supporting the environmental agenda of the hostel. (Parkes, 2022)

The position of the architect-researcher

I started my own journey in The Art Hostel almost as a guest, observing, making, creating, and debating. Everything around me became an inspiration and a motive to create. I became fuelled with passion to respond to what I was experiencing. The selection of the evolved format is not aleatory, and it developed from my own embedded research within the Art Hostel. A collection of thoughts, archival stories, observations, and discussions all formed a response in the shape of two individually curated field journals:

- The Kirkgate Art Hostel journal is a repurposed children’s book I found in the Emmaus charity shop (next to Convention House in the Mabgate Complex). A little bit infantile, the journal

seeks to build up on the story of upcycling. Such as the hostel, the journal has had another owner, another life. My role was to respond to it and continue its legacy as it starts to document the story of the hostel.

- The Mabgate Art Hostel journal evolved from its predecessor's legacy and memories. An amalgamation of stories, observations, archival discoveries and conversations led to the development of a unique book of field explorations. From the second hand magazines, maps and books from Emmaus, the field journal repurposed them into a unique piece celebrating the hostel's locality in Mabgate. The process involved repurposing the found material into paper which then became the journal's pages. With a little help from my once a book-maker mother, this field journal shaped up into a tangible expression of what The Art Hostel is all about: embedded, DIY, ecological and considerate of its impact, caring to people and the planet, all neatly tied in together through artistic practice. Just like The Art Hostel's new home in the restored presbytery, these rough and messy pages carry the memories and learnings of the books they came from.

As an architect-researcher, I became a facilitator for my own journey of repurposing. The research process ultimately became my approach to collect and stir ideas and provocations together, leading to a reimagined and socially engaged mode of understanding The Art Hostel.

Notes

[1] East Street Arts is an artist-led organisation co-founded by Karen Watson and Jon Wakeman, actively fostering the growth of artist-led practice in Leeds for over 30 years. ESA is interested in developing community focused projects, primarily located in multicultural lower income neighbourhoods, in an attempt to use art as a tool to combat aggressive gentrification and address the climate crisis.

[2] A "mab" is a "woman of ill repute" (East Street Arts, n.d.; Thronton, n.d.).

[3] Earthborn Claypaints donated their old stock of plastic-free paint to East Street Arts and also gave them a 50% discount to their new range.

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Operative Mapping and Collaborative Actions as Design Tools for Critical Socio-spatial Urban Interventions

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In *The Promise of Politics*, Hannah Arendt argues that recovering plurality in the public sphere "would require more than just the phenomenological recovery of political action, it requires the recovery of the public and equi-vocal manifestation of thought" by revealing the veracity of each individual's subjective opinion (doxa) instead of educating people in established truths (Basurto, 2016, p. 316; Arendt, 2005).

In this sense, in this paper we will argue the importance of creating and activating novel design interfaces for critical socio-spatial intervention that support dissidence and plurality and facilitate the proliferation of counter-hegemonic notions of cosmopolitics, territory, domesticity and publicness (Paez & Valtchanova, 2021). Revisiting the four-year research project *Civic Placemaking: Design, Public Space and Social Cohesion*, we explore opportunities for articulating design practices for active citizenship that go beyond the horizon of consensual diversity and attempt to trigger agonistic models of democracy (Mouffe, 2013). The project studies and prototypes contextual socio-spatial approaches that intervene in the prevailing regimes of truth (Foucault, 1997) by applying two main intervention tools: operative mapping and collaborative actions. We contend that social and environmental resilience hinge on active processes of democratization that account for disorder, embrace instability and pursue multiplicity. For this reason, our approach is centred on the following three concerns: 1) the need to propose novel practices of socio-spatial intervention that foster active citizenship and antagonism as a creative and constructive practice of city-making; 2) the importance of enabling open-ended collaborative contexts instead of consultative participative formats of interaction; and 3) the possibility of enacting the practice of mapping as a situated action of non-material intervention in the regimes of truth of a place.

We showcase a recent research project, *Civic Placemaking: Design, Public Space and Social Cohesion* (2018-2022), which consisted of three main iterations (*CP1, CP2, CP3*), each implemented in different urban contexts of high socio-urbanistic complexity in the Catalan cities of Sant Boi, Barcelona and Granollers. Each of the three iterations encompassed an approximately year-long process of research, community engagement, opportunity building, mapping, strategic design and direct implementation of collaborative socio-spatial interventions. The following pages will briefly revisit how the critical entanglement between collaborative actions and operative mapping fuels different strategies for plurality and relational antagonism in each of the three cases.

CP1 explored the capacities of temporary space design—in the form of a festive lighting installation and the re-signification of a public square through the personal wishes of approximately 1,000 children—to transform the perception of public space by infiltrating it with multiple personal meanings. This collaborative action was preceded by a process of temporal mapping intended to visualize exceptional socio-spatial behaviours through a four-hour game-based event. The resulting map served to identify and understand flows, clusters and tendencies extending beyond the established logics of the place. By visualizing invisible and exceptional patterns of interaction between citizens and urban spaces, the project aimed to suspend stigmatizing visions of the place, opening up opportunities to identify novel formats of interaction. In this case, the collaborative action—in which 1,000 children hung their personal wishes in the form of decorated stockings on a 1-km-long net of holiday lights, together with all the mapping operations before and after the intervention, aimed to underscore how an injection of personal narratives into an urban space with a corrupted image can trigger active processes of urban regeneration that outlast the temporal framework of the

intervention. Today, five years later, the local community has organically converted the event into a popular tradition, and every year the square is decorated with lights and plural personal stories.

Fig01. ***Civic Placemaking 1***, 2018-2019, Plaça de la Generalitat, Sant Boi de Llobregat. Mapping of fluxes and clusters of activities. Action: *En Mitjons a la Plaça.*

Fig02. ***Civic Placemaking 2***, 2019-2020, Raval, Barcelona. Subjective Cartographies. Action: *Far Away, So Close,* Olot.

Fig03. ***Civic Placemaking 3***, 2021-2022, Primer de Maig, Granollers. Clusters of festive appropiations. Action: *Devices to support community-led actions.*

CP2 focused on studying how to generate an active ecosystem of interactions between young people and their urban milieu, fostering physical and digital micro-interventions to promote novel models of interrelation and free expression. To that end, the project proposed an open-ended format, called

Subjective Cartographies, in which a group of young people (from 14 to 21 years old) were invited to two urban *dérives* to explore their neighbourhood in a free, unsupervised way. In the first instance, the young people walked through the neighbourhood, stopping in places of their choice to record a short video explaining why the place was meaningful to them. This generated a narrative-based subjective map that was used to prompt the second *dérive*. In it, participants were given verbatim sentences recorded by their peers and were asked to locate the places they felt the given narrative applied to, generating a second map that identified matters of concern for young people and revealed specific urban areas with which they were associated most acutely. Finally, a third map was generated collaboratively from participants' reactions to their own and their peers' experiences through writing desires for their neighbourhood and locating them in specific spaces. This collection of maps provided a nuanced account of young people's rich perceptions and emotional responses to their city, rendered as an emotional landscape that is both revealing and actionable in terms of design and policy (Paez et al., pending).

CP3 investigated how plural and spontaneous festive appropriations of urban space can inform design decisions meant to address how an emerging public space can be turned into a consolidated space by proposing an infrastructural network of devices to support community-led temporary actions. With that purpose in mind, *CP3* first designed, organized and implemented the collaborative initiative *Fem la Nostra Festa* (Let's Celebrate Together), which consisted of a one-day celebration with the voluntary involvement of neighbourhood residents from different generational groups. Each team was given celebratory kits with different party activators (e.g., a bottle of cava, sweet and savoury snacks, a recycled plastic rug, a bag of confetti, a ball, a deck of cards and a loudspeaker) and was invited to explore the neighbourhood by performing different celebratory actions in the places and formats of their choosing. The exceptional mobility prompted by this action was studied through an open-source GPS navigation application (Wikiloc) that provided real-time anonymous tracking and recording of all the participants' trajectories and places of rest. Thus, the process of citizen science data gathering did not interfere with the personal experience of participants, allowing the festive exploration of the site to be as intuitive and spontaneous as possible with minimal intervention and supervision from the research team. Drawing on the maps of the anonymous trajectories, together with the systematic study of the short videos of the appropriations of public space recorded by the participants themselves, the research team generated a series of experiential maps that demonstrate an emerging ecology of affect and spontaneity and reveal latent realities beneath the everyday normativity of urban space—realities in which emotion, desire and urban joy combine to reassert the universal right to the city.

The philosopher Andrea Soto Calderón argues that "[t]he work of generating dissident images or images that defy the mandates of normativity is not so much that of protest as that of imagining spaces, constructing a setting for those non-existent realities that don't have an image" (Calderón, 2015, p. 135). In line with this idea, in the *Civic Placemaking* project we entangle operative mapping tools and collaborative action methodologies for the central purpose of enacting novel regimes of truth in the representation of urban realities to foster uncontrolled superpositions of subjectivities, in which non-existent realities can emerge. Through this project, we explore how the act of mapping can turn representation into a trigger for action, underscoring the importance of otherness, accidentality and disorder. In all three iterations, drawing on logics straddling critical interventionism (Parry, 2012) and citizen science (Vohland et al., 2021), we gather and visualize subjective data as a process of democratization that modifies the current regimes of visibility. To quote Jacques Rancière, "We are not going to scratch images to bring truth to the surface; we are going to shove them aside so that other figures may come together and decompose there" (Rancière, 1989, p. 10). To conclude, we consider the project *Civic Placemaking* as a starting point for further research into new possibilities of collective enunciation enacted through mapping, radical collaboration, and temporary design interventions.

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From Intentions to Impacts: articulations and enactments of community in a senior co-housing community

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Introduction

This paper focuses on the articulation and enactment of community as a way of exploring the relationship between intentions and impacts, when it comes to social value creation in the built environment.

Based on an empirical case study of Balancen (The Balance), a senior co-housing community (50+) in Ry (Denmark), and a theoretical framework rooted in relational ontology (Barad, 2007, Mol, 1999, Hallam and Ingold, 2008, Heuts and Mol, 2013, Escobar, 2018), architectural anthropology (Stender et al., 2021, Latour and Yaneva, 2008, Yaneva, 2017, Ingold, 2013, Ingold, 2010), and posthuman practice theory (Gherardi, 2016, Orlikowski, 2007, Hultin, 2019, Law and Mol, 2002), I investigate how intentions get formulated, negotiated, and enacted at different stages of the building life cycle. How 'community' is articulated in the initial visions for the project, how this gets translated into the building design, and how it lives on, after the buildings are inhabited, thus transitioning from *project* to *lived space.*

Core values create a dynamic foundation

The project was carried out from 2018 – 2021[1], and the first residents moved in in June 2021. The project builds on three core values: *sustainability, nature, and community.* These values are defined in dialogue with potential residents at the first citizens meetings and become central to the initial process, the building design, and the ongoing work that shapes the configuration of community in Balancen. The relationality and entanglement of the values is highlighted as important by both project partners and residents in interviews, as something that makes Balancen unique:

Sustainability in Balancen should be measurable (DGNB), tactile (visible in the design), and something residents share. In my mind, this separates the project from projects that are "just" DGNB certified, but where the core values are about something else – like wellness. (architect)

The value program for Balancen[2] formulates "community principles" and provides visions for what the future community might look like. It is open enough for residents to bring their own interpretations of the values, while highlighting that "Residents build the community". Community, of course, extends beyond the core values, but the value program creates a common ground and a sense of shared identity from which the different community practices develop. People only move into Balancen if they share the values, and the values are used actively as guidelines for the design. This dialectic relationship between the architecture and the values, is something project partners are curious to see develop:

Time will tell how easy it is to understand the different degrees of community. For us as professionals it is easy to see, but how will it evolve?...In relation to that, I think the residents are really good at holding each other to the values…"this guy has not read the value program properly. He obviously does not know that it is not grass, but a mix of herbs, that has been sown…So I think it will regulate itself that way – if people don't immediately catch on to the language of the building or the landscape. (process consultant)

Co-existence, coordination, and the creation of meaningful links

The values are not static, but continuously develop. This continuous emergence has been an explicit focus throughout the involvement process in the project, but the ongoingness and resilience of the values is reliant on residents to carry on. After moving in, some of the residents have facilitated a formal process, with a series of meetings and workshops, working to translate the value program to something more concrete, talking about what the values mean for them as residents in Balancen, in their daily lives, and what kind of community they want this to become.

Community in Balancen builds on a voluntary approach. This only works because enough people volunteer to organize events and activities, cook dinner for communal dining, or take care of practical tasks. The list of activities, groups and gatherings is extensive and diverse. As one of the residents explains:

There are activities almost all day, every day. So you have to choose what you want to be part of – because you can't participate in everything. We have knitting, walking, bike rides, gymnastics, winter swimming, shared meals, painting courses, book clubs, people who build bird boxes and raised beds for growing vegetables - and I could go on. (resident)

The intentions and visions articulated in the value program, as well as the concrete architectural instruments chosen to support these intentions, contribute to the concrete configuration of community in Balancen. The buildings support community in different ways, by providing opportunities to meet and facilitating different types of activities. However, more important is the multiplicity of ways to enact community, at different scales and depths, through the different communities of interests, the common dining, the work groups, or the online community in the Facebook group. These enactments offer a variety of legitimate modes of engagement and this multiplicity is key to making it work. As expressed by two of the residents:

It works because people want it to work. For most of us it has been an active and deliberate choice to move in. We put community at the center, keep an open mind, and a positive attitude. (resident)

There are people who do not participate as much as I do and that is completely fine. It is not like they are looked down upon. We all have different needs. (resident)

Moving from intentions to impacts is dependent on this co-existence of different ways of performing community, at different scales or intensities. It is dependent on the coordination and creation of meaningful links across the different scales and between Balancen-as-project (where intentions or visions get articulated and negotiated) and Balancen-as-lived-space (how these intentions get enacted or live on).

Community Multiple: a relational approach

Viewing the reality we live with as one performed in a variety of practices has the radical consequence that reality itself is multiple (Mol, 1999). Talking about reality as multiple suggests a reality that is done and enacted rather than observed. Different versions or performances co-exist in the present (Mol, 1999: 82). In Balancen the different versions of community being performed at various stages of the building life cycle co-exist in the present through complex interferences and coordination, between Balancen-as-project and Balancen-as-lived-space. Such balancing will never find a stable end point, there are too many elements. Instead, we need ways of tolerating open-endedness and dilemmas.

Community cannot be designed. It emerges continuously through sociomaterial practices. It can, however, be given direction and this direction has the potential to become a meaningful link. Approaching community relationally, rather than as an attributional quality of a particular way of

building enables a more holistic approach to designing and developing resilient environments. Creating lived spaces cannot be reduced to a physical or material strategy of building. To be able to work with social value creation in the built environment, we need an architecture attuned to the ecology of sociomaterial practices in which it is entangled. Actively engaging with these contexts as complex, interwoven meshworks of manifold systems and influences. In the case of Balancen the project, the buildings, the people, and the wider contexts (political and economic) all contribute to the continuous development of community and to the emergence of Balancen-as-lived-space.

Notes

[1] Balancen is designed by Vandkunsten for PensionDanmark. It has received additional funding from Realdania with process facilitation by Andel and Together Architecture.
[2] The full value program can be accessed via: https://issuu.com/realdania.dk/docs/ry (in Danish)

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Augmented Co-Creation: Remodeling Public Space Through Augmented Reality

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Method

This project proposes a participatory design framework that utilizes co-creation in Augmented Reality (AR) for remodeling of public spaces that enable a more inclusive design process. The utilization of AR in this project seeks a shift away from a purely didactic method of instruction that aims to enable accurate reproduction in physical space, towards the creation of a participatory platform for open engagement by a wider group of end-users.

The digital model or layer that governs the input of digital objects is deliberately crafted as an "in-progress" iteration of the design output, which creates opportunities for user input in AR environments. The user's actions in AR space are individualistically determined in relation to the palette of provided objects, and are not constrained to a set of pre-determined sequences by the creator of the digital layer. This enables the digital designers to obtain original design opinion directly within Computer-aided Design (CAD) software, without the need to subjectively translate verbal or diagrammatic representation of opinions for design consideration.

The process undertaken comprises three stages: A. Scanning of environment and objects, B. Creation of Digital Model for AR process, C. Provision and Recording of AR experience.

A. Scanning of Environment and Objects

The public space in front of the Princeton School of Architecture was scanned using the Microsoft HoloLens's inbuilt spatial mapping feature (Zeller & Buck, 2022). Once a large portion of this environment was scanned, this visualized data was extracted as a mesh surface, which is utilized as a point of reference regarding the existing conditions of the chosen environment. This chosen method of visualizing an existing condition allowed us to capture finer, irregular details present in the environment of the site relatively quickly and easily.

A collection of digital urban objects was created by scanning objects around Princeton's campus using 3D Scanner App (Laan Labs, 2021) on a Smartphone that had an inbuilt consumer grade LiDar camera. These objects included a curved bench, outdoor table, sculpture, planter, bicycle stand and rock. They were chosen to create a sample range of elements found in Princeton's public areas.

B. Creation of Digital Model for AR Process

After obtaining these scans, a Rhino 3D (McNeel & others, 2022) document that hosted both these categories of objects was created. This Rhino 3D (2022) file was connected to Grasshopper (Rutten, 2022) and Fologram (Jahn, Newnham, Van den Berg, 2022), so that these scans could be observed in an AR environment. Each scan was placed on a seperate digital layer so that they could be selectively isolated during the operation of the AR environment for users. Since scanning was utilized as the method of digitizing the environment and objects, the actual scale of objects has been maintained throughout the AR process.

C. Provision and Recording of AR Experience

To position the AR environment accurately in front of the Architecture school building, printed QR code markers were utilized to spatially align the digitized scan of the environment with the actual space itself.

The participants were then brought to the site, and briefed about their task of redesigning this space in AR using the palette of objects available within the AR environment. Participants were given a duration of up to ten minutes to individually complete the task of redesigning the space. Participants could request for objects to be duplicated or rotated, which was updated in real time through digital manipulation of the Rhino 3D (2022) environment. The end product was recorded through perspective images and object location in Rhino 3D (2022) space.

Discussion

A. Object Drift and Alignment

One key challenge faced during the development of this project was the large amount of drift experienced when attempting to anchor any digital projection within the AR environment.

During the process of aligning a large site (15 meters by 10 meters) to a digital workspace, any slight misalignment can result in a significant level of error when applied over a long distance (Guy, 2020). Significant difficulty was also encountered in aligning the digital and physical spaces due to reflective glass facade behind the target space which prevents infrared depth cameras from functioning well in mapping of this particular environment.

During the authors' comparison of Fologram (2022) operation on the Smartphone with Fologram (2022) on the HoloLens, it was observed that the HoloLens performs better in spatial alignment due to its inbuilt Simultaneous Localization and Mapping (SLAM) technology. Future research should focus on how SLAM technology can be utilized in consumer grade AR applications, to promote a wider utility of this technology over a greater range of environmental circumstances.

B. Prescribing Object Movement in AR environment

Another challenge encountered was the amount of control over the level of interactivity allowed for participants. Given that the project seeks to deliver a realistic representation of a potential design, and that the perceived placed location of an object by test users should match the object's location in CAD workspace, the interactive positioning of objects needs to be highly controlled.

Objects need to be on the ground to convey a sense of realism. However, due to the absence of a physics engine in Fologram (2022) and Rhino 3D (2022), objects can be placed in a "floating" position since users can control the placement of objects freely across the X-Y-Z coordinate system.

During conducted tests, participants instinctively sought to place the scanned mesh objects at realistic locations on the observed ground plane, due to their experience as architectural designers, which resulted in this aspect of the project not being critical for enacted tests.

C. Visual Realism (Scanned Object versus Mesh Created in Rhino 3D)

In order to achieve visual realism for the AR objects, the authors found that scanning generated obj files that preserved both the object geometry and material mapping, enabling the introduction of interactive, realistic appearing objects.

The 3D scanned objects provide visual realism that allows the AR environment to blend more coherently with the physical space; enabling participants to visualize their design results. However, 3D

scanned objects in an AR environment also have limitations. The objects also needed to be scanned during specific times of day to avoid self-shadowing best results. In addition, a smartphone built-in LiDAR scanner was utilized to scan objects. If the tests were to be scaled up for future experiments, the 3D scans should be done with devices with higher resolution.

1: Scan of site as mesh in Rhino 3D

2: Alignment between scanned mesh and physical space, observed through Fologram app.

3: Utilizing scan of bench to occlude scan of table, to generate spatial arrangement.

4: Interactive actions performed by users are synchronized in real time across all devices connected to same environment.

5: Scan of urban objects placed in selected space.

D. Occlusion

Digital holograms always occlude the real environment behind them when viewed in AR. However, virtual objects might be required to be situated behind a real object in specific spatial arrangements. This requires an additional object to be introduced to the digital workspace, and oriented in front of the digital object in the CAD environment. This requirement works well with the chosen process of utilizing scanned meshes to align the digital workspace with actual reality. The process of scanning captures a high level of detail and imperfections in the forms of real objects, which supports the creation of an accurate “outline” of the object that can be used to occlude the virtually created object.

An operator of the CAD workspace during AR interaction is required, to enable digital objects to be selectively occluded by scans of real objects through real time digital model manipulation.

Conclusion

Overall, we have found that AR is an effective platform for Participatory Design. The visualized hologram renderings in AR provide clear, communicative material that can support open discussion between designers and non-expert users.

However, spatial alignment and hologram drift remain a significant barrier to the accurate implementation of this method on larger environments. We explored different methods of constraining object movement through the utilization of Grasshopper (2022) scripts, and evaluated how different methods of rendering affect the user experience in AR environments.

By abstaining from providing a predetermined set of possible methods of interacting with virtual objects, this framework holds potential to act as an appropriate method of participatory design in a greater variety of social contexts where users design differently. However, future widespread implementation of this framework depends on the availability and development of accessible scanning technology that can deliver high resolution digital copies of existing environments, as well as consumer accessibility to SLAM technology that can align real environments to digital workspaces.

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Utilizing Extended Reality (XR) as a tool for Citizen-Led Participatory Planning of a Car-Free street; Case study of the 'Living Streets' project in Oslo, Norway.

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Introduction

The goal of the case is to develop, test, and validate a qualitative approach to urban design based upon real-time participatory data from local citizens using digital simulation tools such as extended reality (XR). For the past decades, there has been an increased focus on how citizen-led judgments in urban design can be implemented into the decision-making processes in urban planning. The judgment of environmental character is a complex multi-sensory fusion of countless factors which are immediately and synthetically grasped (Pallasma, 2014). There are several studies on people's emotional responses to a physical environment, such as a place (Mehrabian, & Russell, 2017), space (Duncan, 1992), or certain design features. However, the predominant tools for the evaluation of built environment quality and impact have been surveys, scorecards, or verbal comments approaches that rely upon user-reported responses rather than measurement of real-time emotional responses to simulated environments (Hu & Roberts, 2020). Here, the use of immersive VR has been approved as an effective elicitation method to solicit and automatically recognize different emotional states because the technology allows for rapid manipulation of different built environment options (Milanovijc et al, 2017). In addition, the generation of data in the form of images, films, and even 3d models of proposals in XR allows these proposals to potentially be directly implemented without the need for a third party.

Materials and Methods

Whereas urban planning is concerned with land use, XR technology focuses on merging real and virtual space where physical and digital objects co-exist and interact with users in real time. Since the 1960s technologists have developed XR applications for architecture and urban space, such as Englebart's (1963) vision for an augmented architect, Brook's (1986) tool for an architect and his client to 'walk through' virtual buildings and Kato et al.'s (2003) tool for urban planning simulation with users. In parallel, participation in planning has become an important democratic principle with the ambition of elevating the status of citizens to facilitate actual citizen control in planning, first envisioned by Arnstein (1969) and later enacted into Norwegian policy (Barneombudet, 2018). It is speculated that XR, due to its immersive, intuitive first-person nature, could potentially facilitate the ability for participants to generate their own proposals for the use of a site, at the correct scale, thus allowing participants more control over the planning process (Hagen, 2021).

Importantly, the development of virtual (VR), augmented (AR) and extended (XR) reality applications for user participation in urban planning has gone from early lab based experiments such as Kato et al. (2003) to speculative use cases with mobile phones and tables (Berck, 2017; Arup, 2018; UN Habitat, 2019). Our own work with XR in Oslo (Reaver, 2020;2023) and Italy (Reaver, 2021;2022) has documented the use of various types of VR and AR applications in architectural competitions, urban plans, exhibition design and architectural heritage scenarios. Here we have found that a qualitative methodology for understanding user preference in urban design could be achieved directly by asking participants to simply create their own designs. This has been made possible particularly through developing XR technology which allows users to control and create digital urban objects such as trees, benches, paving and other furniture in real time.

Figures

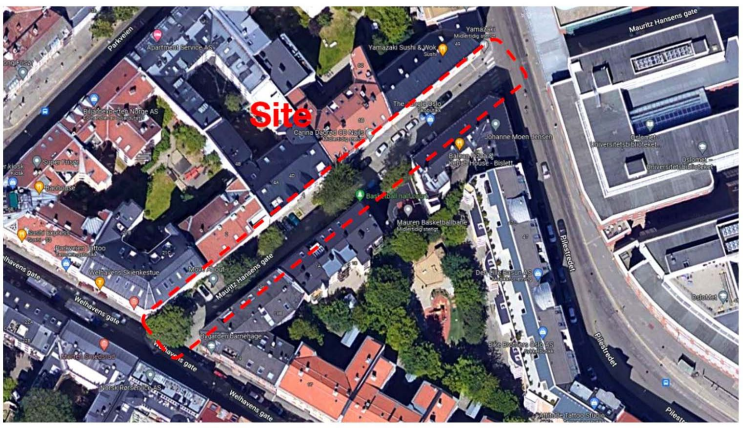
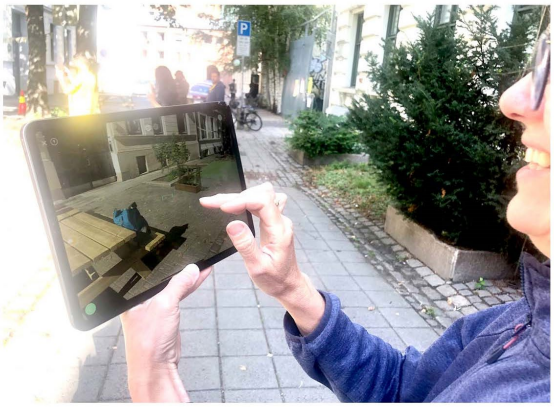


Figure 1. The site, Mauritz Hansens gate, in central Oslo, is undergoing a planning scheme for conversion to a car-free 'Living Street'.



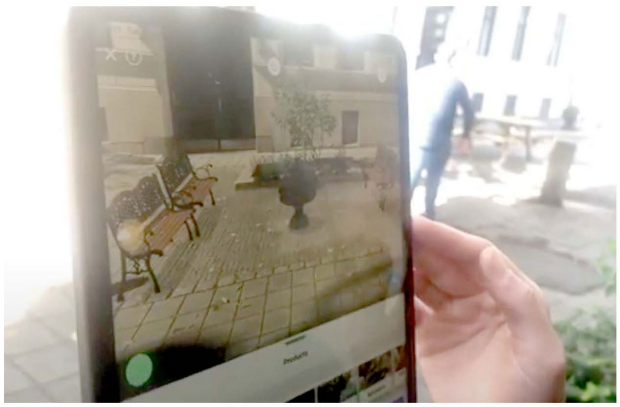


Figure 2, Panel A (left) and B (right). Panel A, Left: Local participant from participatory planning workshop in Mauritz Hansens gate explains their proposal through the XR application. Panel B, Right.

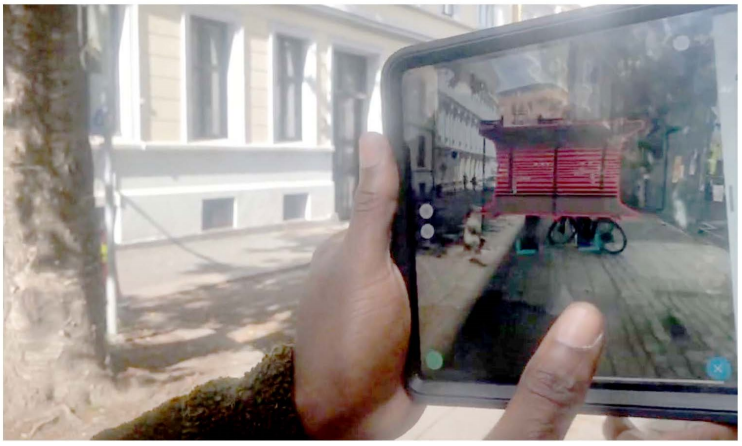


Figure 3, Panel A (left) and B (right). Screenshots from Screen-recording view of XR application with local participation proposal embedded in the scene including benches, a fountain, and tables.

Figure 4. On-site demonstration of a citizen participant's proposal, including exercise equipment and furniture. Here, the participation explains their proposal using the XR app and their hand jestures.

Case study

Like many cities around the world, the city of Oslo, Norway is undergoing rapid urbanization, increased digitization, and increased demands for sustainability measures to combat climate change and to increase resilience. Importantly for this case study, since the site entailed including the entire local

neighborhood, it would be the first case study we did which did not have a specific dedicated user group of study, but rather would study an entire population of urban citizens. Therefore, our research question was formulated as: How does XR influence the decision-making processes of citizens in the design and planning of their local neighborhood? In order to study this question, we arranged for the Municipality of Oslo format workshops with the local participants, while supplying a list of objects and materials that could fit with the Living Streets plan, including benches, trees, urban furniture, landscaping and pavement materials, and other types of foliage. Following this organization, the workshops lasted for a period of three days in the summer of 2022 on site in Mauritz Hansens gate (figure 1). We utilized the iPad Pro (2021 model) which was connected to the internet through personal hotspots in order to stream data. We chose two different XR software packages, iScape Pro (a landscaping application) and Augment, which allowed for a custom library of 3d models. For the augment library, we developed a custom collection with 3d models which fit the description provided by the Municipality of possible models, while also including a search function for users to choose models themselves.

Results

Based on screen-recording, observation, interviews, and participant-designed XR schemeswe analyzed the decision-making processes made through XR. It was particularly interesting to study the citizen participant proposals in tandem with the interview material as a qualitative form of of real-time participatory data regarding user preferences for this street. Here, a majority of participants placed seating and water features in the scene through XR. Other participants placed exercise equipment, grass, brick paving, trees, and urban decorations. The participants worked in a free-form manner, testing different ideas and create their design schemes in an ad-hoc manner as seen in figure 2, 3 and 4. The data also influenced the municipal decision-making process as the data was delivered to Municipality to assist in deciding upon a final scheme.

Concluding remarks

This case gave us a clear insight in the potential for XR to be a good tool for participatory urban design, and we think that this case study also offers insight to the benefits of participatory design, and the potential of XR as a tool in this field. We note here that recent research suggests that designers create more innovative concepts and ideas when working within a co-design environment with others than they do when creating ideas on their own (Trischler et. al 2017). A Mitchell et. al. (2016) study between a user-centered group and participatory design group found that the participatory design group was able to think more systematically about potential solutions and generate proposals that were more holistic. These findings suggest that participatory design offers benefits as a process for idea generation and a more holistic perspective on the problem and potential solutions. It could be argued that this may create new roles as architects and designers in the facilitation of a process first rather than proposing a design.

We live in a time of rapid digitization and urbanization. Over the past years, there has been an increased focus on citizen participation in urban planning. Simultaneously, within smart city research, there have been efforts to develop technological solutions to user interaction within the city through both physical and digital tools, with some applications to urban planning. While we found that the local participants in this case found the XR tool to be a productive medium in proposing their own designs - and we documented several cases of the participants utilizing XR to demonstrate their design intentions - we also noticed how the case relied on using an ad-hoc hardware and software setup, and the transfer of participant proposals from XR to planning proposals was difficult. It is also unclear how such an XR application is supposed to be linked to the planning system as a whole. It seems that the lack of a holistic and practical system for XR implementation in planning is likely to hinder adoption until some sort of system is in place. This will be an interesting development to follow in the future, and certainly an avenue for new research.

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The Gesture of Play in Creative Civic Practice

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Introduction

Over two years during a global pandemic, we - Dasha Moschonas, Jason Crow and Charity Edwards - stumbled through managing a makerspace in Warracknabeal, a town of 2000 people four hours north of Melbourne, Australia. We attempted to translate Conceptual Playwords, a set of principles for learning through play, into a method for engaging children and adults in imagining alternative futures for Warracknabeal. We desired to understand how the gesture of drawing in early childhood - as a means of testing and confirming the relationship between child, adult, and environment - provides insight into imagining Warracknabeal differently. We believe this answers a critical question about fostering the adaptability needed to make a city resilient (Folke et al, 2010). Warracknabeal, in particular, and urban citizens, more generally, have problems seeing their places and communities differently from what already have been. If what you can imagine is what you already know, have you failed at being resilient?

We failed a lot during our tenure as makerspace hosts, but ultimately were able to begin defining how the gesture of drawing might translate into an intergenerational play, expressed by moving through the imaginary city of a particular form of Conceptual Playworld. In this brief study, we begin with an introduction to Warracknabeal and the Conceptual Playworld model. We then analyse three workshops to show how our early attempts at intergenerational Playworld failed. We conclude by examining a final workshop, within which an unexpected, novel future for Warracknabeal emerged. Lessons learned highlight a way of altering Playworld principles, when the intended subject of play is the Playworld in and of itself. Our exploration points towards the importance of re-engaging the imagination, in order to reach alternative resilient futures.

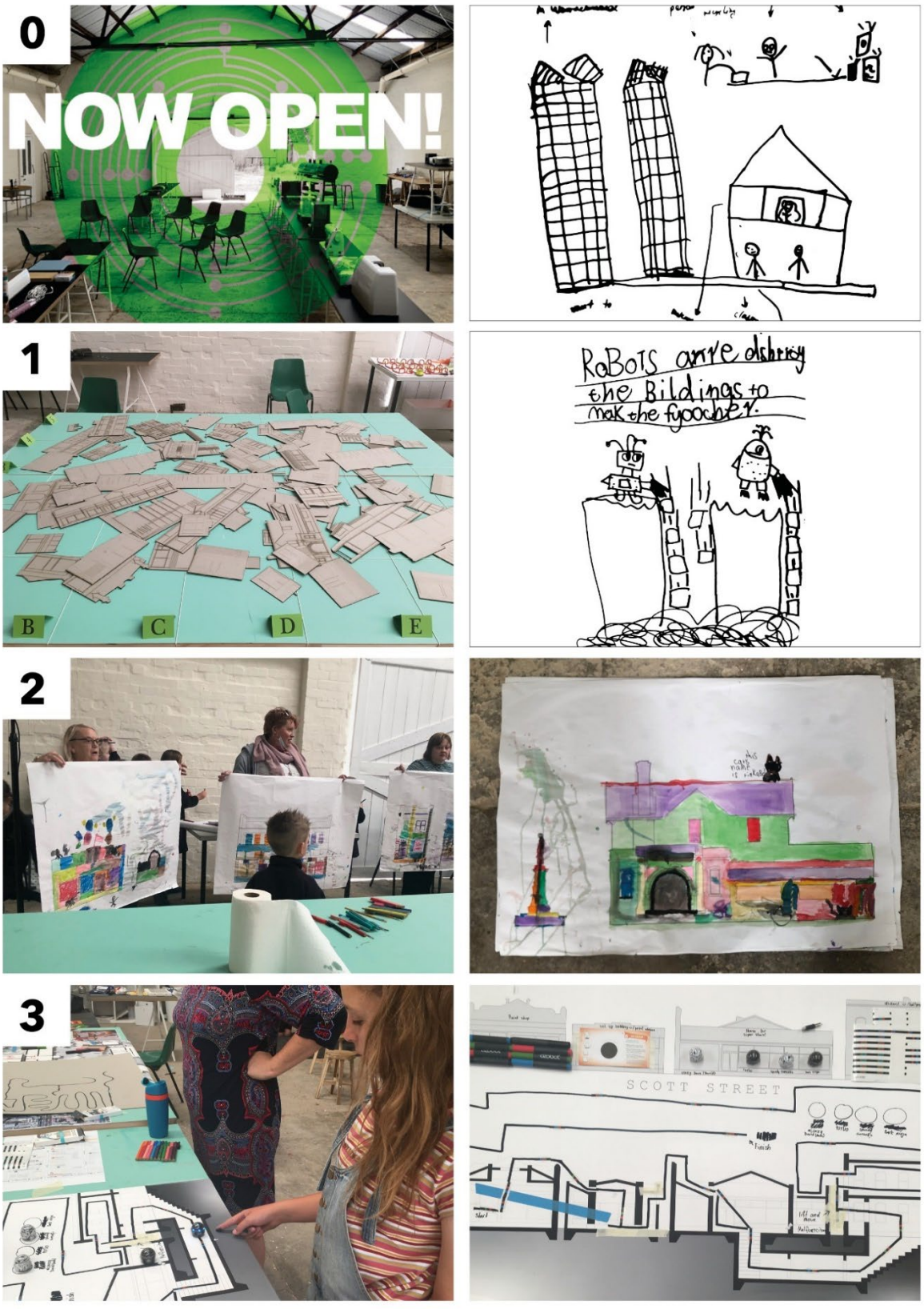
Warracknabeal

Warracknabeal occupies Wotjobaluk Country: a landscape made by Bunjil the great ancestor, with waterways created by Bara the Red Kangaroo (Helms et al, 2012). As visitors from a distant city, we initially understood the town to be a typical Australian regional centre in decline. We assumed continued downturns in population and metropolitan subsidies would see it die a slow death. Founded in the 1860s, Warracknabeal thrived with the introduction of new approaches to agriculture, fixated on increasing yields, which entrenched a particular image of the town as a resource for the national good (Davidson, 2003). Warracknabeal today, in the imaginaries of its residents, has exhausted its position as 'capital' of a prosperous rural wheatbelt. Changes in farming and the globalisation of the economy divorced agriculture from the idea of the town. As a result, the infrastructure that signals agriculture, such as the iconic grain silos dotting the landscape, are increasingly abandoned. However, a reductive framing of rural-life-in-decline misreads the potential of Warracknabeal's futures.

Conceptual Playworlds

In research presented here, we examine how key components of Conceptual Playworlds encourage imagining possible futures for regional Australian towns, as a contribution to understanding the role of adaptability for resilience. Conceptual Playworlds are "an educational practice that includes adult-child dramatisation of texts from children's literature through involving children in joint play" (Fleer et al, 2019). In contrast to more structured forms of learning, Playworlds allow children to be productive in developing imagination and conceptualisations. This differs from more structured

activities in which a child is reproductive of content (focused on memory) as a form of recollection (Fleer, 2018). This difference is critical to our understanding of how Warracknabeal community members perceive the potential of their town. Oftentimes, citizens desire the future condition of the town to reproduce a vaguely conceptualised historical moment prior to the outflux of their children. We began our research by asking if it is possible to use the principles associated with successful Playworld learning activities to shift adults from reproductive to productive participants.



While much is known about Playworlds in theory, research on the practice of producing them is limited. Playworlds are rooted in the psychological theory of Lev Vygotsky whereby play mediates biological and cultural development through interactions between children and adults. Play restructures the participant such that "the entire system of naturally determined ("lower") mental functions, such as involuntary attention, rote memory, and sensory-motor thought… produce… higher mental functions" (Bodrova and Leong, 2015). In effect, play "contains all developmental tendencies in a condensed form; in play it is as though the child were trying to jump above the level of his normal behaviour" (Vygotsky (1967), cited in Bodrova and Leong, 2015). The Playworld is the horizon within which the appearance of things is negotiated by the child with the community, already prescribed by that community.

Playworlds contain three features: (1) crossing of a border from the 'real world', (2) adults role-playing to support the playworld experience, and (3) introduction of a problem that requires resolution. In addition, the space in which the playworld takes place deepens the storyline and enquiry. When translating Playworld principles toward imagining the future of a town with children and adults, two of these components differ. First, the space is actively being reimagined in case of collective designing. Second, adults take an active role in the Playworld, imagining and playing, not simply reinforcing.

Methodology

To understand how the Conceptual Playworld model supports imagining different futures intergenerationally, we used drawing as an ideation tool. John Matthews explained that a child's "mastery of objects . . . emerg[ing] from meaningful relationships with people" reflects their experience of drawing as a way of exploring their own capacity for world-making (Matthews, 2003). Similarly, Carruthers and Maulfry demonstrate how marks young children make are precursors to language, a meaningful step toward knowing and participating in the interpretation of the world they inhabit (Carruthers and Worthington, 2006:13). In both cases, delineating the environment and connecting abstraction to symbolic thought, the physical movement of the hand and arm played a critical role in experiencing and confirming the world. The common theme in all workshops was that the "problem solving" was not only verbal, but it needed to be completed through the act of drawing. Therefore, drawings from these workshops are the tangible outcomes through which we trace how the imagining of the future changed in different configurations of the Playworld model.

Three Workshops

Before workshops that experimented with Playworld components, we ran one which did not use this approach. We asked visitors, children and adults, to draw their imagined future for Warracknabeal. Images demonstrated quotidian narratives: PV panels on tall buildings, robotised recycling plants, automated cars. The future was not connected to what they knew about Warracknabeal specifically, or different from what they already knew.

The first workshop, "The Big Dig" (June 24-25, 2021), was intricately designed, with a complex storyline, entry and exit points, overlapping narrative, and specific roles for each participant. The task was to build a 3D model of the Warracknabeal highstreet, and connect its history with a future narrative by drawing new streetscapes over the current ones. The workshop was a failure: participants were not immersed in a playworld, and kept forgetting the enquiry. Adults, asked to assemble and remake the framework of the buildings in the highstreet, were more concerned with what buildings represented than what they could be.

The second workshop, "School Circuit" (July 15, 2021), was organised with children only. We wanted to test if children interact within the Playworld better than adults, and whether a lack of structure increased space for experimentation. Their task was to draw over the outlined façade drawings to "find Moses" – to imagine spaces where the well-known town cat could hide and live in the future.

Children entered this newly created highstreet for Moses, moving like Moses, being Moses thereby testing alternative ways of inhabiting Warracknabeal, deeply rooted in what their town means to them.

The third workshop, “Flying Eyes”(December 18), brought children and adults together again. More structured than the “School Circuit,” it addressed the idea of movement, through previously designed sectional drawings of the highstreet, to be adapted for inhabitation by robots and drones. At first, adults focused on technical issues of operating drones and robots, while children started immediately redrawing the sections and imagining robot movement through the space, and how the space should change to enable that movement. For the first time since the start of the makerspace engagements, we witnessed an output coming out of pure imagination, something productive rather than reproductive.

A Different Conceptual Playworld

Attempting to encourage adults to learn through playing - shifting them from supportive to more active roles - proved difficult. Discovering ways to engage adults in play as learners is critical to using Playworld methods to shift from reproducing the future citizens assume for their town to truly imagining a different one. What we discovered over the course of two years of intensive work with the community were small steps toward overcoming that impediment by creating a special form of the Playworld within which children become the guides for adults to imagine futures they cannot reach.

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Fight or Flight: The Many Ways of Tactical Participation Agency in Amman, Jordan

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Introduction

This paper is part of my PhD research project that aims to rethink public participation in Amman, Jordan, by looking at both "invited" and "invented" spaces of participation (Cornwall, 2002; Miraftab, 2004) and focusing precisely on the vast terrain between state-led participation and bottom-up participation. It tries to understand the new meanings of grassroots movements and participation in the city by asking what other dimensions public participation could have outside the formalised planning structure in authoritarian contexts like Jordan outside a binary lens of legality/informality or "invited"/"invented". This paper aims to explore the agency of bottom-up participation when faced with the state's strategies and modes of controlling any rights talk activities. It uses two case studies from Amman to unsettle some assumptions embedded in the notion of "invented" participation and re-orient the 'right to the city' framework by arguing the grassroots organisations as an alternative source of informal rights. Thus, this paper will not only ask how grassroots organisations are engaging directly in the governance of urban public affairs in Amman but, more critically, what happens when they face governmental strategies to inhibit their actions. The subsequent paragraph establishes the contextual and theoretical framework underpinning this research.

In the last decade and in light of the Arab Spring events in 2011, Amman city has witnessed new civil society organisations and grassroots urbanism movements. Departing from challenging the status quo or directly confronting the authorities, they try to enhance the living conditions of residents by engaging them in matters that affect their daily lives. They are not against the authoritarian regime but are far more situated – entangled in a "contingent constellation of practice, milieu and materiality" (Moore, 2005), allowing people to restore their 'spatial agency' within the urban landscape. Today's new young grassroots organisations move between the realms of situated micro-scale activities that allow alternative political ideas to emerge within less hierarchical structures and maintain their operations through locally-sourced income rather than relying on international funding. Although their activities are neither simple sites of subaltern resistance nor part of a governmental apparatus of acquiescence, their embodied tactics of negotiation and resistance endeavour to subvert the existing system of power and activate urban citizenship. The following section will offer a succinct overview of two case studies pertaining to 'tactical participation'. It will explore the grassroots potential agency when encountering resistance from the state's authority and asked to discontinue their direct involvement in the respective projects.

'Mahli' Initiative

'Mahli', which translates to 'local' in English, represents a local grassroots initiative established by a small cohort of activists and artists. Their primary aim is to develop a pragmatic critique of the capitalist-driven urban environment in Jabal Weibdeh (One of the oldest neighbourhoods in Amman) to preserve the area's cultural, social capital and socioeconomic diversity. They strive to ensure that the benefits of the neighbourhood's revitalisation extend beyond individuals with higher incomes, for example, the international franchises that have recently opened in the locality. In pursuit of their objective, the group seized the opportunity presented by the arrival of another international franchise in the area. They formed small groups in front of these businesses and engaged with their users, offering them alternative local businesses and sharing with them the histories and stories of these enterprises and their deep-rooted relationship with the neighbourhood and its residents.

Moreover, they created an online platform to map the different stories of these local businesses and printed posters and leaflets of the small enterprises in Jabal Weibdeh that are fighting the rapid gentrification crawl. As the initiative gained recognition, it began to widely mobilise residents of Jabal Weibdeh and other community activists who actively participated in organising meetings with elected officials from the local municipality and boycotting the new franchises. Additionally, the group composed formal petitions to the Amman mayor calling for the cessation of building permissions for new developments in the area.

'Mahli' initiative is not trying to challenge the state directly, as they realise the political consequences of confronting the authorities, as claimed in Miraftab's (2004) definition of 'invented' spaces (This is witnessed in light of the events of Arab uprisings and their subsequent demonstrations, which have precipitated escalated levels of violence and the emergence of politically hostile and contentious environments). Instead, they play on varying degrees of independence and innocence. They defy governmental regulations by tactically manipulating a realm of ordinary activity and coding their productions with political meanings through their skilled reclaiming of community cohesion and social capital in preserving the cultural heritage identity. De Certeau explains that tactics survive through mobility and by playing with time; 'Mahli' practices involve temporariness and locality. It is a way of re-appropriating space and claiming rights by using available opportunities and acting within the wider field of power. De Certeau sees a tactic as "a calculated action determined by the absence of a proper locus" where the "space of a tactic is the space of the other" (ibid: 37, 38).

In response to the aforementioned actions – aligning with the rendered softer environments in the country after the Arab Spring uprisings– the state enacted temporary legislation prohibiting the issuance of new building permits in the affected neighbourhood. Additionally, an architecture and design office was commissioned to develop and revitalise specific zones within the neighbourhood, with a keen focus on preserving the area's heritage sites. However, these regulations did not extend to the extensive ongoing development projects, significantly altering the area's identity. Implicitly, the initiative was asked to alleviate their actions, as the new law will preserve their rights and fulfil their requests. However, no significant progress has been observed over three years since its implementation. Instead, recent advancements are occurring, asserting that they were pre-planned before implementing the new law. Also, the suggested regulations from the architecture and design office are still awaiting approval from the municipality.

Although the new regeneration projects are still underway in Jabal Weibdeh, labelling the actions of the grassroots organisation as passive or subaltern resistance is arguably inadequate. This paper argues that these grassroots organisations create new debates and meanings in the production of urban spaces by mobilising the wider community's everyday life and social practices. In addition, these grassroots organisations are becoming an alternative source of informal rights. For instance, at the 'Mahli' initiative, residents of the Jabal Weibdeh continually seek help and advice from 'Mahli' to fight gentrification through various approaches. Furthermore, they continue sharing, mapping, and narrating stories about Jabal Weibdeh, aligning with the initiative's actions. Residents demonstrate solidarity by posting flyers and posters on their front doors and regularly organising meetings with the initiative in a local café to discuss issues related to the area. Despite the state's utilisation of strategies as a means of deterrence and control over discussions of civil liberties within the city, numerous residents have been galvanised by these fleeting moments and have continued to engage with these initiatives to expand discourse and rights independent of state intervention. Furthermore, these individuals seek guidance and mobilisation from grassroots organisations (the original initiators of actions), leveraging their efforts to realise the desired transformative change. Thus, the grassroots organisations tactically provide the residents with the legitimisation needed for their actions, not the state or the development architecture office.

Jabal Amman Neighbourhood Park

In 2020, a multidisciplinary group consisting of people from different backgrounds and experiences, varying from practitioners, social mobilisers, designers, educators, researchers, and residents from Jabal Amman, formed a small initiative to focus on questioning the relationship and power imbalances that often underpin the production of public spaces in Amman and recognising the local knowledge of the community members. The group worked to re-design an abandoned neighbourhood park in Jabal Amman by involving the surrounding communities. They worked actively with the children living near the park and the marginalised refugee communities (Sudanese, Ethiopian, Pilipino, Yemeni, and Somali) living in the area for decades. The team invested in informal chats, community walks, and organic observations to dissolve barriers and equalise power dynamics. This dialogue also allowed for a better understanding of the dynamics within the community and their understanding of the culture of public spaces, and how they imagine and aspire to use the park.

The team tried to mobilise the marginalised communities around the park to create long-term ownership of the park. They referred to their local knowledge to co-design the park and, more importantly, sustain their ownership of it. In this context, the team faced many bureaucratic strictures from the Greater Amman Municipality (The municipality did not fully agree to involve this range of refugees and immigrants in the future goals of ownership over the park) that ended in eliminating their work and transferring it to the school administration near the park. The municipality justified their actions, as it would be easier for them to deal with a formal institution such as the school (Part of the team was already working in this school). This side-lined the team and the communities around the park and rendered the school administration representing the municipality in producing and managing the public space.

Despite the team discontinuing their activities within the park, the surrounding communities continue collaborating with them to maintain a sense of ownership over the park. These communities have taken it upon themselves to organise informal gatherings and meetings within the park grounds, even prior to its official opening. For instance, a session dedicated to acquiring knowledge on cultivating native plants from their countries of origin was held with the aid of the original initiative. Also, they have organised different sessions to clean the park and keep it safe for children. Furthermore, these individuals established a small committee to oversee the park's organisation and facilitate collaborative ventures with others. The communities recognise that the group of initiators are no longer in charge of organising the park; however, they return to them to continue rights talk in the city. They now hold a conception of the park that differs from that of the municipality.

Conclusion

The everyday life forms of practices described above by grassroots initiatives and mobilised residents tend to avoid direct association with formal political meaning; however, they try to be more creative in asking for their political rights. On the one hand, these opportunistic, manipulative, agile, self-organised, indefinite spaces expand the understanding of 'invented' spaces of participation in authoritarian contexts to allow a new conception of participation that functions within relational, dynamic and mobile agencies. On the other hand, it re-orients the right to the city framework, where grassroots organisations become an alternative source of informal rights. When faced with the state's power, the mobilised residents and communities seek help and advice from these organisations and tend to continually foster transformative change as hoped. The examples discussed above embody the potential for transformation within the messy participation framework by producing alternative meanings of producing urban spaces through their everyday life practices or temporary creative interventions.

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Section 4: Climate & Environment

How can good design facilitate resilient systems?

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Introduction

Our society is deeply interconnected, and resilient systems are vital for our survival. Resilience has been studied in various disciplines, primarily in an organisational and economic lens. (Walker & Salt 2012b) However, in design conversations, resilience is considered beyond these disciplinary limits. This article consulted multidisciplinary research on resilience to identify characteristics of how design facilitates resilience. Two speculative design proposals in Norway and Tanzania are then critically analysed using these identified characteristics.

What is resilience?

Walker and Salt conclude that resilient systems are self-organising systems that cyclically adapt and transform to maintain strength in their function, structure, and feedback across social, economic, and environmental domains. (Walker & Salt 2012a) Hopkins shares this definition yet introduces 3 key ingredients for ecosystem resilience, stating it is essential that a resilient system be diverse, modular, and transparent to condition them for change. (Hopkins 2008) (Walker & Salt 2012b) Resilience thinking is about questioning processes and strategies. This questioning is enriched through analysis from these different perspectives and scales. (Dessie 2018) (Brown & Wyatt 2010) In other-words, resilient systems must be designed, assessed, and influenced through a multi-level perspective. This entails the consideration of the micro, macro and meso levels of a system as respective adaptive cycles. The resilience of a system eventually relies on the synchronised interactions between these adaptive systems. (Visser 2021)

One way the built environment can facilitate resilient systems is by reducing harmful effects on the natural environment. To achieve resilient architecture, design strategies must go beyond looking at energy as the sole performer of achieving resilience and combining new technologies to support and give back to the urban and natural environment. (Newman, Beatley & Boyer 2017; Samuelson, Baniassadi & Gonzalez 2020; Trogal et al. 2018)

Thus, a core theme of resilience is a systems thinking approach with emphasis on adaptability and transformability. (Walker & Salt 2012b) Further, Lerch introduces a people-centric and a sustainability-centric approach, primarily with and for the systems and environments it wants to benefit. (Lerch 2017) Participatory processes are vital to build community resilience.

A socially resilient built environment must also have strong social infrastructure. (Palich & Edmonds 2013; Woodcraft et al. 2012) Therefore, architects must set performance targets for social sustainability within the design brief. (Palich & Edmonds 2013) This places the end user as the main stakeholder for a project.

The result

The following characteristics of resilient built systems have been identified from the literature.

Characteristics of Resilient Built Systems

1. Self-organising responsive systems that cyclically adapt and transform to maintain strength in their identity, function, structure, and feedback across social, economic, and environmental domains (Walker & Salt 2015; Walker, Salt & Reid 2006; Trogal et al. 2018)
2. Diverse in elements, functions, and responses to challenges. (Hopkins 2008; Brown & Wyatt 2010)
3. Demonstrate modularity of components. (Hopkins 2008; Newman, Beatley & Boyer 2017; Samuelson, Baniassadi & Gonzalez 2020)
4. Demonstrate high environmental and social sustainability. (Newman, Beatley & Boyer 2017; Samuelson, Baniassadi & Gonzalez 2020; Trogal et al. 2018)
5. High transparency of changes in a system. (Hopkins 2008)
6. Designed, assessed, and influenced through a multi-level perspective. (Walker & Salt 2012b; Dessie 2018; Visser 2021)
7. Recognising residents and users of the spaces as the main stakeholders. (Brown & Wyatt 2010; Trogal et al. 2018; Lerch 2017; Palich & Edmonds 2013; Woodcraft et al. 2012)

Examples of design facilitating resilient systems

2006 | BRØSET NEIGHBOURHOOD | TRONDHEIM, NORWAY | 350,000m2

To establish itself as one of the '13 Norwegian cities of the future', the Brøset neighbourhood was designed to be a sustainable and resilient city using a long-term, interdisciplinary, and cross-institutional approach involving all stakeholders, including future citizens, governments, researchers, educators, and industry professionals. The end goal was to generate environmental and architectural quality and improved quality of life. (Wyckmans 2012) (FRAMTIDENS BIGG 2016)

For optimally sustainable energy use, all buildings and infrastructure were co-located according to when they use their energy. This reduced the complexity of the energy system, thermal envelope and energy demands of these different spaces. Additionally, waste is reduced through waste-based district heating systems and second-hand markets. Buildings where people live, and work have green roofs to catch rainwater and provide insulation. Furthermore, co-locating buildings like preschools and community centres encourage intergenerational encounters that promote social sustainability. To create community resilience and biodiversity, the urban planners designed continuous green pathways to connect the surrounding conserved natural environments. (Wyckmans 2012)

This proposition was designed to focus on environmental diversity, transferring focus on resilience as a system's ability to adapt rather than strategies to mitigate risk. The Brøset Neighbourhood design proposal demonstrates modularity by distributing vulnerabilities in transportation, storm water treatment, consumption, and energy supply. This top-down approach ensures a wide-reaching system design that benefits the resilience of a city.

AFFORDABLE HOUSING PROJECT | NG'AMBO, ZANZIBAR, TANZANIA | 2368m2

Researchers and designers at Aalto University's organization, New Global, used a participatory design method called Design Probing to develop a proposal for new and better housing in Ng'ambo after 100 residents lost their homes. (Sandman & Suomela 2020) Design Probing is a design method of reflection and observation where people's documentation of their surrounding experiences influence design approaches. (Sandman & Suomela 2021)

Residents were asked to reflect on their relationship with their homes and take pictures of favoured or disfavoured parts of their houses, then draw their current and their dream homes, and finally answer a few questions about their life in Ng'ambo. These exercises were engaging and highlighted the needs and characteristics of the Ng'ambo community well. (Sandman & Suomela 2021)

From the responses, 4 key design moves were identified:

- passive cross-ventilation
- open courtyard for laundry and kitchen activities
- flexibility to move walls and resize rooms.
- outdoor community and social spaces (barazas) along the streets, in the courtyard, and the open staircases.

This participatory method allowed the users to inform key design moves. This reinforces the importance of putting people at the forefront of design thinking.

Conclusion

Resilient systems can be defined as self-organising systems that cyclically adapt and transform to maintain strength in their function, structure, and feedback across social, economic, and environmental domains. They are diverse in elements, functions, and responses to challenges, demonstrate modularity of components and are environmentally and socially sustainable. A resilient system requires high transparency of changes in a system and quick responses to consequences of these changes. The built environment must be designed, assessed, and influenced through a multi-level perspective when attempting to facilitate and promote resilient system with the recognition that residents and users of the spaces are the main stakeholders.

The case studies discussed demonstrate these different characteristics in ways that reinforce resilience. Through this discussion, it is evident that as systems thinkers, all architects, can facilitate resilient systems by implementing holistic, well-informed, and sustainable strategies within their design and empathetically collaborate with people to design for resilience.

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French urban practices towards a Circular Urban Metabolism

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Introduction

Considering the worsening effects of the climate crisis (IPCC 2021) and the always more tangible environmental and social consequences in European cities, a radical paradigm shift is needed to govern cities and to structure urban projects, for a real transition towards circular models (Geddes, 1915; Rogers, 1997).

Although cities are responsible for the vast majority of global emissions and resource consumption, they should no longer be considered merely as parasites (Barles, 2010), but as potential places for innovation and experimentation. Cities should be analysed and redesigned with a systemic approach, considering their metabolism, or "the sum total of the technical and socioeconomic processes that occur in cities, resulting in growth, production of energy, and elimination of waste" (Kennedy, 2007).

When discussing urban sustainable development, material elements of a city – such as water and energy flows, food, waste – are well taken into consideration: there are several studies that account for material flows of urban systems (Material Flow Analysis) (Augiseau & Kim, 2021). Less often immaterial variables – such as time, community, education, economy, culture – are taken into account (Pincetl et al., 2012) and even more rarely these two categories of elements are considered simultaneously. In order to achieve a Circular Urban Metabolism these two typologies of urban elements (tangible and nontangible) should be both taken into account when analysing the urban context or conceiving an urban project.

The Greater Paris area is particularly dynamic regarding the experimentation of new practices in the perspective of a circular functioning of the city. This contribution illustrates three urban projects that can well show circular urban practices in the Paris area, regarding the material urban metabolism, and one urban operation that can demonstrate the importance to involve immaterial aspects in the re-making of our cities, in order to modify their metabolism.

Material Urban Metabolism: Saint Vincent de Paul, Les Docks de Saint Ouen and Cycle Terre projects.

Saint Vincent de Paul (fig.1) ecodistrict project, in the historical and dense 14th arrondissement of Paris, reimagines the spaces of an 18th century hospital to create new accommodations, premises dedicated to social economy, public and cultural facilities. One of the aims of the project is to transform the neighbourhood into a model for circular practices, working on the material flows of the district.

Here 60% of the existing buildings will be preserved, repurposed and renovated; the remaining part will be deconstructed rather than demolished and it will be deployed a strategy of reuse of all the elements and materials; the accommodations heating system will rely on the 60% of water resources - coming directly from the river Seine – which, through heat pumps, will generate heat for the neighbourhood; furthermore, urine will be collected via urine diverting toilets, it will be stocked in a treatment room on-site and turned into 100% natural fertiliser.

In Saint-Ouen municipality, in the Grand Paris northern area, the project of Les Docks (fig.2) aims to transform a former industrial site into an ecodistrict. In this neighbourhood, waste will be

pneumatically collected and incinerated on-site in order to produce part of the district heating; in addition, rainwater will undergo a phytodepuration process and will then be used for the irrigation in neighbourhood greenhouses, where inhabitants can produce part of their food.

Finally, the Cycle Terre project in Sèvran will operate on building materials flow. In this area several projects linked to the Grand Paris transportation plan and Olympic games are under construction. In order to prevent a massive waste of granulates and building materials, the Cycle Terre involves the recovery of the excavated soil; materials will be collected, separated and utilised to produce raw earth blocks for the construction of new buildings in the same area.

1

2

3

Fig. 1
Saint Vincent de Paul, Paris. Pinard building

Fig. 2
Les Dock, Saint-Ouen. View from the Grand Parc

Fig. 3
Village Reille, Paris. View from the main garden

All the photos are taken by the authors

Immaterial Urban Metabolism: Village Reille

Among immaterial urban elements, time has the potential to influence relevant urban processes: in particular, the so-called chronourbanism (Ascher, 1997) is a practice with which time is organised to save space, and not the opposite. This approach to urban planning can lead to various practices: the case study of Village Reille exemplifies one of them, transitional urbanism.

There is a tendency to oversimplify the concept of “transitional urbanism” and even confuse it with “temporary urbanism”, using the two terms interchangeably; as a matter of fact, the first one is a particular declination of the latter. The key difference between them is that temporary urbanism envisages a limited occupation over time within a space that will retain its original function, whereas transitional urbanism is part of a phase of transition from one function to another, during which the occupation tries to influence the future permanent project.

The case study of Village Reille (fig.3), in the 11th arrondissement of Paris, is located in the area of a former convent; it was acquired by a real estate company in 2017 to pursue a large residential

regeneration and densification project scheduled to begin in 2023. This urban development project modernises the existing buildings, adds others, and does not affect the neo-Gothic church.

To exploit these temporary empty spaces, the cooperative Plateau Urbain was contacted to manage the transitional occupation of the site.

A first planning phase, before the leaving of the nuns in December 2020, included, among other operations, the creation of the business model, the call-to-interest and the interviews to select the future users of the site.

The occupation started at the beginning of 2021 and it involved a first recovery work to make the site usable; the expected duration was fifteen months but, due to bureaucracy problems and protests from the community, the end of the operation was postponed for two years.

Village Reille project took place in a complex of several buildings for a total surface of almost 3800 sqm indoor and 4200 sqm outdoor, in which they created a brilliant social and functional mix that was daily fostered and that hosted over 150 spaces of various sizes: 62 emergency accommodations to help people in need; a small co-inhabited apartment and spaces for 55 businesses (including associations, artists, craftsmen); common spaces (including a refectory and a library).

The rent for the temporary users has been set to only €20/sqm, which is less than half of the normal market prices in that area, for the accommodations €8/sqm and for the co-inhabited apartment €5/sqm.

The experience from the transitional occupation project, in addition to a new social mix in the neighbourhood, allowed to collect different suggestions for the future residential project, regarding especially the social character of the place: there will be a first help office for people in need, the church will be a polyvalent space at the service of the neighbourhood and there will be a composting system available for the entire new residential area.

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Goldfish Architecture: Therapeutic Urban Aquaponics in the Form of Sustainable Household Appliance

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Introduction

The COVID-19 global pandemic has challenged cities in new ways and shed light on more aspects of urban resilience. Mental health issues affected much more people than the covid disease itself. With each person playing a crucial role in preventative measures and economic recovery, effectively managing the mental fitness of the population has demonstrated itself to be a crucial element in the city's resilience and ability to overcome ever-increasing challenges.

In search of a solution that is sustainable, widely applicable, and effective, Obuchi Laboratory at the University of Tokyo has developed Goldfish Architecture: a small-scale aquaponics system that harnesses the therapeutic effects of plants and aqueous pets. We found that raising plants and pets has immense effectiveness as a natural, sustainable, and widely applicable way of maintaining mental fitness. The plants, microbiomes, and the water body also provide filtration and buffering effects to indoor air quality. They have been proven to have positive effects in removing VOCs, CO2 levels, and stabilizing humidity. Inciting more and more people to actively participate and understand the natural processes also has the added benefits of inspiring more people to care about sustainability. We believe that such systems have the potential to become a new form of sustainable urban household appliance and will be incorporated into every household like microwaves and refrigerators.

Covid 19 and Mental Health

The COVID-19 global pandemic posed in quantity, more mental health problems than physical health problems to the world. The amount of reported mental health disorders have surged during the pandemic. According to CDC, as of Dec 2020, 42% of all U.S. adults reported struggling with mental health or substance use, and scientists state that this is likely the situation in the rest of the world (Abbott, 2021). Anxiety disorder or depressive disorder was “approximately three times those reported in the second quarter of 2019 (25.5% versus 8.1%), and … four times that reported in the second quarter of 2019 (24.3% versus 6.5%)”(Williams, 2021).

These are alarming numbers, and while the world is on its edge to fight covid, we should not ignore that a Parallel “mental health pandemic” is also happening (Itfff, 2021).

A study conducted by UCL, COVID-19 Social Study also shows that the state of mental fitness of the population has significant impacts on the compliance of regulations and making a collective effort to fight back at covid (Paul et al., 2021). This includes attitudes towards vaccination and compliance with infection prevention measures. This goes to prove that the overall mental fitness of inhabitants is an important aspect of a resilient city.

The one thing that the covid 19 pandemic has taught us, is that building a resilient city is much more than preventing natural disasters and building walls to keep the rising sea level. The unique situations posed by the pandemic have challenged every aspect of the urban environment. Knowing that challenges such as unpredictable effects of climate change will come, having a proper mass infrastructure for overall mental fitness is therefore extremely important in the coming decades.

Plants and mental health

Plants have clinically been used as therapy for decades in the process called Horticultural Therapy. There have been extensive publications regarding the emotional and mental health benefits associated with plants, addressing reduced anxiety and stress, decreased depression, and enhancing productivity and attention (Hall & Knuth, 2019).

Houseplants provide a mirror into how we are doing on the inside and remind us of when and how to take care of ourselves. They promote mindfulness, inspire us to keep going and remind us that we also need care.

Studies have also shown that contact with nature reduces rumination, and significantly reduces activity in sgPFC, the part of the brain associated with anxiety and depression (Bratman et al., 2015). Physiologically, even small amounts of exposure to nature reduce heart rate, blood pressure, and change the adrenaline and cortisol levels.

Another relatively new theory that is being tested has to do with the microbes that you obtain from interacting and consuming plants. Microbes in plants and soil are found to have positive effects on the immune system (Rook et al., 2013). Newer studies have also shown that these microbiomes are also capable of communicating to the brain through what is described as the "microbiome gut-brain access" (Slykerman et al., 2017) and "microbiome airway access" that promoted mental fitness. These microbes are found to be effective in preventing allergies, asthma, and have been proven by experiments to mitigate symptoms of mental disorders (Hoisington et al., 2015).

Pets and Mental Health

Pets are also good for mental health. Like plants, pets act as an agency to care for and provides interactivity and connection. Pets also bring with them more diverse microbes, which adds to the benefits of boosting immune systems and reducing inflammation. Petting therapy is also a beloved and effective activity, helping people deal with anxiety and stress in the cutest way possible.

Pets and plants are also commonly associated with communities, where people can interact, exchange information, and connect.

Goldfish Architecture

In response to building a more resilient city by addressing the above mentioned problems, Obuchi Laboratory at the University of Tokyo have envisioned a new form of sustainable household appliance that utilizes the therapeutic qualities of plants and pet to address the mental issues exposed by the pandemic. Goldfish architecture is essentially a small-scale aquaponics system that utilizes the symbiotic relationship of fish and plants to unite the positive mental effects of plants and plants. The aquaponics system also provides a great environment for growing edible plants such as herbs and lettuce, giving it the extra dimension of democratized food production that can inspire more sustainable living in the urban environment.

For there are no specialized appliance or spatial configuration that is specifically designed for maintaining mental health in the urban environment, Goldfish Architecture fills in that gap. We believe that Goldfish Architecture has the potential to become a new form of sustainable household appliance and will be incorporated into every household like microwaves and refrigerators.

Conclusion

The Covid-19 global pandemic posed some surprising challenges that shifted the perspective on urban resilience. In times like this, we need to think creatively to overcome these challenges, as well as seeing this as an opportunity for us to focus on building a better, more resilient future.

Goldfish Architecture tries to shed light on some of the most pressing issues humanity will have to face and proposes sustainable ways of dealing with them. Believing in a more democratized form of development, Obuchi Laboratory at the University of Tokyo thinks that we need to incite the collective effort of the urban population to achieve results.

Sustainability, either it be food crisis, emissions, or air quality, should be more relatable to everyone. Sustainability should not be just about politics and big corporations, it is about the food we eat, the plants we care for, and the goldfish that we find as such cute and healing companions.

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Neighborhood resilience: integrating intersectional challenges into climate focused urban plans

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Introduction

As the threat of climate change becomes increasingly urgent, urban areas must develop robust and equitable strategies to protect their cities and populations, particularly after devastating natural disasters such as Hurricane Harvey in Houston, Texas. In this paper, we examine the development of neighborhood resilience plans and programs, focusing on intersectionality, to ensure the needs of the most vulnerable communities are integrated and addressed.

Effectively addressing the climate crisis necessitates transformative action, reimagining urban spatial organization, and connecting adaptation strategies to open and green spaces. Community-driven resilience planning should account for history, culture, traditions, spatial disinvestment, historical inequities, ownership, and stewardship (Lotfata and Munenzon, 2022). Emphasizing local community capacity building and maximizing co-benefits of urban infrastructure is essential for achieving true resilience.

Building upon this idea, Long & Rice (2019) introduced the concept of climate urbanism, positioning cities as capable institutions for addressing climate change by reprioritizing policies. The emergence of a new urban climate economy underlies this transformative approach to climate adaptation. To realize these aspirational visions, a deeper understanding of the socio-spatial structure and the management and governance of public spaces is necessary (Munenzon and Titelboim, 2022). Climate adaptation plans provide comprehensive strategies for urban resilience, incorporating public benefits and urban amenities as vital components of utilities and infrastructure (Kousky, 2021).

Intersectional approach and climate justice in adaptation

An intersectional approach to climate justice is crucial for addressing the complex social and power dynamics that impact adaptive capacity and the design of the public realm. Intersectionality is a critical lens for examining the various forms of oppression experienced by historically marginalized individuals and groups, which helps us understand and address their unique inequalities (Lotfata and Munenzon, 2022).

Recent research emphasizes the importance of tackling environmental justice and climate adaptation planning, which involves looking beyond traditional infrastructure projects (Mikulewicz et al., 2023; Swart et al., 2023). Transformative actions must concentrate on the built environment and the mechanisms that created it, addressing root causes and social and individual risk factors. To achieve this, political will, funding for large-scale infrastructure changes, and culturally and locally sensitive actions prioritizing community needs are necessary.

Site-specific and localized actions form the core of a climate-adaptive vision that brings communities together in action. These actions should address issues of belonging and place-making while acknowledging and responding to the unique experiences of marginalized communities (Shokry, Anguelovski, and Connolly, 2023). By adopting an intersectional approach to climate justice, we can address the social and power dynamics that influence adaptive capacity and are connected to the design of the public realm. This approach enables the development of transformative actions that tackle root causes and risk factors tied to spatial and embedded inequities. Addressing the built

environment and its underlying mechanisms can create more inclusive and empowering public spaces, ultimately contributing to a more resilient and equitable future.

Houston, Case study

In 2017, Hurricane Harvey caused significant damage and loss of life in Houston, particularly affecting low-income and communities of color. Houston's history of flooding is linked to factors like its flat topography, impermeable soil, and proximity to the Gulf of Mexico. The city has faced long-term environmental impacts and disinvestment, with marginalized communities disproportionately affected by environmental racism, as noted in Robert D. Bullard's "Invisible Houston." (Bullard, 1987). In Houston's developer and market-driven landscape, communities of color have had less say in land use and environmental policy decisions, resulting in policies that often ignore their needs and concerns.

These communities often experience limited access to green spaces and are likelier to be near pollution sources, leading to higher health issues. After Hurricane Harvey, concerns were raised about FEMA's fairness and transparency (Snyder, 2018). The Texas General Land Office was found to have discriminated against minorities in distributing relief funds (Rice, 2022). The Mueller Housing Lab study (2021) emphasizes equitable investment in stormwater infrastructure to address disparities in Houston's flood protection and drainage systems (Muller, 2021). These neighborhoods suffered twice by mechanisms of oppression, making them more vulnerable to risk. First is the long-term disinvestment in urban infrastructure created by limited resource access. And second, social and economic discrimination increases individual and community sensitivity to hazards.

Neighbourhood resilience

Today, the city of Houston and local communities are working together to develop neighborhood resilience plans and programs to co-create a long-term climate adaptation strategy. This research investigates these projects to understand how they address the intersectional issues at the heart of urban resilience. By examining the spatial design strategies for environmental resilience through the lens of socially constructed vulnerabilities, the study explores the community outreach process and concept development in response to personal, social, and economic factors. The research also delves into how these projects address public space in three key aspects: 1) the existing and proposed governance and planning tools, 2) capacity building and co-design, and 3) the role of community well-being in transformative design concepts.

Governance apparatus and capacity building

Houston's unique city governance structure and urban development mechanisms, characterized by the absence of traditional zoning, necessitate using alternative tools to regulate land use and development. These tools often grant decision-making power to private landowners, leading to market-driven urbanization influenced by a fragmented political administration. Consequently, this may result in urban development disparities where market forces and private interests overshadow the needs of local communities.

To address these challenges, Houston has established community organizations and neighborhood associations that play a role in city planning, budgeting, and development. These organizations aim to ensure that the city's resources benefit local communities, providing a more equitable distribution of resources and opportunities across the city. However, the success of these organizations depends on the local capacity to participate and engage, which requires time and knowledge. Unfortunately, low-income communities and communities of color may face barriers to participation in these organizations and inadequate resources to navigate the complex political landscape. As a result, these

communities may be underrepresented in decision-making processes, exacerbating existing inequalities and contributing to uneven urban development.

To ensure that established organizations have access to city resources and mechanisms, it is crucial to meet these organizations where they are, build trust, and establish relationships. By making planning tools accessible to organizations, local communities can create strong advocacy groups well-equipped to navigate the challenges they face. However, these communities often encounter limitations in distributive justice, access to funding sources, and understanding the spectrum of priorities and disinvestment. This raises the question of whether there is sufficient space for community and CBO participation at decision-making tables.

Stormwater systems in the public realm often face jurisdictional conflicts between the city, county, and property owners. For example, Houston's street-level stormwater drain system is a subject of jurisdictional debate among the city's Public Works department, the Harris County Flood Control District (HCFCD), and property owners. Property owners are expected to report any maintenance-related issues since the city discontinued regular maintenance practices for open ditches decades ago. This delegation of responsibility often leads to confusion and neglect as the system's upkeep becomes contested.

Community well-being and public space

While climate urbanism (Long and Rice, 2019) advocates for large-scale vision as a guide in place of reactive actions. Neighborhood planning driven by community capacity can focus on public spaces as components of urban resilience necessitate their management as urban commons to allow equitable access and community co-benefit.

Community-based institutions have the potential to manage and operate urban resilience infrastructure while simultaneously developing the local workforce and creating frameworks for funding, implementation, operation, maintenance, and policy. By involving communities in climate adaptation projects beyond standard practice, efforts can be made to cultivate adaptive capacity and create a sense of belonging through alternative placemaking and recreational activities that reassert residents' equal citizenship and connection to local green spaces. This can improve access to blue and green spaces for marginalized residents, foster inclusivity and spatial agency, and create social ties within the community. Additionally, community organizations demand a restorative and reparative agenda for green, resilient infrastructure, aiming to reconcile neighborhoods that have suffered from historic harms through relations of care and repair with the urban nature (Shokry, Anguelovski, and Connolly, 2023). The co-city framework offers a new way to address urban governance and collective action to meet the needs of urban citizens, rooted in the vision of the right to the city, inspired by the work of Henri Lefebvre and other scholars, that requires urban governance along the same lines as the right to the city, where people participate in the stewardship of urban resources (Foster and Iaione, 2022).

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Repurposing Cities towards Environmental Resilience Using Modular and Generative Planning Approach

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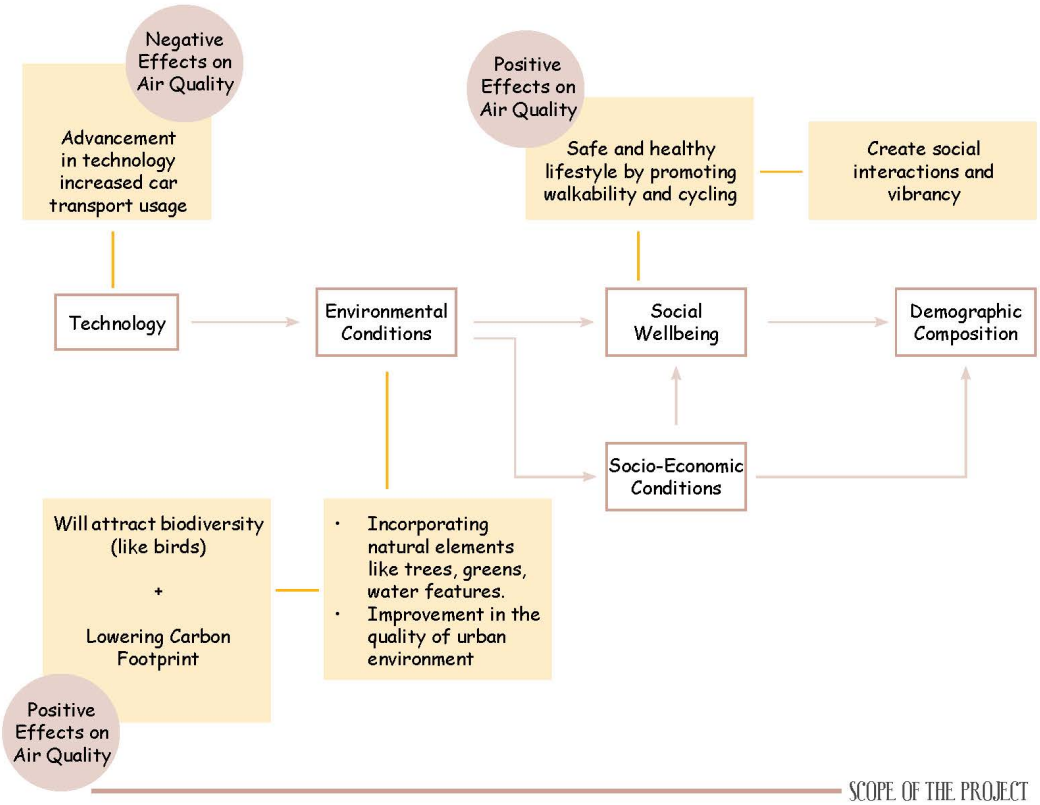
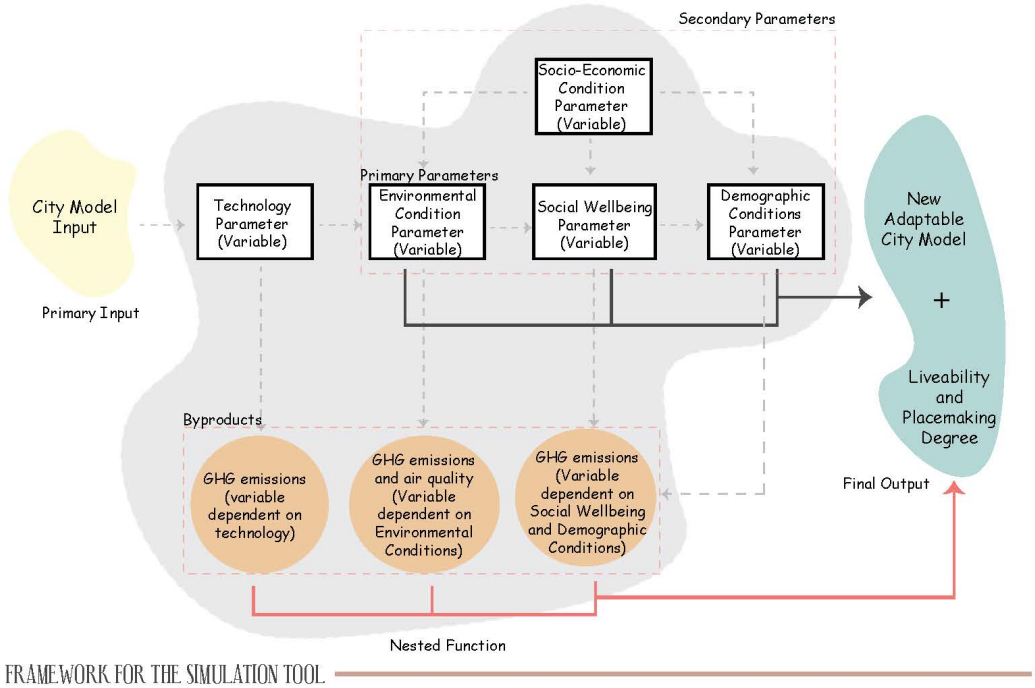
Since the mid-20th century, cities have been developed based on modernist planning principles. The focus has been on accommodating ever-growing populations, promising to exploit the power of technology and creating sufficient employment opportunities. Cities were built on a set of preconceived notions about the extent to which a city can change. However, modernist strategies have neglected urban development implications for local and global climate change and ignored the dynamic nature of various social, economic and environmental parameters and their nested relationships (Doxiadis,1968). This has given rise to highly rigid urban formations that lack the flexibility to adapt to the changing needs of current and future urban populations (Sivaramakrishnan, 1977; Doxiadis, 1968).

Using qualitative research methodology, the article reflects upon how modernist planning strategies have developed rigid urban formations that refuse to adapt to the changing needs and demands of the future generations. Today, these towns are suffering with severe social, economic, and environmental crisis, making them highly unsustainable and unliveable. The research proposes the concept of 'The Reconfigurable City' advocating modular and generative urban design strategies which considers the dynamism of various urban parameters like demographics, socio-economic structures, environment and technological advancements at the very core of decision making and creates a unique urban fabric, enabling cities to repurpose themselves continuously into environmentally and socially resilient futures. The research concludes with a logical framework for the development of a unique simulation tool that can help architects and urban planners to create simulations of the various repurposed versions of a city at various stages of future development and validate the adaptability, liveability, and urban sustainability of its urban fabric.

Planning of social, ecological, and technological systems can determine the environmental quality of a place and can have repercussions for future environments (Egerer et al., 2021). Factors like demographic composition, population change, socio-economic conditions, complex environmental systems, and technological advancements affect the growth of a city, its long-term sustainability and liveability. The inability of modernist cities to respond to these dynamics has affected their physical fabrics and liveability and calls for the development and application of modular and generative city planning strategies and practices (Keaton, 2011).

To impart adaptability and flexibility to the urban fabrics and ensuring cities can repurpose themselves continuously into environmentally resilient futures, it is important to forecast changes in the urban parameters guiding the growth in cities and thus understand their inter - relationships and dynamism (Christopher, 2005). Neglecting the dynamism of demographics and population parameter while designing cities, over the years, the new towns around the globe have failed to adapt to the rapidly and dynamically changing population demographic structures, turning these ideal cities into pieces of unplanned or abandoned sectors resulting in social, environmental and economic issues (Sivaramakrishnan, 1977; Chandigarh Administration, n.d.; Routray, Rath and Sahoo, 1996; Fishman, 2016).





Strict zonal planning approach has also caused new towns to function predominantly as residential zones, isolating them from vibrant commercial areas. Normally lacking commercial or office activities, these cities have failed to provide employment opportunities within the city, forcing residents to travel to adjoining cities for work. As a result, these new towns are left deserted during the day, making them prone to a series of social and economic issues (Keaton, 2011). Thus, adaptable and community driven planning that responds to the changing social structures is crucial in improving the quality of social environment, economic growth and public safety.

Some new towns have incorporated ICT at the very core of their development strategy, creating an ultra - efficient, technology driven and car - friendly urban environment that in the name of convenience and modernity, records and tracks residents' every move, supports high speed traffic and undermines the role of public transit and non - motorised infrastructure. This has not only increased the cost of living in these cities due to the expensive technology they feature, but has also threatened public privacy and security, has affected local economy and catalysed global warming, thus making them environmentally and economically unsustainable (Keaton, 2011). Thus, the urban parameters share a dynamic relationship with each other and the city fabric and have a strong influence on how a place is perceived, its environmental sustainability and liveability (Egerer et al., 2021; Nagappan and Daud, 2021; Keaton, 2011, ITU, 2021; Wilson, 2021).

Conceptualising The Reconfigurable City - A Reconfigurable City evolves through modular development across multiple spatial scales, considering changing needs. With the help of computational methods and application of AI in city planning, a Reconfigurable City can be equipped to remember its unique identity, at the same time responding to changing urban conditions, anticipating the issues it might face in the future, and provide liveable and human-centric urban spaces.

Reconfigurable cities are characterised by:

- modular buildings that adapt to changing population needs throughout increased life spans, thus greatly reducing carbon emissions (ITU, 2021; Wilson, 2021)
- modular public spaces that draw on the principles of tactical urbanism to ensure multi-functionality and increased safety
- a modular planning grid that enables the horizontal expansion of the buildings and allow the modification of mobility infrastructures according to changing needs.

Logical Framework for the Simulations Tool – The research limits its scope to the study of a single thread of nested interrelationships i.e., the influence of technology over the environment and their subsequent influence over socio-economic factors, demographic compositions and social wellbeing, and how these together affects the liveability (GHG emissions and air quality) of the simulated model. The framework will flow the following steps –

1. A rapidly developing modernist new town will be selected and redeveloped using the principles of The Reconfigurable City. This model will act as the City Model Input in the simulation tool.
2. Technology will be considered as a primary intermediate data inputs and will correspond to data showing how technological advancements are predicted to change over the next 10 years.
3. Environmental conditions, socio-economic conditions, social wellbeing, and demographics will act as secondary intermediate data inputs. These inputs will correspond to data showing how changes in technological advancements will impact these parameters over the next 10 years.
4. A new adaptable City model (Intermediate Outputs/ Simulations) will be generated based on the data input into the algorithm, which will depict how the city will look and function like after 10 years. The generated model will be then tested for GHG emission levels and air quality. These by-products will be used as an indicator for calculating the degree of liveability and sense of place for the simulated output model.
5. The intermediate output model along with new small scale temporal interventions (if required to further reduce GHG emissions and improve air quality) will now be used as city model input and the whole process will be repeated to simulate the city model for a further span of 10 years.

6. The entire process will be repeated 7 times at an interval of 10 years to generate the final output, depicting how the city repurposed itself over a period of 70 years, while maintaining its liveability and sense of place.

Thus, the simulation tool will create simulations depicting the evolution of the urban fabric, showing at various stages, how the effectiveness of the implemented strategies. The reconfigurable principles will help in imparting the urban fabric a certain degree of adaptability and allowing the fabric to periodically repurpose (without the need for demolition and rebuilding) effectively, not only accommodating the needs and demand of the future generations but also maintaining and improving its degree of liveability.

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Public Architecture as Therapy - A Literature Review

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Introduction

The contribution of public space engagement on subjective well-being has become one of the “hot topics” among the recent discussions on public well-being and the urban built environment. The notion of well-being as a social sustainability strategy has also become a timely issue in the post-pandemic social environment, reshaping social connections between people and urban spaces. The shifting paradigm of social interactions in urban public spaces calls upon a renewed design framework towards public architecture. The literature review first investigates the current conceptualisation of public architecture, defined as a critical spatial practice curating architectural facades and adjacent open spaces with art-curating techniques to promote subjective well-being. This review builds upon the idea that the application of curatorship in facilitating the social-sustainable design of public architecture encourages a new framework that specifically fosters social well-being by promoting positive interactions and hence overcoming some of the negative impacts of loneliness and stress associated with social isolation. This review will analyse 34 relevant journal articles and discuss the current gaps and potential research opportunities in contemporary architectural practice and related areas.

Methods

The first objective of the literature review was to conduct a literature search to identify the scope and potential research opportunities using a conceptual matrix (Table 1). The review continues with the following steps:

Forming Review Questions

A preliminary literature search was conducted on the University of Sydney databases, which involved a primary and a secondary conceptual grid in structuring scope and thematic topics (see Table 1. below). This preliminary search revealed a large volume of literature on relevant areas in architecture and urban design, positive psychology, environmental psychology, and curatorial studies. However, the conceptualisation of public architecture within the literature searches often falls under the general understanding of civic architecture. Also, there needs to be a general agreement across disciplines on the notion of public architecture. It isn't easy to find clear links highlighting how public architecture incorporates an interdisciplinary framework to initiate positive social engagements and potential long-term contributions to subjective well-being. The prolonged impacts of the global COVID-19 pandemic also challenge finding how architects and designers could develop a new design framework to adapt to the changing social environment after the global pandemic. This review then poses a few questions as the foundation of research:

1. What is the conceptualisation of public architecture in the post-pandemic social context? 2. Why does public architecture uniquely contribute to advancing subjective well-being effectively?

3. What are the critical factors for public architecture in promoting subjective well-being?

Developing Search Strategy and Search Terms

Key terms for use in the database searches were informed by reviewing titles and abstracts from scoping searches. Nine word groups were determined, resulting in nine search strings for combination into a complete search term and tested in five databases across three disciplines. The key terms in the various word groups are arranged in a concept grid (Table 1).

Review Findings and Synthesis

The final search term was entered into five databases and the University of Sydney Libraries (Table 2) using filters to return a total of 579 initial results. An English-based language filter and a publication date filter between 2000 to 2023 were applied to locate more relevant literature on current issues. Filters were also applied to all databases to limit results to peer-reviewed journals. Exclusion filters were included after the initial search on all databases, and exclusion filters were included to exclude literature from less-relatable topics, generating a more focused volume of literature for further assessment.

All results were exported from the databases into Endnote X9 and screened for relevance. In the shortlisting process, journals focused on theory and criticism, case studies, and qualitative research were prioritised. Journal abstracts that did not relate closely to the fundamental concepts developed in Table 1 were also excluded. Those that relate well to the key concepts, particularly those that indicate strong connections or combinations of the key concepts, were shortlisted for inclusion. A total of 34 peer-reviewed journals are included in the literature review.

Table 1. Key Concept Grid: key terms tested for search inclusion, and final search strings chosen as search terms

	Key Concepts	Facet of Key Concept (Word Group)	Key Words and Related Terms Tested
Primary concepts	public architecture	terminology	public architecture, urban architecture, urban design, public space activation, urban realm engagement
	subjective wellbeing impacts on architecture	problem	subjective wellbeing in public space, design for wellbeing, architecture and wellbeing, architecture for human flourishing
	promoting subjective wellbeing with public architecture	related fields	applying positive psychology in urban social environment, environmental psychology, urban living and subjective wellbeing
Secondary Concepts	curating public architecture	further explanation of terminology	contemporary curatorship, curating architecture, curating public space, urban public space curatorial practice
	human flourishing and placemaking	conditions	urban public space engagement, participatory design, architecture and social engagement, built environment and neighbourhood activation, built environment and community evolvement
	Adults (18 –69 y.o) in high-density urban areas responding to stress and anxiety	focus group	living environment and stress level, high-density dwelling and urban public space, importance of urban public space in high density urban areas
Final Search terms	Abstract: (public architecture) AND (high density urban area); AND Search all fields: (social engagement) AND (participatory design) AND (neighbourhood) (positive psychology) AND (subjective wellbeing) OR (human flourishing) AND (urban environment) (urban public spaces) OR (public realms) OR (urban open space) AND (subjective wellbeing); **(urban public spaces) AND (urban living) OR (dwelling) OR (neighbourhood) AND (subjective wellbeing);** (urban public spaces) OR (urban public realms) OR (urban open space)AND (high density living) AND (stress) AND (a (contemporary curatorship) OR (curating) AND (public architecture) AND (urban public space) (curating) AND (architecture) AND (urban public space) AND (neighbourhood) (subjective wellbeing) AND (urban public space) OR (neighbourhood) AND (social engagement) **(urban public spaces) AND (high density living) AND (placemaking) AND (stress) OR (anxiety);**		

Table 2. Database Search Summary

Journal	Search Terms	Results	Search within Results	Results after Screening
Art, Design and Architecture collection at Proquest	ab(public architecture) AND ab(high density urban area) AND (social engagement) AND (participatory) AND (neighbourhood)	19	4	1
	ab(public architecture) AND ab(high density urban area) AND (positive psychology) AND (subjective wellbeing) OR (human flourishing AND (urban environment)	66	4	1
	subject(public architecture) AND subject(subjective wellbeing OR social wellbeing) AND abstract(urban public space) OR abstract(urban open space) OR (shared space) AND abstract(stress) AND abstract(anxiety) NOT subject(landscape)	22	3	2
	ab(public architecture) AND ab(definition or define or meaning or description) AND (urban public space) OR (urban open space) AND (neighbourhood) AND (community) AND (activation)	63	8	2
Art Source via Ebsco (1929 - present)	ab(public architecture) AND (high density urban area) AND (social engagement) AND (participatory) AND (neighbourhood)	28	6	5
	(architecture or architectural design or building design) AND (urban dwelling) OR (urban living) AND (high density) AND (stress) AND (anxiety)	0	0	0
	(public architecture) AND (curating) OR (curatorial practice) AND (urban public space) OR (open space)	0	0	0
	(public architecture) AND (definition or define or meaning or description)	22	5	2
JSTOR	ab(public architecture) AND ab(urban public space) AND (contemporary curating) AND (curatorial practice)	17	1	2
	ab(public architecture) AND (subjective wellbeing or psychological wellbeing or human flourishing) AND (urban public space)	35	4	2
	ab(public architecture) AND (subjective wellbeing) AND (high density) AND (urban public space) OR (urban realms) OR (urban open space) AND (stress) OR (anxiety)	28	1	0
Scopus	(public architecture) AND KEY(urban public space) AND (high density) AND (urban public space) AND (neighbourhood) AND (activation)	29	9	3
	KEY(public architecture) AND (definition or define or meaning or description) AND (social engagement) OR (participatory) OR (activation) OR (reformation) AND (neighbourhood)	81	11	3
	(public architecture) AND (high density urban area) AND KEY(subjective wellbeing) AND (urban environment) AND (urban public space)	3	3	1
	(public architecture) AND (high density) AND (urban public spaces) AND (living) AND (placemaking) AND (stress) OR (anxiety)	24	4	3
ScienceDirect	KEY(public architecture) AND (subjective wellbeing) AND (social engagement) OR (participatory) OR (activation) OR (reformation) AND (neighbourhood)	62	20	2
	ab(public architecture) AND (urban public space) AND (curating architecture) AND (urban public space) AND (neighbourhood) AND (activation)	6	0	1
	(public architecture) AND ab(high density) AND (urban public spaces) AND (living) AND (placemaking) AND (stress) AND (anxiety)	74	10	3
	Total results:	579	93	34

Discussion

The final literature review search includes 34 journals across three key concepts and six subcategories. The main concepts are public architecture, curating architecture as public art, and promoting subjective well-being (SWB) after the global pandemic. The selected peer-reviewed journal articles were analysed for the year of publication, country of origin, the relevant location or region of the case study, and corresponding thematic breakdown relating to the main themes. 61.8% of the reviewed articles were published after 2020 due to their relevance to the global pandemic. Most of the journals

discussing theoretical basis in architecture spread out from 2004 to 2018. There has been a significant increase in journal articles about the relationship between architecture and SWB or other social aspects of well-being since 2020.

Another key finding is the location distributions between journal authors and case study locations. Even though the 34 reviewed journals demonstrate a global-scale response from 14 countries across four continents, the UK and the US took up most of the publication and case study research.

16 out of 34 reviewed journals have conducted comparative case studies as their primary research method. Meanwhile, 15 journals have included only qualitative methods, five times more than those using only quantitative methods. The statistics indicate that recent literature investigates subjective data about human experience and social responses in architecture, urban design, social psychology, environmental psychology, and contemporary art curating.

Conclusion

There are three main research opportunities arising from the literature review. The first one is decolonising public architecture in the post-pandemic social environment using art curating and social psychology techniques (Abu-Dayyeh, 2018; Bishop, 2004; Jacobs, 2012; Kampelmann, 2020; Peters & D'Penna, 2020; Searing, 2021; Talen et al., 2015; Rendell, 2009;). Another one is public architecture can contribute to positive social interactions and subjective well-being as a socially sustainable strategy (Donovan, 2016; Fleckney, 2021; McVicar, 2020; Orii et al., 2020; Sia et al., 2021; Villanueva et al., 2015). Further, post-pandemic social well-being issues are pressing challenges that require multidisciplinary correspondence, including public architecture (Bil et al., 2021; Kim et al., 2023; Sepe, 2021; Siu et al., 2021; Waters et al., 2022; Yang et al., 2023).

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Design Proposals for Waterfront Revitalisation and Adaptive Reuse: Case Study of Thewes Market and Pier, Bangkok

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Introduction

Adaptive reuse has been widely used across Europe, North America, and Australasia; it is recently gaining traction in Southeast Asia. These repurposed buildings in Bangkok, Ho Chi Minh City, Kuala Lumpur, Phnom Phen, and Singapore are becoming public spaces that successfully preserving their historical context yet serving their contemporary socio-economic needs (Clark, 2023). In the past, National Housing Authority's 2010s report cited in (Tantinipankul, 2013) categorized the threatened urban spaces in the old Bangkok as "floating houses, waterfront houses, shop houses, urban villages and market communities" of which the last one is now being studied. Recently, Bangkok Metropolis Authority (BMA) has announced the new Paduk Krung Kasem (PKK) Canal development as one or the smart city and public waterfront access which requires an investigation and research on this canal development.

Literature Review

Continuing the effort to preserve the urban spaces, adaptive reuse has emerged as a viable alternative design method as proposed by (Ch'ng, 2010). In Sana, Yemen, adaptive reuse has been observed to be widespread in the urban quarters for improving their public life and infrastructure, however the author cautioned about the impacts on the daily lives of private residents' due alteration to access and privacy (Haidar & Talib, 2013). The practice of adaptive reuse in Alexandria, Egypt also echoes the benefit it offers to old buildings from being demolished. They further emphasized that the guiding principle for developing such projects should that "local problems need local solutions" (Ragheb, et al., 2017). Another recent study from Rochester-NY of USA, shows that adaptive reuse has positive impact on the communities in fostering their local pride (Gauger, 2020). This literature affirms that adaptive reuse is an effective method for preserving the cultural heritage of old urban spaces in cities, especially, when the social sustainability and resilience are parts of the project goal.

Methodology

Prior to starting the design process, a series of local stakeholder interviews and analysis of the recent communications are observed. This research analysis further includes historical background, future development, community surveys, SWOT analysis, area analyses and relevant partnerships.

Recently, Bangkok Metropolis Authority (BMA) has announced the new PKK canal development as one or the smart city and public waterfront access. Thewes Pier is one of the important piers where local transport across the Chao Phraya River and travel through PKK canal. The studio investigates the relationship between the public water transportation, waterfront public space, and the new meaning of PKK canal for the new city development: waterfront redevelopment and smart city development. The participation of the local communities and tree market with the fresh market near by the location is also cooperated.

As for the design process, a team of graduate design students lead by the author conducted a studio project that would have started with analysing the existing conditions of the site and communities around it. After reviewing similar and relevant case studies on waterfront redevelopment, a common conceptual master plan was drawn keeping the focus on future smart city development plans by BMA.

Then for design development stage, after synthesizing the existing condition analysis and case studies, strategic design proposals were individually prepared by each studio member that were further refined for the final presentations to be reviewed by USL - one of the partners BMA had been working with for PKK canal development project.

Figures

Figure 1: Timeline of Paduk Krung Kasem (PKK) Canal

Figure 2: Transportation and Activities Analysis

Figure 3: Interviews excerpt from local communities and SWOT analysis thereof.

Figure 4: Conceptual neighbourhood planning for Thewes Pier and Thewarat Market area

Figure 5: Proposal for Thewes Pier

Figure 6: Proposal for Thewarat Market

Results

The history of the PKK canal stretches back in time over 170 years whereas the market has recently completed its bicentenary as outlined in Figure 1. In terms of transportation connectivity, PKK canal now has solar boat service that links with transit boats and ferries on Chao Phraya River, bus and future metro lines as mapped in Figure 2. These conditions have fostered various activities making Thewes pier and Thewarat Market as the hub such as fresh markets and specialized markets, service outlets, piers on the river and the canal, bus terminals and a metro train station in near future as seen on Figure 3.

The interviews conducted shown in the need for improvements in the area but preserving their heritage and the people in this area wishes to tap the opportunity of connectivity due their location. Therefore, adaptive reuse is the best design method applicable in redevelopment of this area.

A conceptual plan for adaptive reuse of the old brutalist market building is inevitable choice while new possibilities may be explored for revitalizing the waterfront on both side of the canal and complete overhauling of the Thewes pier on the Chao Phraya River as illustrated in Figure 4.

The studio developed two strategies for the Thewarat Market under the concept of adaptive reuse which finally resulted in two distinctive proposals of which one is described in Figure 6. Hustling between old structure and threat of irrelevance of economic prospect Thewarat market needs a redesign to help it reposition itself as the centre of socio-economic resilience. After careful investigation of the site and its contexts, this project aims to address the issues raised by the locals with the design objectives of 1) adaptively reuse the heritage structure, 2) accommodate more shops, 3) provide paring space, 4) enhance entrances, and 5) create recreational spaces.

As for the redevelopment of the Thewes pier, there were two proposals with an aim to give it an iconic appearance and provide a seamless connectivity across the piers, bus stops, future train station and the local communities in this area. The new Thewes pier as rendered in Figure 5 is designed to be an inviting public space that caters to a range of activities. The architectural design features open spaces for social gatherings, recreational areas for sports, and a food court for dining. The pier also offers panoramic views of the waterfront and the cityscape, making it a perfect destination for tourists and locals alike.

Conclusion

Being a busy waterways hub and a prominent market in the past Thewes pier and Thewarat Market today accommodate a reach diversity of economic and social functions connected with more than just the waterways. Due to its historical context and continuing communities here, there is a need for preserving some of the significant spaces yet attempting to capture the economic opportunities that its location and connectivity may provide. Therefore, the strategies of developing proposals based on adaptive reuse have generated the vision and categorically responded to the specific needs for enhancing the economic activities and develop social resilience.

The market is designed with the principles of adaptive reuse retaining certain original function of the market while make it more sociable with taste of local flavours and flexible for accommodating the indigenous festivities. The existing structure was a major challenge because it not only was a unique piece of architecture but also equally unforgiving to be adapted to new forms.

Given the challenges of the market, the pier proposals are result of creating iconic structures drawing attention which was a task to reckon. Moreover, the pier design was also integrating the waterfront and its walkways to provide an extensive yet seamless connectivity between the nodes.

There have been a few limitations to this study such as the lack of available data on the existing structures, utilities, and services. Even though design studio projects usually take a semester, this project having a complex urban heritage site with attempts of applying adaptive reuse as one of the design methods might have been more effective with another semester in the project timeline.

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Circular Cities for Urban and Social Resilience

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Approaches

Between 1960s and 1970s Engineers, planners, geographers scholars started to metaphorically compare cities and territories with live organism, coining the word Urban Metabolism (UM). Since then, the metaphor was increasingly used to understand and explain the interrelation between human society and the different territorial systems (Gandy, 2014[i]). It could be argued that UM is not a unified field but rather ranges of different approaches (Gandy, 2014). Therefore, UM has been used as a lens towards a building an urban/regional analysis of flow that has resulted in the development of circular buildings, cities and region models. At the base of this models, there is Circular Economy (CE) approach towards a sustainable built environment, as "a restorative economy, and one which aims to maintain the utility of products, components and materials and retain their value" (EMF, 2015).

Alternative Models

Within this context and the current socio-economic and environmental challenges, Europe and its leading industrial countries, such as the Netherlands, recognize the importance to address and work on other models that indeed require more than post-economic-crisis management and government incentives. The EU's 2050 vision of 'living well within the limits of our planet' calls to the necessity of a revision, evaluation, and a fundamental transformation of the economy and systems of production and consumption from linear to circular model.

Circular Economy (CE) is based on five leading principles: design out waste, build resilience through diversity, using energy from renewable resources, think in systems, and think in cascades. A closer reading of CE policies and practices in literature and governmental policy reports[ii] demonstrates several shortcomings and gaps in knowledge and practice to be addressed:

- Though there is a growing accordance developing about the potentials of CE approach, there is still a lack of clarity about what "circular" actually means in practice that is still a vague term/concept (Gladek, 2017).
- Most studies and attention on CE has so far focused primarily on the economic case (Wijkman and Skånberg, 2015).
- There is a lack of integral analysis and assessment methods of CE, tending to occur at the individual component or asset level (ARUP, 2016).
- Research and practice focus on one flow (energy or water or waste, for example) in the built environment. Attempts are channelled to analyse and redesign a specific flow to maximize its benefits and minimize waste production without unlocking its link and impacts on other flows.
- Research and practice on CE do not address the importance of changing mind set and social behaviour[iii] on the success of the circular process (Sauvé et al., 2015; George et al., 2015).
- CE initiatives focus on urban growth and big cities while falling short on developing and testing concepts and its relevance and applicability in shrinking cities and regions that have unique challenges and opportunities to be addressed.

- There is a lack in interdisciplinary research related to the scale of analysis, macro (cities and neighbourhoods), medium (buildings), and micro (assemblies and components), with little emphasis on the multiscale.
- The temporal and spatial dimensions of linking urban flows of energy, material, and water are particularly difficult to address in practice. Hence, redesigning urban flows require new urban design and spatial planning approaches.

In our perspective the concept of CE is related to both the production of space and productive spaces but also its on-going functional dynamics. In a CE, materials are cycled at high quality, all energy is derived from renewable or otherwise sustainable sources, and natural and human capital are structurally supported rather than degraded through economic activities. CE is therefore, regenerative and waste-free by design. This requires developing new models and tools on local and regional scales.

We plea to start by looking at spatial relations that are intermediate and intermittent, and how this constitutes the base of innovative methodological approaches to explore a variety of scenarios both in practice, education and research. This might be the outline of a renewed open and flexible design.

Designing

We propose understanding architectural and urban design as set of actions that cast performing spatial conditions, creating spaces both as actions and actions-frames, where buildings, open spaces and interfaces are constantly transforming. From here, we can open up to new (spatial and design) possibilities, think of new typological iterations, and explorations at multiple scales, primarily promoting circular cities for urban and social resilience.

We start from three venues. First, intermediate scales, namely, the links between spatial levels between the architectonic and the urban, the territorial and the local, the abstract and the concrete. Then, intermittent conditions, which include territorialities, spatialities and temporalities as broader notions than territories, spaces and time, in constant negotiation. And finally, collective spaces, as intermediate and intermittent conditions of space that alter interactions in space (Chiappini, 2021).

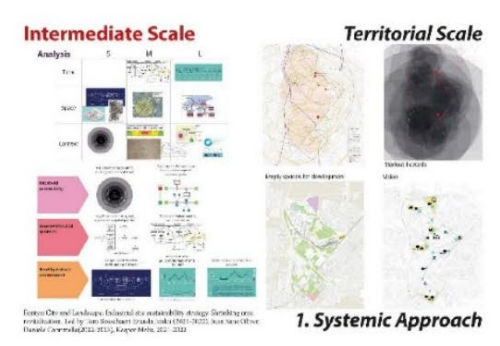
Strategies

The setups are (to be) of design-by-research, and research through design; embracing complexity in creative manners and testing new research-design methodologies where the tensions between symbolic, material and social configurations are embraced, and where explorations work on scenarios, visions, and strategies. This has been the setup of the design studios conducted at KUL and Fontys in the period 2015-2023, from which we extract the following strategies (Figure 1-top and middle).

To start with, working at intermediate scale demands:

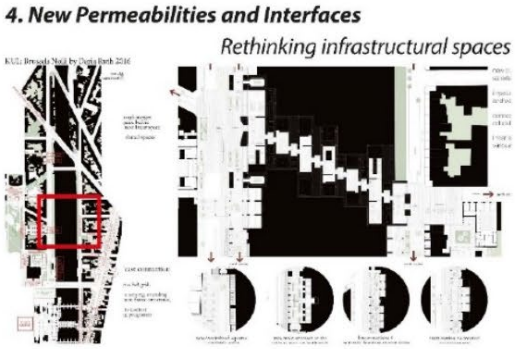
1. Systemic approach: every case needs to consider the transnational spatial conditions at a territorial scale, deliberately embracing all dimensions of complexity; as tested in an attempt to rethink an large industrial plot in Limburg, NL.

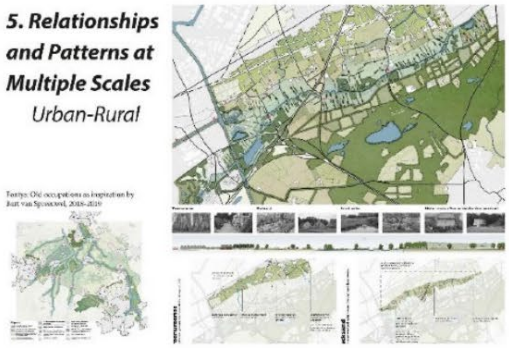
2. (Immediate) typologies beyond scales: at a local scale, we are to focus not only on buildings, but on architectural typologies and implementations that reconfigure all interfaces; spaces working as plug-ins for new ways of productivity, as example tested in Geleen, NL.


Intermediate Scale
Territorial Scale
1. Systemic Approach

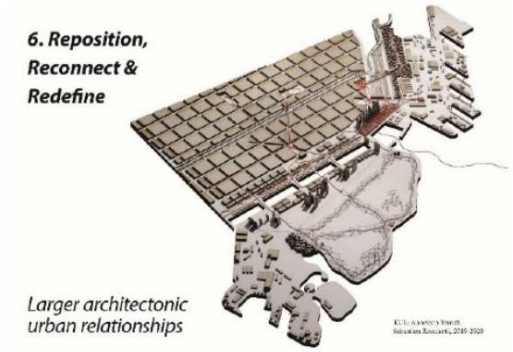

Local Scale
Urban Patch
City Lab
Urban Trail
2. (Intermediate) typologies beyond scales...
Plug-ins for new productivity

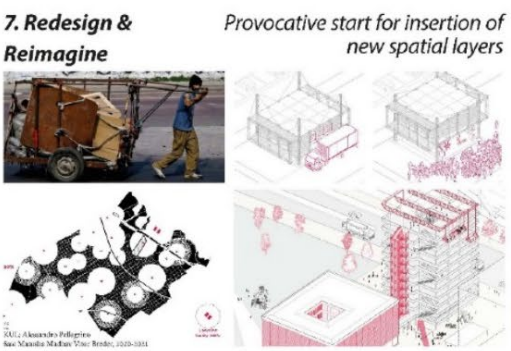

Intermittent Conditions
3. Provocative Hybridizations
(In)Formal logics

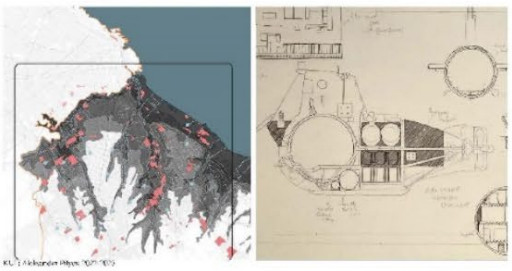

4. New Permeabilities and Interfaces
Rethinking infrastructural spaces

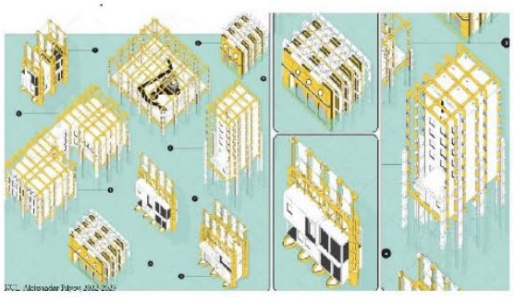

5. Relationships and Patterns at Multiple Scales
Urban-Rural


Collective Spaces
For urban and social resilience?
24/7
Surveillance


6. Reposition, Reconnect & Redefine
Larger architectonic urban relationships


7. Redesign & Reimagine
Provocative start for insertion of new spatial layers





Working with intermittent conditions that might temporarily activate, leads to:

3. Provocative hybridizations: (in)formal logics are difficult to understand and register, but crucial as resources to promote new relationships. This can help rethink established typologies such as business centres (largely vacant or at risk of obsolescence), as in the case in Brussels North, B.

4. New permeabilities and interfaces: understanding spatial and territorial depths of the built environment is key to rethinking infrastructural spaces and propose new ways of carving out existing elements. This is tried out on the massive train infrastructure in Brussels, B.

5. Relationships and patterns at multiple scales: there is no limit for upscaling the previous strategies, to the point that the entire urban-rural-territorial connections can be explored, as in the case in North Brabant, NL, or at the border area between NL and B[iv].

At times, we might need remote and/or extremes cases to realize that the social resilience is frequently materially or symbolically overlooked, dismissed or counteracted by our interventions in the built environment. To this aim, cases such as Buenos Aires, AR, where global images and local constrains coexist in critical proximity, can help us reimagine the processes in our direct environments. To this aim, we propose:

6. Reposition, reconnect and redefine: every design, both in public or private hands, needs to be tested within larger relationships. We might get insights for new architectonic and urban typologies, including reimagining urban buffers, and zocalos, as in the case of Catalinas Norte.

7. Redesign and reimagine: every design is to be tested in terms of the adaptation and renewed connections it promotes. This might lead to new forms under the same conditions. Most importantly, it might lead to embrace provocative starting points that, playing with the existing processes (also those informal and less comfortable for management), insert new spatial layers. This can lead to a range of new resources: from the re-evaluation of the territorial components of a city, to the redefinitions of the detailing of a building that works materially, socially and symbolically, as explored in the case of *cartoneros* (paper pickers).

Conclusions

In conclusion, thinking multiscale and multidimensionally opens up new explorative doors where we can explore the symbiosis of actions of resistance, resilience, and retreat. This was executed exemplarity by speculatively flooding half Buenos Aires, and based on a technical-artistic-architectonic research, proposing a variety of spatial solutions for the lifting, floating or immersion of housing units, developed in the project (Figure 1-bottom).

It is evident that thinking of the adaptability of our design resources and products can be encouraged by looking for cracks and tensions, not as negatives, but as possibilities of new searches. Let's rethink out design practices within constant spatial transformations, and most importantly, for the purpose of generating spatial justice, new densities, spatial qualities that are achieved via circular/bio-based technologies. This can happen in settings where hand-explorations are encouraged, and there is a constant switch between the individual and the collective meanings.

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[ii] For example The ReSOLVE framework is a key output of the Ellen MacArthur Foundation's research a pioneer and a reference in CE. The framework outlines six actions to guide the transition towards a circular economy: regenerate, share, optimise, loop, virtualise, exchange.

[iii] CE addresses the environmental and economic impacts of linear process while ignoring other important urban challenges due to growth, pressures on resources, including societal challenges from increased urban poverty and inequality.

[iv] See article: Natural Hypertransformation: Agriculture in Belgium and the Netherlands 2100, by Poorya Eghtesadi and Niklas Michels, presented at this same conference, as example.

Developing a holistic process to inform decisions on the re-use or demolition of existing buildings at the earliest stages of site development

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Early stage consideration of whether renovation of buildings is possible is more and more important as decarbonisation targets and planning policy combine to form a spotlight on the decisions made early in projects around demolition of existing property. The key question is how do we make these decisions at really early stages of design?

To discuss this we're going to talk about how we applied this to a campus site in Manchester where the development proposal is looking for 4m sqft across an existing 9Ha estate of buildings of varying scales.

Greater London Authority have set out a methodology for assessment of buildings in the Circular Economy Guidance. The key areas of this where we have incorporated more detail are the technical feasibility and suitability of assets.

The technical feasibility review was undertaken as Stage One of the triage process utilising visual surveys and existing building information. At this stage structures that needed extensive repairs or where the potential floor space was below a usable value were removed from the process unless significant sustainability criteria were identified.

The next two stages utilised retention criteria. To ensure a holistic approach a broad range of elements were considered to cover the environmental, social and economical elements. The whole design team contributed to this process via a series of workshops that enabled firstly review of the of the criteria and then the options for re-use.

To enable the holistic review we needed to first establish criteria for retention and how these would be applied. There were geometric elements such as the floor to ceiling height and structural grid that were assessed against design standards for the required usage. Then there were elements where there's less clarity such as ability to change use and extent of modifications required. This is where definitions become more important and the key thing we found was that impartiality was critical for developing these definitions.

Stage Two was undertaken utilising the retention criteria for the geometrical elements of the structures to enable a reduced list to be taken forward to Stage Three. However, again where there were overriding other criteria with regards to value of the existing structures these were progressed to Stage Three.

Stage Three then required potential options for refurbishment to be developed sufficiently to enable assessment of opportunities. Examples of things that could be considered to provide additional floor area are: new basements, additional floors on an existing structure or re-purposing of existing spaces for alternative uses.

Stage Three also incorporated the whole life carbon assessment. A key environmental factor was the carbon performance of property, but this also influences the value of the property. Without decarbonisation and retrofit existing infrastructure would be at risk of being stranded as tenants or purchasers themselves decarbonise. Therefore, there's a key link between the environmental and economical considerations. To set the context, whole life carbon is made up of three parts the upfront

construction or renovation costs, the replacement or in use and end of life embodied carbon and the operational carbon.

For one of the 1960s buildings on the site we tested the impact of operational carbon on the whole life carbon impact of the building. The client set the project energy and carbon targets that align with their corporate decarbonisation plans. Three scenarios were considered to test the whole life carbon impact of the retention vs demolition. The three scenarios were: minimal intervention to achieve regulatory thermal performance standards, upgrade of the façade to meet enhanced standards or demolition and new build.

The key conclusion that emerged from this Outline Whole Life Carbon Study are that, over the life of a building that has had façade upgrades to achieve the targets the embodied carbon remains the substantial component of Total Carbon. Therefore, Retention of the existing structure significantly reduces upfront embodied carbon and carbon mitigation or offsetting requirements. The whole life carbon trajectory follows a similar gradient for all three scenarios due to the in-use replacement cycles for plant.

In summary there is still some work to do to ensure that the social and economic value of existing structures is considered to ensure that property values aren't depreciated. The independence of the suitability criteria is important to ensure that the outcomes aren't malleable. Early-stage engagement of the design team is necessary to establish a process for undertaking this analysis. The whole life carbon targets set at an early stage by clients and design teams can impact on decisions made but the majority of the Total Carbon is contained within the existing structures.

Renovation of existing buildings is not new to the development sector. We've been doing this for a substantial period. The challenge is doing it at scale and in new innovative ways to provide the operational and whole life reductions needed to reduce the impact of future developments. A good example is 1 Finsbury Avenue which has reused 90% of existing MEP plant which in total saved 10% of Embodied Carbon compared to a new build.

A Community-based Classification of Impact Criteria for Life Cycle Sustainability Assessment in the Context of Estate Regeneration

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Introduction

Life Cycle Sustainability Assessment (LCSA) has been introduced in 2008 by Klopffer (Visentin et al., 2020) as a methodology for assessing the overall sustainability of products and systems (Klopffer and Grahl, 2014). LCSA has been used to support decision-making for the appraisal of building projects by assessing the environmental, social, and economic impacts of those schemes (Klopffer and Grahl, 2014; Sadhukhan, Sen and Gadkari, 2021). Other sustainability certification and assessment schemes can be used to assist the decision-makers in the options appraisal of estate regeneration scenarios. However, there is inconsistency in classifying the impact categories of those assessment methodologies. In addition, the impact categories of these schemes mostly do not reflect the priorities of communities in the context of estate regeneration. Sala et al. (2012), Zamangi et al. (2013), and Souza et al. (2015) have raised the importance of stakeholder involvement in the selection of sustainability indicators as one of the main gaps in conducting sustainability assessments. The aim of this paper is to identify a community-focused list of impact categories for LCSA to be used in the context of estate regeneration in the UK.

Methodology

To identify a community-focused set of impact categories for the LCSA of estate regeneration schemes in London, this paper has employed a mixed methods approach through primary and secondary data collection. A scoping review including the review of standards, legislation, and other relevant documents has been conducted. Data collection for the empirical research has been through a single-case case study[1], consisting of co-design workshops, focus groups, surveys, and interviews.

Desk-based Research

The classification of impact criteria for sustainability assessment of building projects was conducted through a scoping review, searching publications in the fields of Life Cycle Assessment (LCA); Life Cycle Inventory; LCSA; sustainability assessment; sustainability indicators; sustainability impact criteria; Tipple Bottom Line (TBL) approach; stakeholder and community involvement in decision-making; retrofitting buildings; social housing; and regeneration of estates. The categorisation of different sustainability indicators is identified through the review. Lack of a standardised list of impact categories is one of the gaps that the review tries to bridge towards an inclusive and holistic scope for LCSA.

Case Study

To explore the priorities of the communities as one of the main stakeholders of estate regeneration schemes, this study employed a complex mixed methods design including quantitative and qualitative approaches.

The quantitative part of this case study was conducted through close-ended questions in the survey and descriptive statistical analysis of the collected data. The quantitative questions were mainly aimed at collecting information about the perception of participants on the condition of their homes and the

estate, and their preferred regeneration scenario. The results of the survey have been analysed through descriptive statistical analysis.

The qualitative approaches of this case study consisted of several co-design workshops, open-ended survey questions, and semi-structured interviews for an in-depth exploration of the communities' priorities in relation to different aspects of estate regeneration. Collected qualitative data from the case study has been coded and interpreted using Braun and Clarke's (2021) guidance on reflexive Thematic Analysis (TA). Triangulation of analyses has helped in introducing a global set of meta-criteria, for the categorisation of sustainability indicators for a community-based LCSA for appraisal of estate regeneration schemes.

	Meta-Criteria
1	Climate Change
2	Environmental Impacts & Strategies (Excluding Climate Change)
3	Local Ecologic Impacts, & Strategies
4	Material Strategies and Circularity
5	Whole Life Cost
6	Health& Wellbeing
7	Accessibility
8	Safety and Security
9	Transport & Movement
10	Community Facilities and Amenities
11	Social Values
12	Design Legacy
13	Project Management & Aftercare

Figure 1 (top left). Authors' combined list of meta-criteria of relevant sustainability assessment schemes

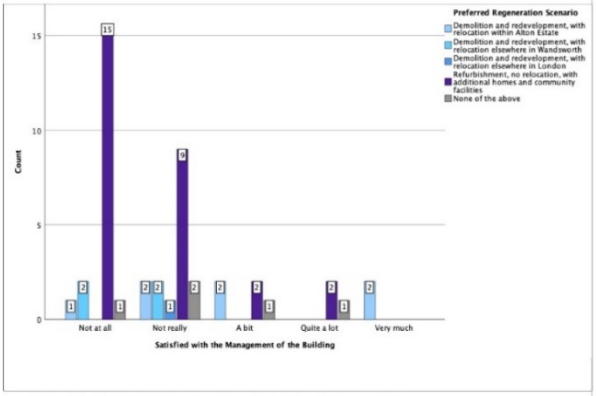

Figure 2 (bottom left). Grouped bar chart of participants' regeneration preference compared to their satisfaction with the building management

Figure 3 (right). The identified sustainability indicators (outer circle) against the proposed meta-criteria (inner circle) for the LCSA of estate regeneration

Findings

Scoping Review

Our extensive review of thirty-seven publications in relation to Building LCSA and sustainability assessment has identified the inconsistency of categorisation of indicators as one of the main gaps in defining LCSA scope. Other limitations relate to not considering the context and not including the priorities of the communities in identifying and classifying the sustainability criteria for LCSA of estate regeneration schemes. To find a coherent list of meta-criteria that is descriptive of the indicators and reflects the categories of different assessment methodologies, the list in Figure 1 has been suggested from the review of the relevant sustainability assessment schemes and the scoping review.

Quantitative Analysis

The general picture emerging from the statistical analyses reveals the participants' preference for a refurbishment scheme over demolition scenarios for the regeneration of the estate. The analyses

demonstrate a level of correlation between issues such as home attachment with the preferred regeneration scenario. While poor maintenance and management of the estate are greatly agreed among the participants, the participants' preference for a refurbishment scenario despite their dissatisfaction with the conditions and management of the buildings (Figure 2) suggests the need for further in-depth exploration of the community's priorities through qualitative approaches to identify a list of community-focused meta-criteria and indicators for the LCSA of the schemes.

Qualitative Analysis

The collected data from the surveys, workshops, and interviews have been coded using an iterative process for TA (Bergin, 2018). The identified codes have been categorised into relevant sub-themes. The sub-themes from the TA coding, referred to as meta-criteria, have been listed and aligned with the findings of the scoping review. Mental Health and Socioeconomic Values have been introduced as separate categories in addition to the results of the scoping review. The findings of the TA support the importance of engaging with the communities and exploring their priorities to identify a plausible scope for LCSA of the regeneration scheme of their estate.

Discussion

In pursuit of a profound LCSA scope (Weidema et al., 2020) the sustainability indicators have been interpreted from the identified priorities of the community. Triangulation of the analyses has introduced 'Mental Health & Wellbeing', and 'Socioeconomic Values' as new meta-criteria for the scope of the LCSA framework which have been neglected in most of the existing studies. The list of sustainability indicators and meta-criteria identified from the triangulation of the findings of the scoping review and the case study for the LCSA scope of the studied estate has been presented in Figure 3.

The findings of this study highlight the priorities of the communities that are not completely reflected in the impact categories of current platforms for the sustainability assessment of the regeneration schemes.

Conclusion

This paper has proposed a community-based categorisation of LCSA indicators introduced as meta-criteria for the appraisal of estate regeneration schemes in London. Through a scoping review, statistical analysis of quantitative data, ethnographic observations, thematic analysis of the qualitative data, and triangulation of the results of the study, the following conclusions can be drawn:

- Inconsistency of meta-criteria across different frameworks and not considering the context and communities in identifying indicators are the main gaps in the literature.
- The findings of TA and triangulation of the results of the case study and scoping review have introduced a list of meta-criteria with new categories including Mental Health and Wellbeing, and Socioeconomic Values.
- The findings of this paper support the importance of engaging with the communities and exploring their priorities to identify a plausible scope for LCSA in the context of estate regeneration.

While the identified indicators are local and reflective of the context of the projects, the introduced categories of meta-criteria can be used as a global classification for the sustainability indicators for similar studies. We would encourage researchers to examine these findings beyond the population of this case study. We would also recommend exploring the priorities of other stakeholders to identify a multi-stakeholder LCSA scope in the context of estate regeneration.

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[1] Part of the case study was conducted in collaboration with a team of researchers from UCL (Principal Researcher: Dr Pablo Sendra), and the community of Alton Estate in London.

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Section 5: Educational projects

Re-pairing: Care and the performance of repair

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There is a sensitivity in Barbara Hepworth's 1947 hospital studies (Fig.1) that makes the work almost spiritual. The artist's hand records a strong sense of care in the delicate reciprocation of surgeon's hands repairing a hand. In doing these drawings, Hepworth said that she was

'*absorbed by 'the extraordinary beauty of purpose and coordination … and the way that unity of idea and purpose dictated a perfection of concentration, movement, and gesture'* (Launer, 2016).

Repair of the body can be used as a metaphor for the repurposing of buildings, an idea that helps to read acts of repurposing as those of care, with the potential to extend embodied practice into the community. In circular economy terms, repair is considered as both a tool for reducing consumption of finite resources, and also as a characteristic of behaviour,

'reconfiguring everyday material relations from one of use and disposal to one of care and stewardship'. (Hobson, 2020)

The body is key to the way we inhabit spaces. It is through the hands particularly that repairs are made and the gestures and interactions that bind communities are performed.

Sociologist, Richard Sennett points out that a caring approach performs many kinds of social repairs, including from damage wrought by economic decline and neighbourhood decay. Making and Repairing, he says, are two forms of manual skill, closely related, that can instil dialogical social behaviour through: the rhythm of labour embodied in ritual; physical gestures giving life to informal social relations; and working with resistance and difference (Sennett, 2012).

The gestures of care that characterise physical repair are also fundamental to understanding the ability of communities to mend. Clues contained in the word *maintain*, deriving from the Latin, *'to hold with the hand'*, link repair to the habitual practice and attitude of care.

An illustration of this can be found in a short film, T*he Art of Repair*, in which people talk about their work repairing instruments, electronics and motorbikes (Fig.2). The passion shown in their body language and the hand gestures of their work convey how that care for bringing things back to life connects people deeply through movements of the body (Stewart, 2012).

For artist and urbanist, Theaster Gates, work done by hand is the starting point for regeneration projects such as the Dorchester projects, a repurposing of properties in Chicago following the subprime mortgage collapse. Gates' ability to seize opportunities like this is itself an act of care, configured through performance of craft, music, design, foodwork and art. Stemming from his own practice of handworking in clay, creative making extends to buildings and neighbourhoods. In engaging with communities broken by the ravages of capital, people are brought together in collective activity and performance, enabling them, as Gates puts it

' … to feel safe, … to be more open, more transparent, more vulnerable than we might be normally.'

Portsmouth School of Architecture promotes an ethos of care that connects the reuse of buildings with the repair of communities, providing a basis for projects that help to empower students in their practice. With emphasis on the creative reuse of spaces, the relationship between existing and new interventions is explored, connecting the body to the material of spaces to establish a creative 'conversation.'

The hands-on aspect of many of these projects reinforces the notion that reimagining spaces comes from within. The expression of an attitude of care through gesture shows how designers can initiate practices of care that can influence the wider, collective body.

The following examples are a selection from ongoing undergraduate projects that uphold those values.

Material Expression is a Final Year Interiors project exploring the materiality of adaptive reuse of buildings through making. The premise for reuse is one of repair and this is examined by making a close reading of an existing building through a carefully made drawing, which is then deliberately damaged and repaired. This approach is then reiterated through construction of an object that is, in turn, transformed to create something new.

In the visually dominant world of design education, the challenge of conveying a sensory dimension has led us to use language as part of the making and repair process. Emotional and ephemeral responses to spaces are drawn out using creative writing exercises, and manual processes such as typewritten and cut-up text.

Whilst there is an element of exploratory play involved in these activities, the aim is to create a sensory intelligence. The gestures of making embody the designer's attitude to the host building and those embodied values are invested back into the project to underline how design is a caring act.

These material exercises go on to inform detailed studies for a larger project with specific focus on repair of an existing building, acting as the catalyst for bringing something new into the world.

From the Ground Up is a First Year design project exploring the connection between making and communities. Starting from the raw material of clay, students collaborated on large group paintings to generate ideas for handmade tiles. These in turn went on to inform design proposals for the reimagining of an empty shop in Gosport High Street, working in conjunction with a local community arts group, the Makers Guild.

There was lively engagement with materials and the gestures of care as students worked by hand to create group and individual pieces. Introduced post-lockdown, the project explores making as the starting point for considering how individual acts create community activity to initiate the repurposing and regeneration of the high street.

The Whitelands Project (Fig. 3) is a community woodland dedicated to educating young people in sustainability, giving opportunities to engage with a living woodland. For second year architecture and interiors students, this project sought to create a series of pavilions, self-designed and built from forest thinnings. The experience of team working and problem-solving through direct work with hands and materials; iteration on site; encountering actual problems and having to resolve them in the moment, created a strong sense of community.

The reuse of buildings and spaces calls for a reappraisal of the way we think of the spaces we inhabit or reinhabit.

In these and other projects, the restorative and repair modes have been iterated by configuration through the body. The re-pairing of new use with old form, follows what Sennett refers to as '*dynamic repair',* where repair goes beyond the restoration of the original to produce something new.

Figure 1

Barbara Hepworth, Hospital Drawing, 1947

Image copyright Barbara Hepworth © Bowness

Figure 2

Material Expression, 2022

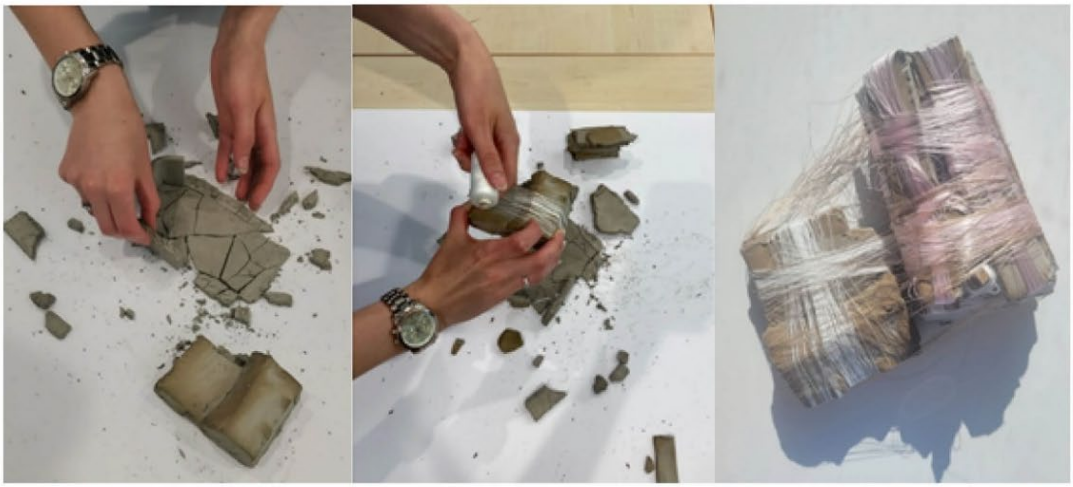

Image Portsmouth School of Architecture

Figure 3

Whitelands Project, 2022

Image Portsmouth School of Architecture

In this work, and particularly in the performance of repair, a gestural hand is employed in a mode consistent with care aesthetics. There is a rhythm in this way of working which, unlike the repetitive craft mode with its type-form of what the work should be like (Sennett, 2012), follows a creative dynamic that brings people together.

Following Hepworth's cue, it seems that in the field of spatial design we have much to learn from the care disciplines about the interaction of people in place that can inform our own practice, beginning with those gestures and acts that start from the body and go out into the world to create and mend communities, repair buildings and care for the environment.

It is not just through the remaking of buildings, places and spaces but through the performative interaction between body and materials in acts of care that environments and communities can be repaired.

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Post-Nuclear Infrastructure as Architecture: The Speculative Decommissioning of Oconee Nuclear Station

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Currently, about 10% of the world's electricity is supplied by nuclear reactors (US Energy Information Administration, 2020). While some countries are pivoting toward nuclear power as a carbon-free method of generating energy, other nations are in the process of or have completed decommissioning nuclear plants in favor of alternate sustainable energy technologies. Nuclear power is efficient and carbon neutral, offering some undeniable advantages in energy production; however, nuclear power plants were designed with a maximum sixty-year life span, and at the end of the life of any power plant, decommissioning is necessary. (Decommissioning Nuclear Facilities, 2022) As many plants globally approach or surpass their intended life cycles, it is an appropriate time to consider other sustainable energy methods that could offer additional options of energy infrastructure. While architects have had roles in helping promote infrastructure through building design of infrastructural facilities, typically, the design and planning of energy generation methods and their sites is predominantly within the domain of engineering. To challenge this norm, the speculative process of decommissioning a nuclear power plant, Oconee Nuclear Station, and the designing of new energy infrastructure was undertaken by architecture students in the scope of a design studio entitled 'The Post-Nuclear Studio' in the Clemson University School of Architecture. The results of the studio suggest there is opportunity for the discipline of architecture to play a bigger role in the design and planning of infrastructural systems.

There is precedent for architects having a positive role when involved in the design of buildings that facilitate infrastructure, but historically the role of the architect has often been to create an appealing envelope into which infrastructural spaces could be placed and function programmatically. An early example of incorporating infrastructure into urban context by wrapping it in a contextually-appropriate façade is the Chicago Water Tower. The Gothic-revival building was designed by William W. Boyington in 1869 to house a pump to control water surges in the area. (Chicago Water Tower, n.d.) The tower became an icon after surviving the Chicago Fire. In later decades during the City Beautiful movement, many architects "dressed" infrastructure in architectural language that integrated it into urban contexts. For example, in the 1920's, London Power Supply hired Sir Giles Scott to design a powerplant in an industrial area of Battersea along the Thames. While this building needed to be practical and its site selection was functional, it ultimately became a beloved landmark (Vickery, 2020, p. 105). These precedents speak to the ability of architecture to celebrate aspects of infrastructure as vital parts of city life.

There are also examples of infrastructure projects that have become admired and occupiable, and often these have had a distinguished relationship between infrastructure and landscape. In 1933, the Tennessee Valley Authority was created by the United States government to regenerate one of the poorest regions in the country by dealing with the area's major issues – flooding, lack of access to electricity, erosion, and poverty – through the design of infrastructure. (Thurman, 1986, p. 9) One of the first projects undertaken by the TVA was the Norris Dam. This dam still operates as a hydroelectric and flood control dam and as a state park with a marina and sites for camping. (Norris Dam State Park, n.d.) The project is an example of how engineers have previously considered spaces of infrastructure as both functional and as an asset to the community.

CopenHill, designed by Bjarke Ingels Group, cross programs energy infrastructure with public amenities by placing a ski slope atop a waste-to-energy power plant. Designed to replace an antiquated waste incineration plant in Copenhagen, Denmark, the power plant achieves a unique

incorporation of energy infrastructure and public program. The building also serves as a tool with which to educate the public about energy, as much of the machinery is situated alongside public areas. It demonstrates how design can integrate often uncelebrated infrastructure into an urban area in a meaningful way. (Bjarke Ingels Group, 2019) However, within the conceptualization of this project, the architects were responsible for the design of the building and integration of infrastructural zones with other spaces rather than for the decision making surrounding the energy system itself.

In the face of climate change when there is an urgent need for sensitivity to energy usage and generation methods, there exists an opportunity to involve the discipline of architecture in design beyond the creation of building shells for infrastructure. As engineers have done in the past, like in the creation of TVA dams, designers can help to not only implement or repurpose infrastructure but also to facilitate placemaking, blending functional systems with public-serving programs, and use the site research and analysis typical of architectural work to contribute to decision making and design of infrastructure itself.

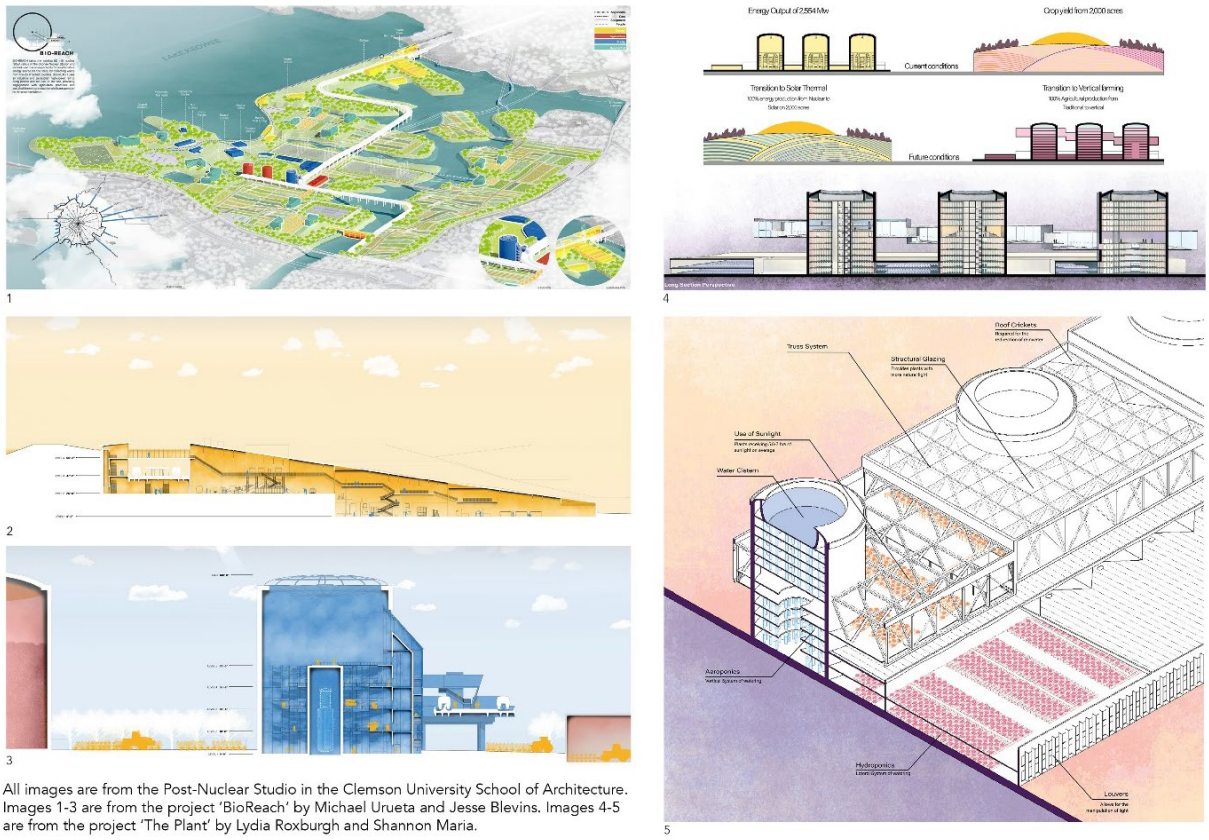
In Fall of 2022, students of the Post-Nuclear Studio were tasked with considering the selection of infrastructure as an integral part of their design project within their work surrounding the speculative decommissioning of a local nuclear power plant, Oconee Nuclear Station. This nuclear power plant on Lake Keowee in Upstate South Carolina is about 12 miles away from Clemson University and has been operable since 1973. In the scope of the Post-Nuclear Studio, students were tasked with proposing a plan for decommissioning and replacing the energy output of the nuclear station. Then, students worked to masterplan the former nuclear site and design a new use for the existing nuclear infrastructure. Extensive site analysis of the region informed the selection and placement of infrastructures.

In one of the Post-Nuclear Studio's design projects, 'Bio-Reach' by Jesse Blevins and Michael Urueta, the extents of the nuclear power plant are utilized to accommodate a new power generation method in the form of a large biomass plant while also using the site for other forms of production. The proposal of a rail line that connects to major metropolitan areas serves to both facilitate the transport of food waste from the region to the biomass facility while also allowing for the movement of people. This new infrastructure supports the program of energy production but also serves as a public space on the site. One of the former nuclear silos is repurposed to support the rail line as a train station. The scale of the former nuclear infrastructure serves as a monument to the previous power generation method. The extents of the site are reclaimed through the cultivation of crops and the creation of needed affordable housing within the landscape, speculating the possibility of a live-work community around the biomass plant. In this manner, the project proposes using remnants of an old infrastructure to facilitate the creation of several new infrastructural systems.

In the project 'The Plant' by Shannon Maria and Lydia Roxburgh, the relationship between different methods of production and infrastructure are explored and inverted. Within this proposal, various portions of farmland plots in Upstate South Carolina are converted into sites for solar thermal energy production, as the now-vacant nuclear silos are reclaimed for vertical farming. The scale of the nuclear silos is so significant that the output of hundreds of acres of farming can be replaced with the adaptive reuse of the silos. In this manner, energy production is put on display, passively educating the public on this sector of infrastructure, while the food production on site addresses the region's food desert status by providing fresh produce at a new market stand. The remainder of the former power plant's grounds are proposed for reforestation. This project suggests that by reconsidering the siting and spatial needs of processes of production, there can be unlikely efficiencies and symbioses discovered.

Architects have often been on the periphery of the design of infrastructure, specifically energy infrastructure, typically helping to wrap functional buildings in appealing facades or to design accessory spaces that support or complement infrastructure; however, the Post-Nuclear Studio and the work it produced suggests that architects can play a bigger role in the design of infrastructure and

can generate inventive ways to use former infrastructural sites. This studio served as an experiment in which energy infrastructure was considered as a tool for design of spaces and landscapes; the results, though theoretical, suggest that architecture's role in both the design of new infrastructure and the adaptive reuse of obsolete infrastructure can be more significant.



All images are from the Post-Nuclear Studio in the Clemson University School of Architecture. Images 1-3 are from the project 'BioReach' by Michael Urueta and Jesse Blevins. Images 4-5 are from the project 'The Plant' by Lydia Roxburgh and Shannon Maria.

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Rethinking Resilience through Learning Environments in a Digitized Era

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Schools have long been significant to the community and have a strong urban character. They are transforming more and more into the social and physical centre of the neighbourhood, far from being a thing separate. They have developed into key locations for fostering relationships between members of their communities as well as academic development and student wellbeing. As a result, they are not regarded as interventions that are just concerned with educating students but also with encouraging resilience in their local communities by taking part in networks and systems that are capable of bringing about change.

On the other hand, a paradigm shift is taking place right now. The world has fully embraced the Information Age. How we perceive and interpret cities has been fundamentally altered by recent innovations utilizing the abundance of smart technology. As the ways in which we live, work, play in, and build our cities change due to these technologies and data availability, the questions seeking to investigate ways of making cities more resilient have been evolving. The understanding of resilience in the digital era departs from this problematic in light of the recent context that requires an emphasis on the exploration of resilience, particularly with respect to natural disasters but extending as well to current problems of the post-Anthropocene.

We have clearly seen the crucial role these technologies and digital platforms have at the time of the earthquake. Turkey and Syria have been severely affected by the latest earthquakes, the consequences of which will continue to impact the whole region for years. To briefly illustrate, it is important to see how technology has helped to build resilience after the earthquake. Whether it is AI being used to filter and analyse large amounts of data, open-access software being used to create customized solutions, or robotics being used to support search teams, technology has been extensively used in the days following the earthquake. Many digital platforms were established to address the urgent needs in the area, mostly with the initiatives of individuals and NGOs: to distribute important information and coordinate support through social media, to spread information about rescue efforts and volunteer opportunities, healthcare facilities, and those that provide temporary housing, food, and clothing (Goksu & Kamiloglu, 2023).

So how did the school react to that? To exemplify the case with the events taking place at Middle East Technical University, as a school, the members of our university have been trying to contribute to the relief efforts with the affordances that our discipline as well as our faculty have been providing. For instance, our faculty members are visiting the zone for documentation and updating the maps and plans to assist future studies. We have been hosting several public lectures online, both from people in Turkey and abroad, to increase awareness and resilience for our profession. We have opened our campus to people that are affected by the earthquake. Suddenly the school is adapted to the needs of those people. Moreover, the students, graduates, and academics of our faculty have established an initiative that is called “Urgent Design Studio” to design, plan, and produce in order to meet the primary needs in the earthquake region. The studio works in a horizontal manner; in other words, it prioritizes collaboration, interdisciplinarity, and inclusivity.

This experience allowed us to question what a resilient school looks like. The great affordances of digital tools at hand prove to be crucial to achieve resilience in the information age. Today, when we talk about resilience in the digital era and resilience in smart cities, the first thing that comes to mind are these tools and platforms. It almost suggests a departure from the discipline of architecture and urbanism. But should it be the case, I would like to go back to the question that Cedric Price asked in 1966: “Technology is the answer but what was the question?”

There is a clear indication that we need to reformulate the problematic. Because the problem has evolved through decades in such a way that the answer to each urban question is not being searched for in planning and building but in the web of services, how people organize, mobilize, and communicate via the new tools. So, in light of that, how can we achieve resilient learning environments? With the advanced technologies at hand, global connectivity, and the dissolution of physical boundaries rendering conventional schools obsolete, what matters the most lies in the generation of value.

Life-long learning, access to industry, online connectivity, technical skills, collaboration, interdisciplinarity, inclusivity, accessibility, and being multipurpose are some of the key issues that drive change in learning environments today (Arup, 2018). The conventional school is transforming itself into a learning landscape where informal learning has the utmost importance. The significance of the existence of a physical environment then lies in the possibilities of interactions and collaborations.

Moreover, what comes to the fore with growing urgency is what the school can provide to broader stakeholders. Schools as the cornerstone of community life are to be adapted in size, organization, functional complexity, and relationship with the outside world to assume many roles over and above that of providing conventional education. The shift in the understanding of how to manage their borders, physically, virtually, and managerially, has started to offer many opportunities in terms of opening up to the public outside school hours, cultivating potential business-education partnerships, in-service training for people in the industry, etc. The role of the school is evolving in a way to become mechanisms to capture greater value for its students, its collaborators, and its neighbourhood.

To conclude, in this increasingly digital environment, it is necessary that we reimagine architecture as a discipline of thinking and practice ingrained in a dynamically evolving technological ecosystem. It is essential to acknowledge the great affordances that these tools bring while realizing their shortcomings; therefore, suggesting a value-oriented systems approach.

ACademy for Collaborative Urban Development: Students and Shop Owners as Agents for Inner-City Transformation

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The transformative research project ACademy for Collaborative Urban Development addresses structural change in Aachen's inner city through a participatory and interdisciplinary process. The pilot project is a cooperation between RWTH Aachen University (“ACademie für kollaborative Stadtentwicklung”, 2021) and the City of Aachen (“Post-Corona-Stadt Citymanagement”, 2021) within the framework of the Post-Corona City Research Field by the Federal Institute for Research on Building, Urban Affairs and Spatial Development (“Projektaufruf Post-Corona-Stadt”, 2021) and funded by the National Urban Development Policy ("Post-Corona-Stadt" NSP, 2021).The ACademy acts as a platform to activate and qualify city-making actors and initiate new stakeholder alliances on the neighborhood level.

The article presents how the interlocking between research and teaching, networking and empowering, analyzing and conceptualizing, doing and testing, enables rapid learning with resilient synergy effects in times of crises.

In a design studio, architecture students at the chair of Planning Theory and Urban Development teamed up with local shop owners to develop and implement hands-on urban interventions. The aim was to explore the inner-city as a community space beyond mere commercial functions. While students tap into local expertise as the mainstay of their design project, shop owners become aware of their capacity and responsibility for the co-production of urban transformation.

To begin, the students scouted for potential partners in the inner-city of Aachen. A wide range of shops and shop owners decided to participate in the project; an art gallery, an upcycling workshop, specialized independent business, a café and two kiosks. These businesses collectively catered to diverse user groups and encompassed a mix of long-standing and recently established enterprises. The shop owners participated based on a set of qualifying characteristics, such as their strategic location in the ground floor zone and the ability to independently decide on their involvement in the project. Further aspects were a high willingness to collaborate with the students and to enter into the participation process with open-ended results.

The collaborative project took place in the summer semester of 2022, starting with a one-month hospitation period. The students employed empirical research methods such as observation, interviews, and informal conversations to map and analyse the interplay between routines, spatial tactics, and offerings of their project partners. In the subsequent co-production with the stakeholders, spatial and activity strategies were developed to enhance the vitality and identity of the space. For this purpose, scenarios between interior and exterior spaces were designed. As a result, a diverse range of collaborative projects were developed. For example, a public reading with wine-tasting was curated by a bookstore and wine shop and held in a vehicle entry area that was spatially reinterpreted as a small square. Further interventions included independent business owners forming new networks to organize a small street fair on the pavement, providing new and flexible public seating in a pedestrian zone, and applying and caring for a temporary tree installation. An upcycling workshop and a musical company alliance organised a public costume workshop, a green backyard was made temporarily accessible by offering singing bowl sessions, and an interactive art workshop was held both inside and outside of an art gallery. Finally, a board game evening was hosted by a kiosk at the main city square, facilitated through new low-cost, multifunctional furniture.

Through the experimental co-creation format, students were able to utilise their skills and develop competencies in city-making, becoming agents for inner-city transformation. By identifying and communicating the intrinsic skills of shop owners, and linking them to new spatial and public practices at the community level, the students motivated the shop owners to engage in the city-making assignment. As the scope of the interventions grew, balancing practicability and estimated public reception, there was a growing interest in claiming public space, which required formal applications to various city administration departments. Moreover, going public and unlocking new spaces made a broader stakeholder network more relevant, both for accessing preferred locations and bringing in

more resources to support the intervention. For the students, these tasks were closely aligned with their learning objectives and the approach of the chair ("Profil", 2019). By maintaining an unbiased, inquisitive, and innovative approach to both the city administration and other stakeholders, the students were able to cultivate a dynamic and cooperative environment.

Collaboratively, the students and shop owners devised innovative strategies to activate public spaces, while simultaneously forging new networks and alliances among local stakeholders. This transparent co-creation process fostered a low-barrier transfer of city-making knowledge between the students and shop owners, ultimately empowering the shop owners as active contributors to the city-making process and encouraging them to assume the role of agents for inner-city transformation.

By experimenting with small-scale city-making formats, the ACademy has gained momentum as a platform for urban transformation, facilitating and fostering hands-on networking and knowledge transfer between local business owners, students, researchers, and the city officials. The ACademy's stakeholder workshops have become a continuous format to explore how to practice the discourse of collaborative city-making at eye-level in Aachen. The interventions in the summer of 2022 generated valuable experiences for the Academy partners, including the university and city administration, on the feasibility of existing urban development instruments. The hurdles and setbacks encountered in the implementations have been actively acknowledged by project partners in the city administration, who contributed to the projects by more exploratory approval processes. We can expect that the special-use statute in Aachen and local economic development programs will be redesigned in such a way that it will be easier for local business owners to utilise public urban space, that result in an increase in quality for the city centre.

However, involving students has been found to be a crucial factor for the success of the ACademy's urban development initiatives. Students have time for intensive collaboration with local business owners that goes far beyond what public institutions could offer in terms of cost-free consulting support. Not only do students have the time and inclination for open and recurring conversations, but they also bring the university's agenda for a resilient neighbourhood development to the table. As architects-in-training, they are used to approaching challenges in a creative and solution-oriented way. Overall, involving students in urban development projects can lead to more innovative and effective outcomes, and should be considered an important component of co-creative processes.

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Images (from top to bottom):

New network of local businesses produces flexible public seating for the pedestrian zone

(Diana Polanski and Patrick Weiner, PT)

Public reading with wine-tasting turning the driveway into a square

(Anna Gubina and Jana Simmel, PT)

Singing bowl sessions make the green backyard temporarily accessible to the public

(Isabel Kaster and Jessica Skawski, PT)

Repurposing Cody Dock for climate, health and social resilience: a ten-year trajectory

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Introduction

This paper examines Cody Dock, a post-industrial site on the River Lea in East London, as a place repurposed for climate, health, social resilience and knowledge exchange. Over the past decade (2012-2022), several research and teaching projects at the University of Westminster's School of Architecture and Cities have studied Cody Dock's community-led regeneration, river revitalization, and social enterprise approach, interrogating temporary urbanism, climate urbanism, biodiversity, health and wellbeing, co-design and community participation.

Cody Dock: chronicle of a place in the making

Cody Dock is part of a vast regeneration zone including Royal Docks, Canning Town, and Olympic Park. It's in a diverse, socioeconomically deprived area. Thames Water owns the dock, while Newham Council controls the access. Its history covers pre-industrial, industrial, and post-industrial periods, and more recent reclamation and regeneration.

The area moved from agrarian communities to urbanization with the introduction of Victorian Railways. Cody Dock had a strategic location on the River Lea at Bow Creek and was used for the transportation of coal and by-products with many gasholders located nearby. However, it fell into disuse after the switch to natural gas in 1967 and was eventually decommissioned as a port, leading to dereliction. By 2005, it was heavily contaminated and used for illegal waste storage, but has since been cleaned up. Today, the surrounding landscape features warehouses, industrial parks, and cement works, alongside post-industrial brownfield sites, hosting a unique ecology and rare habitats for threatened species.

The repurposing of Cody Dock, led by Gasworks Dock Partnership (GDP) since 2009, aimed to create a sense of place and ownership for locals through community-led placemaking. Simon Myers, CEO of GDP, discovered the site in 2001 while living on a boat on the River Lea. In 2005 he entered a dialogue with the key stakeholder and was offered a 5-year lease which he rejected as too short. Following the 2008 economic crash, Myers restarted negotiations; the time was ripe and he was given a 999 year lease. GDP was formed as a social enterprise first in 2009 and later as a charity in 2011 (Kamvasinou 2017) to transform the site into a working marina and arts hub through provision for moorings for live-in boats, renting artist studios, and restoring access to River Lea. It also aims to educate locals about the area's history and ecology. It undertakes environmental restoration and works with several charities, businesses and individuals so that the place is shaped in partnership. Over time the focus has shifted from temporary to more permanent structures and activities, from music events, film nights, arts and crafts days, to site-specific works for an exhibition space, a therapeutic horticultural classroom and a 'Rolling Bridge', as well as ecology surveys and small-scale projects in collaboration with universities.

In the early 2020s, during Covid19 the place became popular with visitors who discovered it during a time when access to other places was restricted; proving that Cody Dock's slow place-making philosophy allows for unexpected events like a pandemic to be accommodated and to foster new meanings related to health and wellbeing. This incremental approach enables long-term growth to

happen organically and be owned and enjoyed by the community, rather than imposing predetermined plans on the area.

University of Westminster and Cody Dock: a decade of engagement

Our engagement started in 2012-13 with Kamvasinou's Leverhulme Trust-funded research project, Interim Spaces and Creative Use, which studied the long-term benefits of temporarily repurposing vacant land for community and environmental resilience, using Cody Dock as one of the case studies (Kamvasinou 2017). Dean's Liquid Futures design studio project (2021-22) proposed floating reedbeds to boost biodiversity and remediate water contamination, and explored new forms of socio-ecological relationships challenging dominant narratives that prioritize human exceptionalism. The Climate Urbanism Studio led by Verdini (Verdini and Dean 2022) involved students in engaging with local actors, gaining support from communities for climate-related advocacy incl. a video for the UN 'Youth for Climate' conference in Milan, in the runup for COP26 (2021). The Quintin Hogg Trust-funded meta-project on climate, health, and resilience skills brought all authors together in 2022. The ongoing (2022-23) Live Project at Cody Dock, funded by the Quintin Hogg Trust (QHT), led by Kramer and Dean, involves MArch students designing and building a Therapeutic Horticultural Centre for plant propagation and learning for NHS Social Prescribing program patients.

Although done at different times and with different agendas, the five projects intersected through their multi-methods approach, including interviews, documentary filming, site photography and observation studies, site surveys, student projects and site interventions, exhibitions and workshops.

The 6-month meta-project 'Enhancing student readiness for climate, health and resilience projects in the built environment' (2022) was funded by QHT to support learning, teaching, student experience, and social enterprise. The premise of the project was the increased prominence of climate and health challenges in built environment projects, resulting in private sector and local authorities seeking graduates familiar with these issues. These projects typically involve interdisciplinary collaboration, community engagement, data collection and interpretation, and creative visualization for communication with the public, clients, or local authorities. The QHT project explored how this could be done through innovation in curriculum.

We recruited nine participants from diverse courses, undergraduate and postgraduate, such as urban design, international planning, health psychology, law, international development, biological sciences. Multidisciplinarity was also reflected in staff expertise, from psychology to transport, planning, urban/landscape design, and architecture.

Through capacity building workshops on teamwork, multi-disciplinary collaboration, data analysis & visualisation, the students developed related skills which they applied to an exhibition and community engagement workshop exercise at Cody Dock on 20 July 2022. They used data from a previous research project on Green space, wellbeing and Covid19 to produce posters for sharing with the public. They engaged with the community using maps and postit contributions in a workshop-style consultation activity which allowed them to gauge local responses to key themes of health and wellbeing presented through the data analysis and visualisation. Subsequently, we monitored their reflections and learning through a survey to identify the learning curve as perceived by the students themselves.

Conclusion

The five university projects centred around Cody Dock brought different time periods and dimensions of place side-by-side to critique more established understandings of planning as fixed rather than temporal, of ecological contamination as risk rather than agency, of climate change as objective rather than as relational to communities.

Our hands-on involvement, knowledge exchange and co-creation with Cody Dock was enabled by GDP's leadership and openness, which led to repurposing the site into a place of learning. This

experience allowed us to pilot practice-based learning that not only equips students with skills for complex urban projects, but also shapes their values as future urban practitioners.

We conclude that climate, health and socio-environmental resilience projects require cross-disciplinary skills and knowledge exchange between evidence-based research and locally produced experience that, put together, can influence policy towards design and planning of sustainable places.

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New Towns New Tenures

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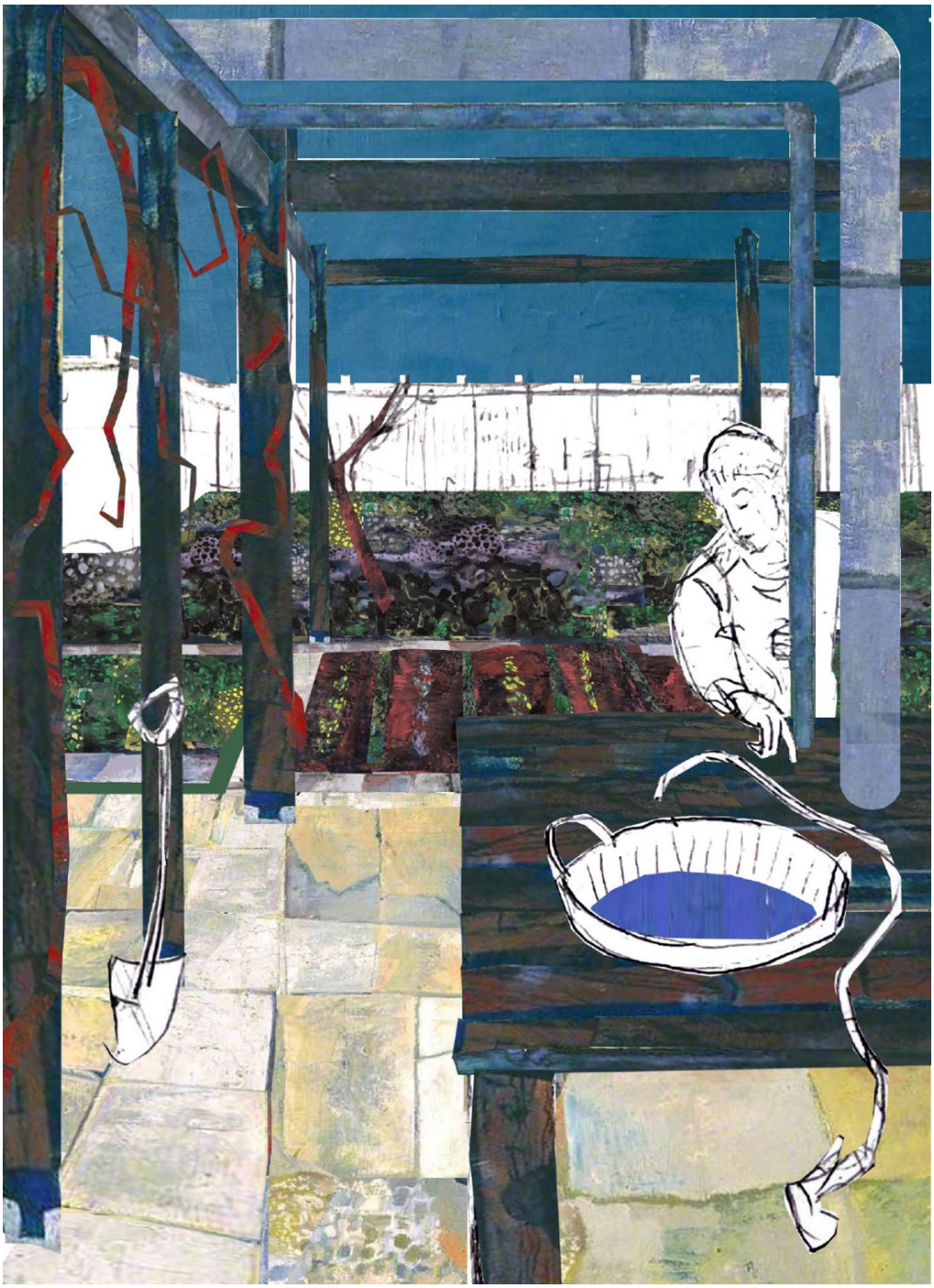
The research focuses on the past, present and future of New Towns in the UK. This is the result of architecture design briefs set at the universities of Cambridge, Kingston, and Oxford Brookes in the UK (2019-2023). It is an ongoing project that concentrates on domestic space, the impact of policy in the design of housing within the context of existing UK New Towns, and the possibility to rethink and repurpose these through new tenures. The resulting work and ideas propose to unravel the organisation of domestic activities and social relations – how they are currently designated and how they could be reimagined.

As is well known, the nineteenth century gave birth to alternative ideologies for housing that involved communal conditions. This was best professed by Ebenezer Howard's Garden Cities of Tomorrow. Whilst critical of utopian ideals, much of Howard's proposals were influenced by socialist philosophies. In fact, the garden city was a response, and therefore a reiteration, of utopian projects, such as Fourier's Phalanstery, Owen's New Harmony, and Godin's Familistère, all of which promoted feminist agendas, and which advocated for common land ownership. However, the consolidation of the Town Planning discipline, which took place shortly after the endorsement of Garden City planning, contributed to the creation of opposite conditions: dichotomies of inside/outside, private/public, home/work, male/other. As L. Benevolo fittingly pointed out in The Origins of Modern Town Planning, *one of the failures when discussing the philosophy and practice of town planning, is that it often fails to address the political, namely the relation between town planning and social and economic planning*. In other words, town planning, in its current form, is an essential instigator of social inequality.

To this end, the study of the New Towns Act in 1946, provides insight to the priorities established by governments at a moment of economic, social and political post-war crisis, consolidated into one piece of legislation in the UK. Jumping forward almost eighty years, the state and market approach to addressing the housing question is the building of new housing, often adjacent to the original boundaries of existing New Towns, located on green-field sites. A case in point is the recent development of Poundbury, a large town masterplan (endorsed by the market and by the Crown) predicated under the banner of New Urbanism as a remedy to the ills of housing estates of the post-war period. Yet, we question whether experiments of this nature come close to expounding the radical quality of those developed back in the 1950's New Towns; and in turn, how can we discern their inherent social and material value instead of leaving them for dead?

Much controversy has been surrounding the 15-min city in recent months. The principle of all amenities of life within a 15-min walk or cycle ride may legitimately concern those who already feel cut out from the possibility to enjoy and participate in places further afield. And so, the 15-min city may feel familiar. A project promoted by the need to respond to environmental pressures to provide low-carbon, low-traffic, neighbourhood-driven places (like Garden Cities, New Towns, or even Poundbury). Yet, it is ultimately within social policy where we will see the direction we are being guided toward—something which has been neglected time and time again in favour of the prevailing market economy. Inevitably engaging with some of these ideas and controversies is the plan for a New Town to be built in Essex throughout the next 20 years. Taking up 715ha of land, the proposed Tendring Colchester Borders Garden Community positions itself as a very real and complex question that will have to balance an unapologetically commercial interest, against environmental and social pressures.



Within our academic design studios, we have deliberately moved away from imagining building New Towns from scratch; and therefore, we are urged to ask whether there is a definition of retrofit that may apply to the outmoded New Towns. The climate crisis clearly demands urgent action to provide solutions to the poor quality, inefficient, and poorly maintained buildings. However, this is only one part of our working definition of retrofit. On the other hand, we consider that retrofitting equally includes embracing new social tenures, and the redistribution of the town as a place of flexible social structures. These will be reflected in housing types that go beyond self-contained houses and flats, which are designed as atomised units to be privately owned by nuclear families. Therefore, we are

considering how existing buildings can be retrofitted and what models of construction and tenure can contribute to diversifying housing types.

Students have engaged with these questions and reimagined the forms of life that standardised housing models market and produce. In doing so, we work alongside colleagues, to dispel hierarchies embedded not just in housing costs and zoning, but in the very layouts and arrangement of homogenised residential units that relentlessly repeat the rooms of the single-family house. Projects take apart the organisation of the standardised house to overthrow strict and imposed definitions of living, working and leisure; while being conscious about how we represent our ideas and the risk of romanticising shared spaces. We do this in a number of ways: by introducing other forms of grouping (outside of the family), and designing spaces that address those that lack recognition, building on the strength of collective subjectivities; by promoting shared ownership models that relieve individuals from the burden of the house as private property for perpetuity; by considering that certain domestic activities and spaces – that are currently considered to be private – can be socialised and shared amongst groups or households (from cooking and eating to gardening and housekeeping); and finally, by introducing spaces of production where residents of a community can share work activities. In this sense, we work towards a notion of retrofit not only understood at a technical level, but at a social and political one too.

Acknowledgments

We are grateful to the University of Cambridge, who has supported our participation in this event, and to the contribution of our collaborator Sam Nelson, with whom we currently teach this brief. We also thank our former collaborators, George Massoud, Emily Priest, and our students (past and present) at Oxford Brookes University, Kingston University and the University of Cambridge.

Image credit: ‘Everything *but* the kitchen sink', project by Isabella Synek Herd, BA Year 3 Studio 4, University of Cambridge 2022-2023

Resuscitating the City - Exploring former hospital sites through Pedagogy and Practice

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At the Mackintosh School of Architecture, our stage 4 students routinely explore public housing within the city of Glasgow. This tradition encourages our students to consider housing at both a civic scale and at an intimate scale, recognising that designing successful housing that is both for the people and the city is one of the most important skills for an architect to develop.

In 2015 four Glasgow hospitals were in the process of closure, the Victoria Infirmary and Mansion House Hospital both located on the southside of the city and the Western Infirmary and Yorkhill Hospital for Children located in the West End of the city. All these facilities were controversially being moved to the new, huge Queen Elizabeth Hospital to the south west of Glasgow, in Govan.

The four sites sat within the heart of existing communities within the city and the closure of these complexes and the resulting potential impact of the sale and future use of these expansive sites was cause for concern for many residents.

Three of the four locations were to be privately sold, with the Western Infirmary already sold to Glasgow University for a major expansion of their campus. These highly lucrative yet architecturally challenging sites with few or no listed buildings on them, provided the opportunity for a tabula rasa approach for developers. It also provided a unique opportunity for the Mackintosh School of Architecture to question this obvious approach and consider themes of redundancy, reuse and conservation.

The Urban housing project runs each year and is a group project that has proved successful in introducing, familiarising and opening up the city for study for our diverse cohort of students. The scope of the project oscillates between the expansive overview through the development of strategic design responses to the intimate scale of a home and the consideration of the character of the place and the community.

The Stage 4 students were presented with these four hospital sites and working in groups of 5 or 6, students were given the opportunity to investigate these challenging locations, the surrounding districts and the wider urban contexts. Discussions around redundancy, reuse and conservation developed as well as an awareness of the social and political impact that these Architectural interventions could have.

Proposals were expected to be strategic in nature but were embedded in an understanding of context and place through extensive site investigations and research into urban form, space, landscape, characteristics of the public and private domain as well as the strategic fundamentals of housing.

Over an 8 week period three student groups developed proposals for the Victoria Infirmary site. This culminated in a Public Forum and Exhibition of all students' work with invited guests from diverse backgrounds including people from the NHS, Glasgow City Council, architects and local community leaders joining over 2 days to discuss and question the student proposals.

The three group projects looking specifically at the Victoria Infirmary site, Street Scape, Trophies and Townscape and De-infirm, all looked to retain elements of the existing structures on site, most specifically the iconic Nightingale Pavilions, balconied wings that marched down Battlefield Road. These structures were not listed however the student groups all recognised the importance of retaining them, both in terms of the environmental impact, but also impact that these architectural elements had in relation to creating a sense of place for the community.

All three groups also recognised the opportunity to connect through the site from Queens Park at the north to Battlefield Cross at the south. This link had existed whilst the Victoria Infirmary was in operation, however years of adhoc development had resulted in the short cut through the site becoming less accessible and unpleasant.

All groups had a variety of apartment sizes, supporting the development of a diverse community, and recognised the need for commercial elements to be incorporated within the proposal. The housing provision across all three projects was around 170 flats (mixture of 1 to 4 bed apartments). All projects used a similar palette of materials including blonde sandstone, brick and glass to connect to the buildings being retained on the site.

The resulting projects were all successful in navigating a topographically challenging site whilst making connections to the surrounding context and supporting adaptive reuse of significant parts of the hospital complex.

Sanctuary Homes, working with Collective Architecture, won the competition to redevelop the Victoria Infirmary site in 2016 with planning permission granted in June 2018, significantly with the retention of the Nightingale Pavilions, the only competition entry to do so. The proposal included 413 flats plus offices, retail and public realm works focusing on improving pedestrian routes through the site.

The proposal recognised the need to create a public route through the centre of the site linking Queens Park to Battlefield. This further supported the creation of a public spine at the centre of the site, which activated the deep site plan and provided new frontages.

The proposed material palette was deliberately restrained and has been selected to respond to the Nightingale Pavilions and the surrounding context. A tonally varied facing brick (predominately grey/buff coloured) was proposed as the primary cladding material for the new build blocks. This reflected the blonde coloured sandstone present in the retained buildings. The introduction of tonally complementary large format metal panels allowed the mass of the new buildings to be broken down and important corners to be highlighted through the articulation of rooflines as a series of lanterns which again drew reference from the design of the Nightingale Pavilions.

What is clear from this comparative analysis of student work and the nearly completed scheme is that the students had a profound understanding of the potential for the site and the key principles that the architects also recognised in their competition entry. The students were able to respond to the existing context, the community needs and challenges around redundancy and reuse to develop strong proposals that were ambitious but ultimately realistic and achievable.

This unique opportunity for students to experience and design almost in real time within a city context shows the power that a School of Architecture could have on the future of cities and if undertaken in collaboration with the Council could provide both rigorous and ambitious learning for students and more considered and thorough outputs within the City itself.

Hackney Wick: Towards a Sustainable De-industrialization. *Empowering live-work strategies for creative industries at risk of displacement.*

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This article is concerned with the implementation of teaching-informed research into academic briefs within the context of Master of Architecture (MArch) degree. It explores the use of informal live-work arrangements as case studies and their development into individual project briefs for a group of 22 students at the University of East London (UEL) working within the Unit 8 design studio agenda during the 2021-22 academic year. The students worked in an area of fast development spanning between Hackney Wick and Fish Island in East London.

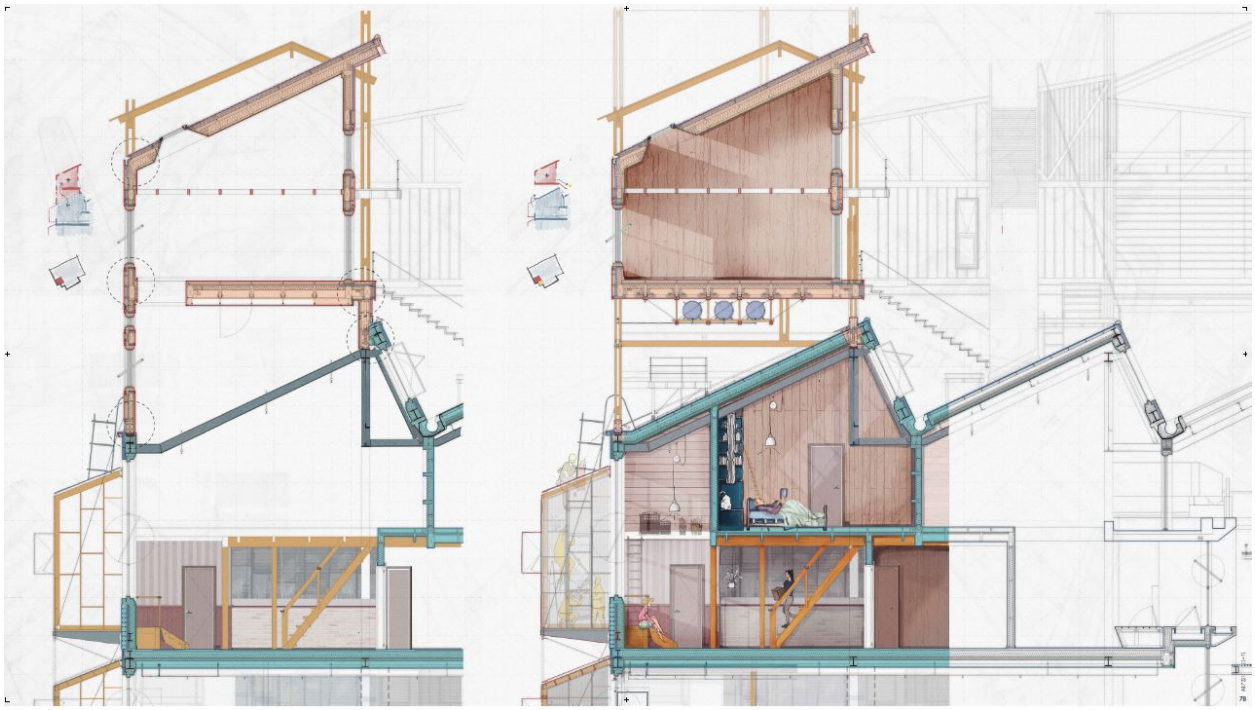
The selected live-work case studies were informed by Richard Brown's 'Creative Factories Hackney Wick and Fish Island 2014' a publication commissioned by the London Legacy Development Corporation (LLDC). This publication provides an overview of the informal live-work communities in the Hackney Wick and Fish Island area at the time.

The Unit 8 design studio has been running for 6 years within the MArch program at UEL. The design studio's agenda perceives architecture as a social and political practice, and therefore promotes mobilisation of architectural thinking and making as a tool to engage with current matters of concern, both local and global. Through different student briefs, it explores how can architecturally design processes be expanded beyond their conventional role and be utilised as tools for a wider social, cultural, and environmental change. The studio looks more closely into territories of spatial and/or social tension and attempts to unpack and address these complex contemporary conditions. By balancing in between identified real-world context, radical imagination and environmental innovation, students in Unit 8 are encouraged to use the identified tension as a main driver for their design proposal.

This overarching agenda set the framework for the Unit 8 work in Hackney Wick and Fish Island during the academic year 2021-22, with the spatial and social tension relating to the fragile social and environmental conditions within which these creative communities at risk of displacement operate. The academic brief presented to the students included the below description of the area, its complexities, and lines of enquiry, alongside a visual presentation.

Once an industrial hub, Hackney Wick remains home to a whole host of creatives; from innovative green industries working with algae to replace plastic to start ups upcycling food and second-hand clothes. Yet, due to new waves of residential profit-led development, members of this unique ecosystem of independent businesses sharing core values of local empowerment, resource sharing and innovation are being displaced at an alarming rate.

During the Covid-19 pandemic, the border between work and leisure became a lot blurrier. And while there is no doubt that more flexible working arrangements will outlast the pandemic, these spatial concepts have been explored and tested at Hackney Wick ever since the early nineties, when the area witnessed an influx of fine artists, designers, and makers. Attracted in-part by the affordable studio spaces and vacant buildings that became available with the decline of the area's industrial past, several small and emerging businesses started using declining buildings to co-create new typologies merging life and work. Yet, ever since the London Plan of 2004 in which Hackney Wick was identified as an 'Opportunity Area' alongside the adjacent site of the 2012 Olympic Games, major development has had little regard for the existing urban fabric or its current creative tenants and their alternative models of inhabitation.



Innovation is not a new concept in Hackney Wick. The area secured its name in London's modern history through the Industrial Revolution of the 19th century. The area's proximity to key rail and canal routes, including direct links to the Thames and the Docks, transformed what was once a hamlet in the marshland to a highly active industrial area. One with an enormous contribution to our materials industry; parkesine, the world's first true synthetic plastic, was invented in Hackney Wick, while the term 'petrol' was first coined in one of the local refining businesses when describing a liquid they produced.

And while the concept of 'decarbonisation' is gaining momentum worldwide, construction industry, responsible for nearly 40% of global carbon emissions, continues to justify using carbon-intensive materials to create structures that last the test of time. Promoting an unsustainable established model which eliminates soil in favour of concrete, it triggers catastrophic environmental event such as the Hackney Wick floods in summer 2021. In a time of two unprecedented buy inherently related global emergencies, one of climate breakdown and another of biodiversity loss, it is becoming increasingly apparent that we need to profoundly change the way we design, resource, construct and consume the world of tomorrow.

How can Hackney Wick learn from its own intricate past and provide grounds for a new zero-carbon industry model, one that is based on alternative live-work arrangements, adaptive reuse, resource efficiency and circular economy? With manufacturing jobs no longer held in factory floors, but in small, dispersed units, flexible digital and making workshops, how do we create production spaces of tomorrow?

Inspired by this academic brief, and using architecture as a form of resistance, Unit 8 students researched and documented unusual ways of creative occupation locally through a variety of mediums, including social and architectural surveys, interviews, and co-design sessions with residents. To formalise and empower these important but still non-formal modes of urban inhabitation, students in Unit 8 developed a series of new live-work typologies and a plan of implementation, leading the path for a new de-industrial revolution for the area.

The work of the students was developed through several co-design sessions with the local residents and businesses and was presented in a public event to the community and wider audience at Grow

Hackney as part of the London Festival of Architecture 2022, as well as at the UEL end of the year show held in central London. The work of the students was awarded with several prestigious prizes for the academic year 2021-22, including the RIBA UEL Silver Medal Nominations (awarded to Ana Paula Kouzak and Mahmoud Abdellattif), the RIBA Radical Sustainability Award (awarded to Pedro Sousa) and the RIBA Skin Thinking Award (awarded to Rashmi Gunathilaka). Some of the Unit 8 students have continued working on their projects beyond the academic context.

Compassionate Living: Societal Transformation in Action

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In the context of unpredictable climate change and its complex systemic impact, this project aims to explore a type of spatial practice that can contribute to a cultural shift towards a regenerative culture. A regenerative human culture is healthy, resilient, and adaptable; it cares for the planet and for life, recognizing that this is the most effective way to create a thriving future for all of humanity. The concept of resilience is closely related to health as it describes the ability to recover basic vital functions and bounce back from any kind of temporary breakdown or crisis (Wahl 2016). At its core, this project aims to investigate the relationship between spatial practice and a mindset shift towards a human culture based on care, planetary awareness, intergenerational well-being, and resilience.

To investigate this complex systemic challenge, we need to acknowledge that regenerative practice is a holistic approach, and spatial practice, the focus of this project is just one part of the larger concept. Also, since society is composed of individuals, a mindset shift must occur on an individual level for meaningful change to happen. Therefore, we must ask ourselves what kind of spatial practice can facilitate a shift towards a regenerative culture in individuals, and what are the key characteristics of regenerative culture in such practices. Eventually, it is relevant to explore how spatial practice is involved in a mindset shift, and how it relates to the holistic approach of regenerative practice. To address these questions, first, a relevant case study and theory are introduced. Second, an example of regenerative culture in spatial practice is introduced as a proof of concept.

The case study is Makvärket, a cultural and environmental collective in Denmark that embodies the principles of regenerative culture. This community project involves working with volunteers and neighbours to transform a former factory into a community space, using local, biobased, and recycled construction materials and methods. The collective culture comprises elements from environmental activism, a grassroots approach to global socio-environmental challenges, a participatory consensus decision-making process, and Non-Violent Conflict Resolution Practice.

The analysis of this case study reveals two critical aspects of the practice: collective principles and transformational emancipatory practice. The former is described by Ostrom's (1990) 8 Core Design Principles, which are a set of guidelines for the successful management of common-pool resources, such as a former factory building in this case study. The latter is characterized by the ideas of Transformational Learning by Mezirow (1978) and Emancipatory Education by Freire (1970). Interestingly, in the case study, the co-creative process is intertwined with the spatial aspects of the project. Transformational learning theory can largely describe the co-creative process of the case study. However, existing learning theories lack a connection with spatial practice. Investigating how spatial practice was involved in the co-creative process was crucial for a better understanding of the case study. This led to identifying connections between social and spatial interactions related to an individual’s internal learning process. My analysis revealed a new spatial typology - the transformational learning space - that goes beyond traditional auditorium and interactive seminar environments. This is an important discovery since this typology of learning space is the most effective in transformational learning, as supported by reflection on the transformational learning theory and the case study analysis.

The co-creative building workshop served as a trial ground for spatial practice, testing the hypothesis that incorporating Core Design Principles, merging social and spatial interactions in a transformational learning space, and facilitating through principles of emancipatory education can lead to a mindset shift among participants towards a regenerative culture. The workshop provided a proof of concept in the form of a small strawbale house, built during a series of workshops with a multiethnic group of

volunteers (approximately 60 participants from 25 nationalities), allowing the researcher to bridge theory with practice. To further analyze the workshop, it was necessary to reflect on how co-creative spatial practice contributed to a mindset shift.

Reflecting on the Core Design Principles, the workshop culture was based on a shared identity around co-designing a small house for a local sustainable living model, and a collective purpose of developing hands-on building skills. The workshop organisation can be described by participatory decision-making, and collectively agreed on behaviours, with self-monitoring in the group. The rewarding and penalising of behaviours were settled in an implicit social value of the individuals in the group. In the case of misconduct, Non-Violent Conflict Resolution Practice was used. Since part of the group had lived experience in a co-creative regenerative culture practice at Makvärket, the learnt mindset was dominant in the social environment and was taken on by newcomers through implicit norms. Transformational learning was part of the daily social and spatial interactions at the workshop, because of the different levels of skills, experience, and socially dynamic co-creation process. Facilitation was guided by space-holding practice as an emancipatory framework for safe self-expression, participation, and handling of difficult topics in the group.

This project explores a spatial practice that contributes to a cultural shift towards a regenerative culture in the context of unpredictable climate change. The author argues that a regenerative culture is healthy, resilient, and adaptable, caring for the planet and all forms of life, which requires a mindset shift towards intergenerational well-being and planetary awareness. The project investigates the relationship between spatial practice and this mindset shift, using Makvärket, a cultural and environmental collective in Denmark, as a case study. The analysis of this case study reveals that a co-creative process intertwined with spatial practice can facilitate a shift towards a regenerative culture in individuals. The author identifies a new spatial typology - the transformational learning space - that goes beyond traditional learning environments, which proved to be effective in transformational learning during the building workshop. The workshop served as a proof of concept that incorporating Core Design Principles, merging social and spatial interactions in a transformational learning space, and facilitating through principles of emancipatory education can lead to a mindset shift towards a regenerative culture.

This project concludes that co-creative spatial practice in the transformational learning space has the potential to shift an individual's mindset towards a regenerative culture, which in turn, contributes to a human culture based on care, planetary awareness, intergenerational well-being, and resilience.

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Social & Environmental Reconnection through Regeneration_Australian design Studio examples

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This paper discusses the framing and student response to a series of Architectural Masters design studios in Adelaide Australia in the Masters of Architecture (equivalent RIBA Part 2) program at the University of South Australia. The studio advocates that Architecture delivers greatest social resonance at the scale of the everyday, and the greatest environmental performance when it works in symbiosis with the natural world. These themes of Environmental Performance and Social Performance are brought together within a Regenerative Design approach on an urban site within 5kms of the city centre of Adelaide (approximately 800,000 in population).

Across three consecutive years of iteration of this studio exploration, three different sites around the perimeter of a quality open space have been used as the site for the student design task. The open green space was subject to significant public investment and upgrade ten years ago, including site engineering for water catchment, treatment and aquifer storage. Thus the green open space presents a high water mark for both environmental systems and public amenity which the students are encouraged to leverage in their designs. The three sites selected around the park perimeter are all owned by the local council. In 2021 students use the site of an existing child care facility and their brief required replacement of these services plus additional civic program. In 2022 students used the site of an existing community garden and their brief required retention of the growing space plus additional civic program. In 2023, students are using a carpark site being repurposed with the same requirements of civic program, and an additional component they propose within guidelines of a performance brief maximising social and environmental performance outcomes. The surrounding area is both light industrial and residential in its fabric. Two parks are linked by a waterway running like a spine between them. In the redesigned upgrade the pace of water has been slowed, and in addition to the engineering works for water capture, filtration and retention, the public access and amenity has been thoughtfully considered.

Through a focused set of embodied learning themes across multiple scales; in an individual, community, city wide and natural systems context, the brief across the three years has encompassed a civic function and challenges students to design both a system of (social) soft infrastructure and the built infrastructure that supports it. The approach to both social and environmental resilience is informed by a systems focus across multiple scales (Walker & Salt 2012, Walker 2019, Elizabeth 2018, Daniel 2017, Vale & Camponella 2005), encouraging distributed power sharing and engaging the agency of local community. This approach seeks to enable and support the ability of a community to respond creatively to change or shock and mitigate against adverse affect. The framing of the studio also draws from international precedents of London's Participatory City and other social systems innovations with spatial implications (e.g. Manzini (2008) Collaborative Services ,Manzini & Staszowski(2013) Public and Collaborative). The civic aim of the brief is to deliver an invigorated collaborative community centre which offers a cluster of spaces with programs for communal gathering and social benefit, whilst also offering all ages learning about sustaining the environment and acting respectfully in celebrating the natural systems we live within. The facility thus aims to provide social connection and embodied learning about our connections with nature for a range of ages, through program including commercial kitchen, a movement studio and specialty libraries and workshops for learning and skill sharing, as well as quality outdoor gathering areas.

Some student work from 2022 is presented in the following.

Fong Hu Tang (2022 Arch 4033)

This student wanted to ensure the additional program he proposed would catalyse a virtuous cycle of exchange of material which in turn might prompt serendipitous encounter for people involved in the activity. This proposition strategically supported both social and environmental resilience. Kitchen waste would be re-valued in a composting program that informed a soil library, which in turn provided material for a pottery studio. Objects created in the pottery studio would be available for use in the kitchen. This virtuous cycle aimed to extend to interactions and exchanges between people as well as materials. In parallel the physical fabric of the open space on site was designed with multiple modes of use and user groups in mind demonstrating a mature approach to knitting both social and environmental performance aims with attention to differing scales of operation and user experience. As demonstrated in image below, at the macro scale the open air stairs double as a giant sundial, at the meso scale as provision for an open air theatre, and at the micro scale as ramps for disability access and play for children studying gravity and water movement.

Thomas Queale (2022 Arch 4033)

Thomas took a focus on cycling and the existing infrastructure of pathways connecting different users to the open green space. His additional program speculations included a proposition that encompassed utilising a second council owned site in delivering his vision which expanded the speculative additional program to include elements of facility that could also contribute income to offset the public program expenses. Thus the economic operations were thoughtfully considered to underpin the social and environmental resilience aims.

Jacob Nunes Vaz (2022 Arch 4033)

Jacob's research revealed a youth demographic that were under served by council services and infrastructure. He proposed a staged approach to the redevelopment. Noting the community garden members highlighted the absence of public toilets as an issue, Jacob proposed a stage one provision of a skate park overlapping the adjacent carpark to engage the younger demographic in the area. A strategic choice to install adjacent public toilets to serve the existing community garden members and the public, was also designed to capture toilet waste as digestate to be utilised in making bricks which would contribute to the materiality of the stage 2 and 3 facility design. In addition a travelling toilet block for festivals would harvest further digestate whilst further promoting awareness of environmental systems, waste and recovery. This scheme combined strategic intent in environmental resilience; staging the development and waste recovery to reduce material footprint of the development- whilst simultaneously supporting social resilience; engaging an underserved group, and long term engagement of multiple users to feel they were contributors to the built fabric of the development- enhancing attachment and building social cohesion and community relatedness.

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Modern Greek cities: Investigating the relationship between obsolescence and sustainability

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The relationship between obsolescence and sustainability is a theme which has been addressed repeatedly in the academic circles. Its re-evaluation has been the subject of several diploma thesis projects and postgraduate research projects of our students in the School of Architecture at the Aristotle University of Thessaloniki. This paper briefly presents 2 diploma projects and 2 educational briefs which discuss the link between environmental and social resilience.

1. The evolution of Mesaoria, the largest valley in Cyprus, is linked with the history of the island. Initially submerged under the sea, was then transformed into a forested area. Copper mining and shipping activity led to the harvesting of the forests. It became the grain field of the island and a travelling place, where caravans with animals transported goods from the coasts. In 1974, life in Mesaoria was interrupted. A 180 km long Buffer Zone divided Cyprus geographically and socially. Natural and artificial landscapes, however, remain as traces of the past between its boundaries. Could these landscapes, re-designed, become the foreground of social interaction in a cohesive ecosystem?

Today 146 United Nations' observation points define the Buffer Zone from east to west. The diploma project by Andreas Yiangou explores the touristic potential of the hinterland by transforming these observation posts from control points to social condensers, aiming to redefine the human-nature relationship and reactivate the dormant land along the Buffer Zone.1 The boundary of the zone is folded, thickened and thinned, and despite its fluidity it always remains impenetrable. The 'veil' becomes a synthetic tool interpreting history, functioning environmentally and permitting coexistence. Variations in materiality and form of the "veil" redefine the observation posts and create a unique atmosphere for the visitor and the appreciation of the landscape. Nicosia Airport, which stands derelict as observation point 203, is transformed into a hotel. A once upon a time starting point for a trip around the world becomes now the starting point of an experiential journey in time.

2. Ptolemais Thermal Power Station -the first station of electricity nationwide- was created in 1954. Its operation was discontinued in 2014, after a fire, leaving behind a gigantic industrial ruin. Power stations are a special category of buildings, concerned with humanity, as they have been spaces for generating power, spaces with environmental risk, politically claimed spaces and labour models. They are not merely machines for production, but they express humans' desire to evolve. Many of them have been abandoned, due to industrial decline, changes in technology and the shift towards renewable energy, becoming remnants of the "machine culture".2 London, a city with 28 stations along Thames, has a large stock of power plants and examples of reuse.

The diploma project by Vasiliki Kasviki deals with the conversion of an inactive power station into world-class film studios, unique due to the architectural features of the facilities and the extraordinary landscape of lignite mines. The power factory is transformed into a film "factory", by assigning new meaning, reinforcing historical memory, introducing nature into a purely industrial environment and restoring landscape. The land and the building receive the new use, while functioning as exhibits of themselves. This project respects the value of the complex and through its re-use and the provision of a new public space, it proposes a critical approach towards the future of the architecture of power.

3. The Modern Greek city can be briefly described as a cohesive centre with 'canyon' roads, dense urban blocks, minimal courtyards or squares, low percentage of green and a characterless surrounding conurbation. In the historic centre of Thessaloniki, in particular, the surface of public open spaces is

highly insufficient, reaching merely a 20% in total.3 The need of activating urban voids -currently occupied by parked cars- and integrating them in the green infrastructure of the city has been a main concern at the Architectural Studio I, of the Postgraduate Program 'Environmental Architectural and Urban Design'.

The aim of the studio is the reclamation of a 2,088sqm brownfield area, adjacent to the 'Aigli' Baths, on Kassandrou Street. The area faces sideways the basilica of Saint Demetrios and is located at the highest point of the Aristotelous axis. Today it is used as a parking space, while a small part of it remains a fenced plot with wild vegetation. Students are asked to analyze and estimate environmental conditions and the natural element, to design an exhibition pavilion for Hébrard's work, as well as redefine its surrounding environment so that it acquires the character of a Square with conditions of climate comfort. From the early stages of design, environmental analysis tools allow students to simulate the performance of their proposals. Elevated platforms, roof gardens, amphitheatrical levels take advantage of the unobstructed view to the sea and Mount Olympus, dealing with accessibility for all, reinforcing social interaction, while fluid ribbons, robust prisms of rammed earth, ethereal transparencies and organic surfaces create potential landmarks which complete the most important historical axis of the city. This open space, retrofitted into the urban area, fulfils two different but also complementary roles. It allows the presence of nature in the built environment, adjusting the city's microclimate and bringing people together with nature.4 Secondly, it is a social space, a place of human activity, concentration and transition.

4. The apartment building model was developed during the interwar period and defines today the image of the modern Greek city. Socio-economic, technological and environmental criteria have heightened awareness on the increasing presence of an obsolete building stock -no longer functional or desired. The current Greek urban planning policy of demolition - densification - reconstruction raises questions. The alternative perspective for the upgrade and adaptive reuse of these city fragments, in a holistic approach instead of the current partial exploitation of random units and their renovation into short term housing facilities for private profit has been addressed by the educational brief of our second postgraduate Architectural Design Studio.

The redesign of a multi-storey office building in Ladadika, next to the port of Thessaloniki, which was erected in 1964 is the main theme of the studio. Apart from remodeling the building's shell and its interiors, a change in its use and its reintegration into the industrial character of the area, emphasis is placed on the evaluation and assessment of the environmental behavior of each proposal [before and after] using simulation programs. Different scenarios include horizontal zoning with shops, offices or residences, alternative models of cohabitation which strengthen the notion of community5 and redefine the post-covid role of housing, additions in height, subtractions of the mass, innovative and agile façade solutions, increase in common and semi covered spaces, access to the inner courtyard. The environmental analysis, in one project in particular, led to the vertical division of the building into two zones: one providing free use of the commons by citizens and the second one for collective housing. A vertical buffer void in-between them was created to bring the inhabitants to the city and the city to the inhabitants.

This wide-ranging architectural obsolescence presented calls for a more inclusive approach to sustainable and social policies that consider the value of creative architecture design. Sustainability - both in its environmental and social sense- is considered as a structural tool of synthesis, as a mode of thinking that should govern any design process. In light of environmental and social crises, architects aim at designing better built environments for people and the planet. Focusing on the quality of our environment and the behavior that it stimulates is important in order to ensure our quality of life. Architecture has the ability to repurpose space, add new meaning by breathing new life and promote new ways of thinking, so that something that is about to disappear can survive in an environmentally and socially responsible way.

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Placemaking and the Urban Living Lab for students' social learning and innovation in education: The case of Heerlen.

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Introduction

The neighbourhood GMS in Heerlen-Noord, the Netherlands, is currently struggling to overcome its socio-urban challenges due to the historical context. Placemaking and Urban Living Labs as concepts both offer potentials to address the current socio-urban challenges, by explicitly involving students. In fact, this paper shows that while drawing on both including an inclusive co-creation process and co-designing a local intervention in place, local transformation can be experimented with as aspired by the community. Hence, providing an alternative spatial planning approach for urban contexts with extreme social-cultural conditions. The paper also shows the relevance of ULLs as an infrastructure to accelerate urban transformations as well as facilitate innovation in education that encompasses the four components of the social learning theory by Wenger (1998). As such, it addresses practice more appropriately and enhances student learning through transdisciplinary collaboration among urban stakeholders involved and by connecting education, research methods and questions, and real-life socio-urban challenges.

Context

The neighbourhood GMS in Heerlen-Noord, the Netherlands, is one of the 16 Dutch neighbourhoods that are assigned by the National Government as neighbourhoods that need extra focus to livability and its socio-economic urban challenges, such as energy poverty, low literacy or cultural diversity (Ministry BZK, 2020). In Heerlen, this mainly revolves from its local historical context, i.e. coal mines closure in the 60s and consequent socio-economic urban challenges such as poverty, unemployment, aging and drug related nuisance leading to a strong negative image. One building block, the Aurora flat (see figure), is a social housing unit of 228 dwellings ranging from over 60 nationalities that recently has been renovated and finished with the largest artistic mural in Europe. This development aligns with the present development perspective of the municipality to enhance the social quality of the urban environment by emphasizing culture and arts, while in parallel enhancing its local identity in link to its distinctive local qualities.

Conceptual framework

According to Marrades et al. (2021), placemaking emerged as a response to the failure of other planning approaches for its capacity to respond to urgent short-term needs of the local community and serve as a direction to the long-term structural transformation of a location. Placemaking is defined as an incremental way to improve place quality over a long period of time with context specific small-scale activities (Wyckoff, 2014) by responding to demands of the local community. Urban Living Labs (ULLs) are a suitable infrastructure to organize the above as they facilitate collective learning and exchange of ideas about the built environment (Blezer and Abujidi, 2021). ULLs can also provide a learning arena for innovation with community actors (Liedtke et al., 2015) by emphasizing the importance of local lived experiences and everyday encounters for transformation in context (Fincher, Pardy and Shaw, 2016).

Within this background on the need for actions on local scale while having sustainability goals on higher scale, it is important to develop the needed knowledge, practice and expertise to achieve the above. In fact, it requires new forms of education and pedagogical tools that enable future students

and professionals to deal with rapid changes, increasing complexity, criticizing knowledge and uncertainty (Lotz-Sisitka et al., 2015), also in and during the built environment transformations. To that end, higher education plays a crucial role because they are locally rooted and globally connected (Purcell et al., 2019) having in mind the connection to the SDGs that call to educate location-aware global citizens (Verhoef et al., 2019; Trencher et al., 2013; Cilliers et al., 2017). The social learning theory therefore gained renewed interest in education as learning takes place via accumulated knowledge, and (inter)personal and vocational professionalization (Wenger, 1998) in an environment where collaboration, critical thinking and co-creation are centred (Stern, 2014).

Social learning theory describes 4 elements arguing that engagement with social issues is fundamental to how learning takes place and how people become who they are (Wenger, 1998). In this way, student learning has more impacts because their personal and professional development takes place within and is intertwined with locally relevant societal issues (Lave and Wenger, 1991). The elements are:

1. Learning as belonging; students are part of the ULL-community; they learn within and with the local stakeholders and community actors.
2. Learning as becoming; students collaborate with the ULL-community to develop their own work identity relative to other disciplines.
3. Learning as experience; students learn by working on real-life societal issues in a local context. The context makes learning and working meaningful for students.
4. Learning as doing; students learn to take initiative and responsibility regarding the societal issues and the ULL-community to gain knowledge and skills and reflect on their own as well as other disciplines.

Results

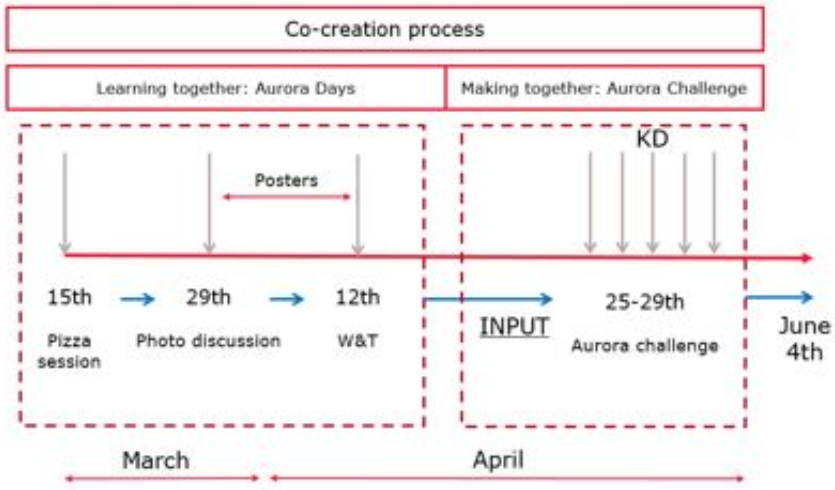
The Aurora flat courtyard is a parking lot (see figure). The housing association Wonen Limburg and Smart Urban Redesign research center (SURD) developed a co-creation process to identify residential needs and wishes to transform the courtyard into a climate adaptive, circular and communal space that supports the inhabitant in their daily lives and activities. In this process both learning and making together as part of co-creation (Puerari et al., 2018) are outlined in the Aurora Days and Aurora Challenge. SURD organized diverse encounters and design challenges with the local community to co-create, co-design and transform the parking lot since March 2022 (see figure).

The Aurora Days were an informal pizza session, photo group discussions and Walk & Talk sessions. Respectively, these served 1) to get to know the inhabitants and for them to get familiar with the SURD students and staff, 2) to gain insights into eight different locations around the area that concerns, both positive and negative, the community and that were emphasized by the community during the pizza session, and 3) to enhance understanding of the context with urban experiences. In the photo discussions and W&T-sessions, activities were centred around target groups, i.e. children, elderly, mothers, singles and migrants. All sessions were coordinated by a Built Environment and an Occupational Therapy intern at SURD and were supported by researchers and teachers.

The Aurora Challenge was an extra multidisciplinary design week held on location. Four international and interdisciplinary student groups worked for one week on the design challenge to translate Aurora Days insights into a local urban interventions and design scenarios for the courtyard. The students ranged from first year BSc to second year MSc level and came from the Netherlands, Iran and Germany from the Built Environment, occupational therapy and nursing disciplines.

On June 4th, Wonen Limburg opened the new Mural festively since postponed before due to COVID19-resitrctions. At the same moment, students from the Aurora Challenge presented their final design and a first circular urban intervention was done by support of the local vocational education

who made circular furniture that was suggested in earlier versions of the Aurora Challenge designs. Currently, the impacts are being monitored and followed-up on by a MSc Architecture intern at SURD who lives in the Aurora flat.



Conclusion

The Aurora flat and ULL Heerlen-Noord experience has shown 3 main lessons.

First, the ULL functions as an alternative spatial planning and mapping approach to govern local neighbourhood development in and for collective learning about a context of extreme urban and social conditions. Indeed, and according to the philosophy of placemaking, drawing upon local urban complexities for value creation to the community.

Second, the ULL has proven to function as an educational infrastructure that connects societal issues, research questions and education across various levels to enhance social learning among students,

and also, local stakeholders. Consequently, creating meaningful experiences and personal and professional growth among involved parties, most importantly inhabitants and students themselves. Thus, the ULL as an educational infrastructure is capable of operationalizing and fulfilling the social learning theory potentials.

Third, the ULL setting has proven to function as a kind of platform for local stakeholders that is able to respond to short-term urgent needs, while at the same time, providing design scenario's and imaginative references for long-term future prospects. As such, to function as a tool to outline placemaking processes and interventions that go beyond the design phases of urban development and explicitly experiment to collectively learn about local urban development and contexts.

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Retrofitting The Welfare State's Suburban Building Culture - discussing values.

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Introduction

The building culture of the Danish welfare state is facing radical transformations. Changes in climate, demographics and in types of households (Bech-Danielsen et al., 2021) place new demands on our built environment. According to IPCC March 2022 (Shukla et al., n.d., p. 35), the Western world largest mitigation potential lies in transforming the existing conditions using a minimum of new building materials. The single-family housing areas are part of our collective building history, and accounts for 44% (Danmarks Statestik, n.d.-a) of the existing Danish housing stock even though only 15% (Danmarks Statestik, n.d.-b) of the current population consist of households reflecting the typical design of a detached house; a family off 4-5 people. These developments take up extensive land cover, and account for a significant portion of the housing's CO2 emissions, while having only few occupants per m2.

So how may single-family housing areas from 1960-1975 serve to mitigate climate change while still providing a foundation for adequate living conditions? And in the process, how do we best take care and develop the cultural heritage that these neighbourhoods represent?

Sixty four (64) master's students at Cultural Heritage, Transformation and Conservation studied a single-family housing area; ARCHIBO II; developing projects transforming the neighbourhood, the plots, and the existing houses. Crucial to the assignment was that the transformations reflected the existing characteristics, based on survey, analysis, and valuation. Each project included an assessment of how the plot and the neighbourhood could contribute mitigating climate change, increasing biodiversity, reducing the environmental impact, and supporting a future within the planetary boundaries. All records of planning applications and decisions were reviewed for all 94 houses and plots, to gain knowledge of modifications since their construction in 1970. Since the neighbourhood is now over 50 years old, it would be possible to submit a proposal for its listing. Considering the theory of architectural conservation up against the significant planning projects of this period, the standpoint of Viollet-le-Duc 'To restore a building is not to preserve it, to repair, or rebuild it; it is to reinstate it in a condition of completeness which could never have existed at any given time.'(Viollet-le-Duc, 1875, p. 9) raises the question of defining if 'the complete state' of the welfare projects is of relevance to future transformations. The juxtaposing stance; 'Do not let us deceive ourselves in this important matter; it is impossible, as impossible as to raise the dead, to restore anything that has ever been great or beautiful in architecture' (Ruskin, 1903, p. 242), Ruskin's intention points towards the ruinous state of the original work of art. Whereas Muñoz Viñas position: 'The principle of sustainability in conservation mandates that future users should be taken into account when decisions are made. […] Contemporary theory of conservation calls for 'common sense', for gentle decisions, for sensible actions. What determines this? Not truth or science, but rather the uses, values, and meanings that an object has for people' offer a broader understanding of the 'object'. (Muñoz Viñas, 2005)

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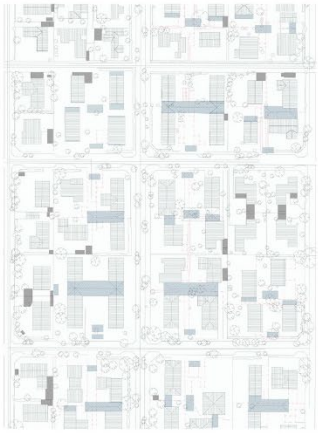

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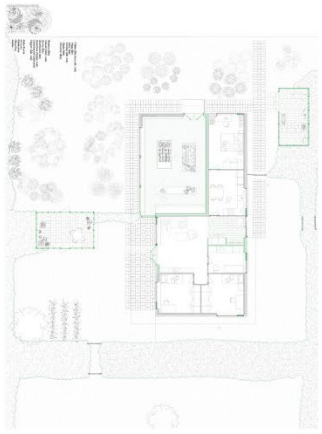

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Analysing the transformation-projects the strategies initially fall in 3 categories: Retrofit, Addition and Reuse.

Retrofit House – Insulation - Cecilia Riis Solberg (Fig. 1)

When valuating the single-family house this project emphasizes the original exterior and retrofits with minimal internal wall- and attic re-insulation. The project, aiming to 'repair and remodel' avoiding through 'gentle decisions' the decay of an ordinary single-family house.

Retrofit Plot - Subdividing Garden - Julia Fors (Fig. 2)

This project suggests retrofitting the plot by subdividing the private garden maintaining the typical hedges and simultaneously downscaling the number of m2 per resident in the existing single-family house. Responding to the 'rebound effect'(Gram-Hanssen, 2022), that even if the energy-efficiency per m2 has improved over the past 30 years, the total consumption hasn't, since the number of heated m2 per resident rises.

Retrofit Neighbourhood - Fauna passages - Dante Carlson (Fig. 3)

On the larger scale wider hedges could partake creating green corridors and fauna passages retrofitting the entire neighbourhood valuating the distinctive perception of this period's neighbourhood, thus shifting focus from the 'object' (Muñoz Viñas) towards the connectedness of the milieu; consequently, challenging the extent of what to consider.

Addition House - Communal Spaces - Mattis Lande Esdaile and Mathias Overgaard (Fig. 4)

Adding communal spaces connecting by elongating the existing volume, hence adding to the programme of the single-family house, questioning, quoting Muñoz Viñas: 'the uses, values, and meanings that an object has for people.'

Addition Plot - Reusing concrete block paving as building material - Fillip Ivarsson (Fig. 5)

Reusing concrete block paving as building material adding new space opening towards the street thus opposing the present status of the borderline between private and public domain.

Addition Neighbourhood - Adding Communal Space - Mattis Lande Esdaile and Mathias Overgaard (Fig. 6)

Adding communal spaces joining plots on a larger scale altering the principle of private ownership on each single plot, testing the identity of the 'original work of art' (Ruskin).

Reuse House - Business Premises - Dante Carlson (Fig. 7)

Reusing by subdividing the single-family house between business premises and home, this defies the initial mono-programme and thereby possibly testing the 'meanings that an object has for people' to quote Muñoz Viñas.

Reuse Plot - Reprogramming Square of Plots - Oliver Prag (Fig. 8)

Reprogramming a quare of plots involving16 single-family homes – converting the private ownership into a housing association, creating a green common with a center of dense forest and a car-free zone, whereby testing the initiate relation between house and plot.

Reuse Neighbourhood - Green Public Areas - Clara Martens (Fig. 9)

Respecting the private ownership and shifting the focus toward the public areas by reprogramming the streets into green zones and car-sharing.

If these multi-faceted and interconnected approaches can be seen as examples of retrofitting strategies to support mitigating the impact of these neighbourhoods, it calls for a broader approach towards conservation. The original large-scale projects of the welfare state combined with the proposals, challenges the perception of 'the complete state of the building' (Viollet-le-Duc), and 'the great or beautiful in architecture' (Ruskin). To some extent Muñoz Viñas 'principle of sustainability in conservation mandates that future users should be taken into account' embraces a more open understanding of the object in question.

Nevertheless, it leaves out the question of planetary boundaries that includes the notion of a non-human gaze when working with conservation. Donna Haraway, advocates for Sympoesis and explains: 'Sympoiesis is a word proper to complex, dynamic, responsive, situated, historical systems'(Haraway, 2016, p. 58) and adds 'a basic aspect of sympoiesis is its expandable set of players´(Haraway, 2016, p. 65). The manifold local necessary adaptions evade a one stringed theory or valuation model and calls for making kin with up until now unknown entities. The Danish official criteria for listing and conservation SAVE (Høi & Stenark, 2021) and SAK (Ostenfeld & Morgen, 2018) tends to embrace notions of architectural style, originality, and region-specific characteristics, contrasting the generic repetition of the Post-War building culture. UNESCO emphasizes that 'Bringing culture into environmental policies, can incorporate communities' practices to construct tailormade solutions for climate mitigation and adaptation strategies. Climate change is reshaping the entire policy landscape´ (UNESCO.org, 2021).

The existing theories for valuation of our building culture is not adequate when facing a future that demands radical changes. The idea of Sympoesis could push our understanding of the complexity of making kin, human or nonhuman, when valuating our built environment whilst considering a common future. To meet these challenges, it is crucial that our criteria for conservation attunes these multi-faceted interests.

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Urban Landscape Remediation and Social Resilience: The case of Larissis Station in Athens

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Introduction

One of the important issues that planning has to deal with is social resilience (Keck & Sakdapolrak, 2013) in economic and environmental crises, which ultimately increase inequalities and isolation. Social resilience presupposes the strengthening of social ties, to which architecture and urban planning can contribute, by creating spaces that favor the gathering and expression of people and social groups, without discrimination and exclusion, spaces that give citizens the opportunity for contact with nature and the sensory pleasure of it.

During the previous academic year, our teaching team ran the interdisciplinary 8th-semester course of Landscape and Urban Design, focusing on the issues of sustainability and resilience, through the repurposing of a large infrastructure project. The students were asked to design an urban park on the site of the Central Railway Station of Athens, after its future undergrounding. This paper concerns the useful conclusions drawn from this pedagogic process.

Cultural context and urban fabric

The 10 hectares site contains the city's two historical stations (fig. 1): the old Peloponnese Station (1884), and the Larissa Station (1904), which has been for 130 years the main entrance to the capital from Central Greece, the Balkans, and the rest of Europe. It has been a major element of cultural heritage, and an essential factor of Athens' urbanization, but also a "rift" in the urban fabric that segregated the surrounding neighbourhoods. The area east of Larissa station, through its touristic infrastructure and services, introduces travellers to the historical core of the city, but it is in an ongoing decline that intensified during the years of the financial crisis and the recent pandemic. The western part is disconnected from the city center, because of the station, constituting a typical neighbourhood of middle - low-income strata with light manufacturing uses which in recent years have also been in decline.

The wider area, like the city centre itself, lacks open and green spaces and suffers from environmental problems, such as the heat island phenomenon (fig. 2). Thus, our initial choice was to manage the regeneration and remediation of the site, through the design of an urban park, which could contribute to the improvement of the microclimate, and the social and functional stitching of the surrounding neighbourhoods, that finally contribute to the strengthening of social ties and Social resilience.

The first phase of the project was about the recording and mapping of the area, using objective and subjective observation techniques, to highlight the social and spatial characteristics of the place. In order to stitch the disconnected neighbourhoods, we introduced students to Syntactic analysis methodologies. (Hillier & Hanson, 1984)

The students were then asked, to propose a Master plan, introducing new uses to the park and the historical buildings, stitching the two areas on either side, managing the greenery, the water, and the ground relief, recycling the existing elements, and applying porous and pervious paving materials.

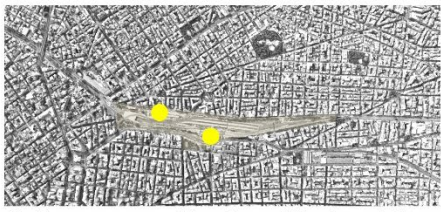


fig. 1 The site and the two stations

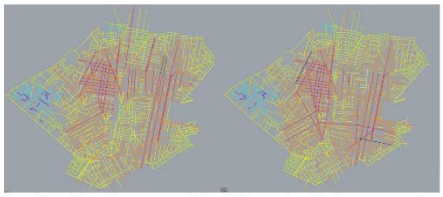


fig. 3 Axial maps with different stitcing senarios

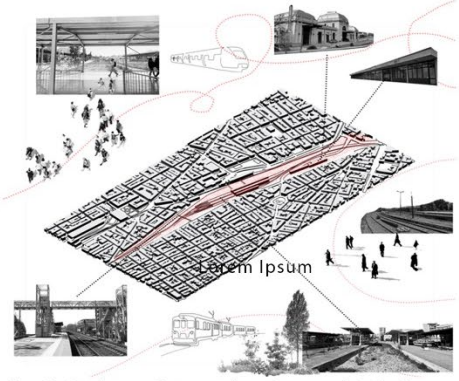
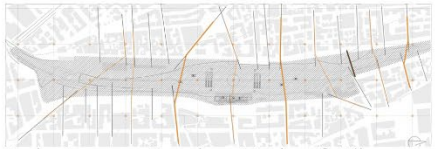


fig. 2 Students: Fotopoulou, Samartzi & Stylianou



Students: Krouskou, Maglara & Oikonomou

fig. 4 Stitching and new spatial forms

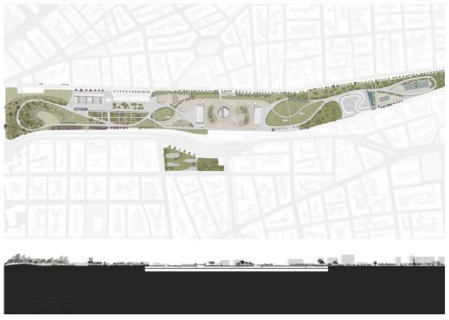


fig. 5 Students:Anastasiou, Georgiou & Mamatsi

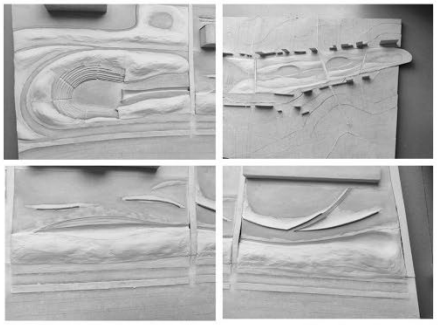


fig. 6 Up: Anastasiou, Georgiou & Mamatsi
Down: Aggelaki, Apostolatou & Daskalaki

fig. 7 Students:Aggelaki, Apostolatou & Daskalaki

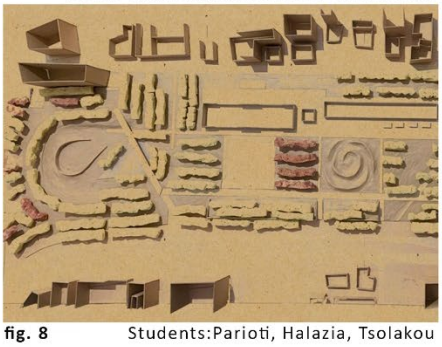


fig. 8 Students:Parioti, Halazia, Tsolakou

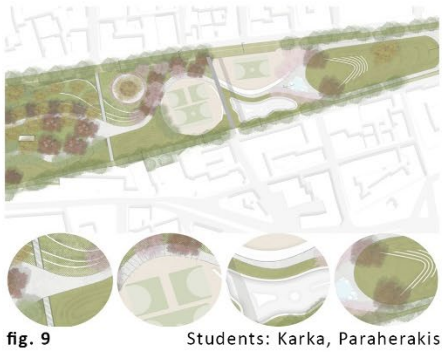


fig. 9 Students: Karka, Paraherakis

The next phases were developed as follows:

Stitching

Urban and Social stitching was based on Syntactic analysis, which highlighted mainly the segregation of the declining east area, with its small dead-end roads and barriers. In an axial line system, stitching scenarios were tested in order to reveal the most integrated axes to connect the surrounding areas (fig. 3). Maps evidenced the significant change in the integration of the total area, which would enhance pedestrian movements in the future, increasing the presence of people and therefore co-

presence and interaction between individuals and social groups, which is the precondition for the development and strengthening of social ties. (Gehl, 1986)

By experimenting with stitching (fig. 4), students were guided to define the range and the shape of the different spatial entities, their articulation, and their relation to the function of the station and the wider urban fabric, in a coherent narrative – the proposed Master plan (fig. 5). They proposed uses related to structures of social solidarity in the wider area, collective urban farms, cultural infrastructures in the open spaces and existing buildings as well as recreational uses for different age groups.

Ground and micro-topography

Working with the ground became the mechanism for reshaping the relief, which would create soft demarcations and distinct spatial units, introducing a new scale, close to that of neighbouring areas: creating new micro-topography, and places with a different identity. The future planned excavation for the undergrounding of the station gave us the opportunity to discuss the feasibility of recycling this large amount of excavated material. The students explored the new landscape through the use of successive terrain sections (Mathur & da Kuhna, 2009) and physical and 3d models (fig. 6).

Designing with water

Water management can allow water saving for irrigation of the greenery. In most student projects, the creation of surface water basins and channels of recycled water was proposed, which could allow natural cooling, through transpiration, during the summer months, and the improvement of the microclimate. In addition, water was treated as an element of aesthetic upgrading of space, sensory enjoyment of people, and play for children and teenagers (fig. 7).

Planting and place-making

As for the planting and vegetation management, the students had to conceive the park as an infrastructure that will be part of a wider network of green spaces and treat the greenery as a structural element that creates boundaries, rooms, ceilings, and passages (fig 8) that also evokes sensory pleasure by its variety of foliage, color, and fragrance.

Students were encouraged to investigate the species that constitute the Attica flora, in order to use them in combination with non-native species already adapted to the local climate. The goal was to choose a planting palette that could create sustainable green spaces, promoting the continuity of the ecological structures in the ecosystem, with reduced maintenance costs.

Recycling and materiality

The role of recycling was twofold: beyond its environmental importance, it allowed the continuity of the elements of the space over time, with a new upgraded use, invoking in this way the historical memory of the place. It should be emphasized that many student groups have chosen to reuse elements of old equipment - such as old train tracks - transforming them into new structures and forms.

Regarding the materiality, the aim was to use a palette of natural and porous artificial or cold materials (fig. 9). Water-pervious flooring allows the enrichment of the water table and the prevention of flooding during heavy rainfall, while the cool materials contribute to the improvement of the microclimate during the hot summer months.

Conclusion

In conclusion, the reading of the area and the recording of the existing situation, through the personal view and interpretation of the students, as well as their attempt to incorporate sustainability and resilience principles into the design, seem to have determined to a significant extent the conception of the architectural idea, which emerged not within a formalistic exercise, but through a coherent conceptual background.

We should hereby stress the quality of the submitted projects, even though the students worked for the first time on such a scale, using synthetic tools they hadn't used before. We even had the opportunity to see that this particular topic influenced the way they worked on a large-scale urban design project in the following semester. This allows us to conclude that the relationship between city and nature should be the preeminent field of training for young architects, where they can assimilate the principles of sustainability and resilience, enriching architectural design. This could form the basis for the creation of a new design ethos and culture, not limited to the processing of form.

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Living Home - neighbouring difference: the use of design partners in a novel participatory educational model for undergraduate design studio projects

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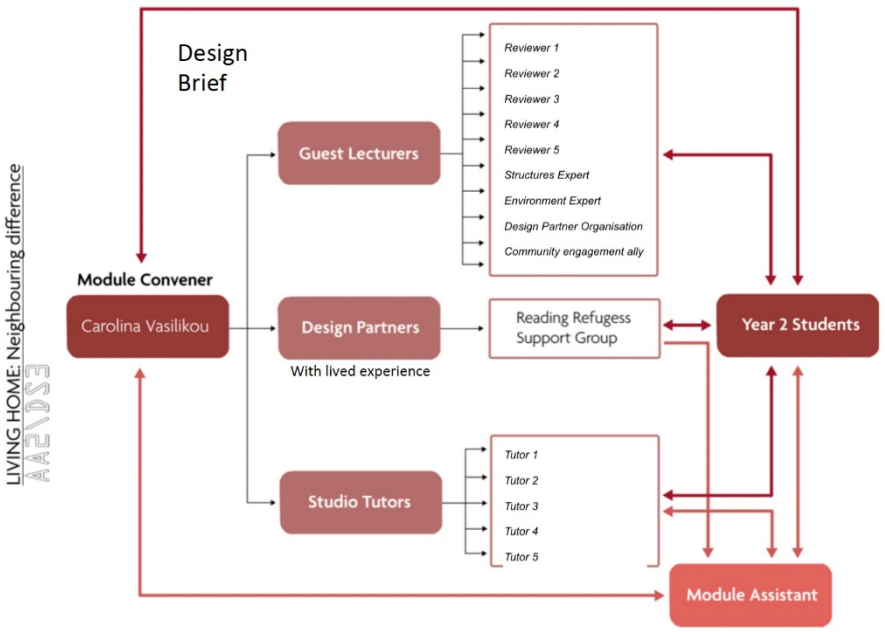
This short paper discusses briefly an experimental student-staff participatory project that suggest a new educational model for undergraduate design studio projects, drawing from my experience co-leading the second year undergraduate design studio year during six years of teaching and researching at the School of Architecture in the University of Reading. The focus of the study underpins the changing role of the architect and the need for architectural education to capture the current architectural learning shift, moving from a fact-based acquisition process to a participatory method of learning (Stone & Sanderson, 2021). If we as architects are to move away from the belief that the building is the project to "*the project is the client; perhaps society, perhaps future users, perhaps the environment*" (Jones et al., 2019), a focus on human- and more-than-human- centred design and participatory processes need to be further explored and tested. My approach focused on the research lens of the lived experience in architecture. The project originates from autumn 2021, forming the culmination of five years teaching second-year design studio with a strong focus on urban and social challenges of housing, reuse and adaptation in a dense urban setting. The aim is to experiment with a participatory element in the design studio brief that brings students closer to current and future occupiers of the spaces they design.

The Living Home project used a participatory design methodology (Dhadphale and Wicks, 2022), with Reading Refugee Support Group (RRSG) the main collaborator and design partner. This is a Berkshire-wide charity organisation that helps refugees and asylum seekers in Reading. In 2021, 138 people with a lived experience of displacement were recorded by RRSG as asylum seekers and became part of their city of sanctuary integration programme (RRSG, n.d.).

The participatory education model was developed around questions of co-living and diversity. The design studio brief set forward a proposition that explored those threshold moments when the benefits of living together can just as easily become problems, for example as surplus becomes waste, collaboration becomes exploitation and coexistence becomes conflict. A standardised educational model that claims people-centred approaches, usually follows a process, where the design theme position is examined through the tutor-student relationship, with guest tutors, experts and a one-off introduction to the client/user is made (Salama and Wilkinson, 2007).

In the Living Home - neighbouring difference project the suggestion was to alter this set of interactions to include design partners (in lieu of the "client/user") with lived experience of displacement from the RRSG community to assume the role of expert-storytellers next to the tutors, experts and guest reviewers (Figure 1). Through a structured, aligned slow design process of storytelling and design partnership that used methodologies of radical empathy and community engagement, five design partners (one for each of the five design studio groups) were present at key parts of the design process, corresponding to the RIBA Plan of Works Stages 0-3(4) (RIBA, 2021). The project itself asked for an inhabitation project where local and refugee families would co-exist next to a public community space, placed in the heart of the Market Conservation Area of Reading. Students engaged with a sustained storytelling input that was scaffolded next to other activities that were assigned by the design tutors, such as wayfinding exercises, visual manifesto building, occupants' scenario building and conceptual design development with a proposal that examined materiality and spatial atmospheres across scales. Students conducted several other activities, such as site visits, precedent studies, design charette exercises and reviews. It is understood that the impact of the participatory storytelling scaffolding has been affected by these other activities.



Adapted from Paniz Alizadeh, MArch Student, 2022

The teaching project was informed by research approaches (Hepburn, 2020) from the beginning and was structured as a series of small focus group storytelling meetings at key weeks of the project. A rigorous management of ethical considerations was in place, including the design of protocols for participatory activities, informed consent and induction workshops in collaboration with the design partner, RRSG. The role of the facilitator remained impartial and focused on facilitating a participatory storytelling design approach. Engagement of students with the Design Partners was optional. Feedback was collected by students and Design Partners respectively. Some of the findings point to the positive impact of the exposure to a raw real-world social experience that shaped the concept and development of student projects, the increased empathy skills that were developed during the process, an enhanced understanding of inclusion and diversity in the design process and the importance of managing the client involvement as meaningful participation.

The findings of this experimental educational model pose questions about the role of Design Partners as a core element of architectural education in developing reflective and socially-engaged designers, grounding this experience in education and equipping students with transferrable skills that allow meaningful participatory methodologies to become an inherent element of the architectural design later in the profession. Some of these include: 1/ gain insights from the lived experience of stakeholders to understand occupants needs, 2/ enhance understanding of meaning social issues, 3/ enhance empathy skills, 4/ develop coherent proposals. One student reported "*because it is such a relevant and real-life issue in today's world, it made me very engaged to work with something that felt raw. My design partner shaped my entire object and so it was extremely important to be hearing from them.*"

The project resulted to a student-led skills transfer workshop with RRSG participants that culminated in the design and making of the Living Home exhibition during Refugee Week in June 2022 in the local art collective OpenHand OpenSpace premises (funded by a University Arts committee grant). The work discussed here contributes to the current research of participatory design, participatory action research and the architectural studio and proposes a new approach for the role of the "client" in the design and delivery of the design studio brief in undergraduate architectural education that allows for socially-informed decisions and knowledge construction to be discussed with increased empathy and sociocultural awareness. In the design of physical environments, architects need to be equipped with tools that go beyond the mere information exchanges during stakeholder participation and new

participatory educational models have the capacity to drive the change of a teaching environment where mutual learning is promoted through an enhanced tutor - student - stakeholders relationship.

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