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Architectural Research in Finland

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Preface by Editor-in-Chief

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The key terms of this issue – architecture and the city as a home – have been paradoxical ever since Le Corbusier defined the home as a 'Machine à habiter', a machine for living in. The rationalist understanding of living, divided into measurable and normalised activities like sleeping, eating and socializing, has always been confronted with the romantic and emotional meanings attached to homes. The connotations of stability, security and attachment are at odds with the abstract biopolitical machine for reproduction. In geography, Yi-Fu Tuan juxtaposed place and space with similar characteristics: "From the security and stability of place we are aware of the openness, freedom, and threat of space, and vice versa. Furthermore, if we think of space as that which allows movement, then place is pause; each pause in movement makes it possible for location to be transformed into place." (Tuan, 1977; 2011, p. 6).

In her keynote lecture, Karine Dupre used the narrative technique to describe her journey through various places of residence in several countries – indeed pauses, instead of stable places that one would leave and come 'back home'. Modern global nomadism challenges the idea of stability; not even physical and mental investments, such as renovating, designing or building are sufficient to keep one in the same place, if feelings of security and sought-for social environments are not 'in place'. The home is not a building, rather it is a process of 'home-making'.

On the other hand, the inclusion of time is not the only needed extension to our thinking. The phenomenon of residential multi-locality rejects the very idea of one home – either permanent or temporary – that our official statistics is still based on. Cities, regions and countries as mobility networks or – to be more exact – as 'modality networks' offering various coexistent possibilities, challenges our territorial understanding of urban planning and architectural design.

As the extreme opposite of the life of multi-local elites we of course have homelessness, multi-locality without any central and fixed place. In her article, Hannah Strothmann points out that homelessness and the consecutive living 'on the move' is an alternative way of using the city as a whole as a place of residence, involuntarily resisting its foundations in property ownership. Homelessness is conceptually total negativity, without identity of its own, and thus it is subjected to the age-old ideology against vagabondage and promoting of sedentary lifestyles.

Issues like nomadism and homelessness also challenge the tradition of conceptualizing architecture mainly as objects of perception and aesthetic appreciation. Since the city around homes – and as a home – in inherently political, this perspective needs to be addressed in architectural research too. In her case study of Quarticciolo, one of the fascist-era suburbs around the city of

Rome, Minna Kulojärvi discusses three existing narratives that are used to identify such neighbourhoods: as models of the rationalist tendencies to segregate and control, as models of the resistance against fascism, and as models of avant-garde rationalist modern architecture. Whereas the first two narratives are openly political, the third is often given an a-political reading, detaching it from its societal context.

These very different perspectives to the theme illustrate the variety of approaches available: the homes as voluntary pauses of life-long home-making, the city as a home for the most vulnerable, and home as a rational means in housing policy – and even as symbols of power regimes and machines of control. These and many other questions were discussed in the 11th Symposium of Architectural Research in Finland, and the articles in this issue are selected from the papers presented there. Instead of editing a thematic issue, however, we have asked scholars to rethink the meaning of home in the light of their own research approaches.

Reference

Tuan, Yi-Fu (1977; 2011). Space and Place. The Perspective of Experience. Seventh printing.

PREFACE BY EDITOR-IN-CHIEF

Editorial Introduction

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The Eleventh Annual Symposium of Architectural Research (ATUT 2019) took place in Tampere on 3 and 4 October 2019 as part of the annual symposium series of the Finnish schools of architecture. This year the symposium was a joint event with the fiftieth anniversary, on 4 and 5 October, of its organiser the Tampere School of Architecture. The school is now part of the new Tampere University, established in January 2019 in a merge of the two former universities the University of Tampere and the Tampere University of Technology. To reflect this new situation, ATUT 2019 had venues on both schools' local campuses.

The theme of the symposium had two prerequisites: it had to be new in the symposium series and it had to acknowledge the diversity of architectural research. *Architecture and City as a Home* as a broad metaphor clearly met both. We accepted 68 submitted abstracts and registered 51 presentations, around half of which arriving from abroad. No papers were expected at this stage, but willing participants could submit manuscripts to this journal soon after the symposium. The final result is here: one keynote paper and nine peer-reviewed papers. Together they well demonstrate the interpretational possibilities of the symposium theme.

The first paper is a keynote, *Architecture, city and home: a personal narrative of a globetrotter* by Karine Dupre, and offers an illuminating comparison of growing and living in different urban geographies and cultures. Furthermore it is a clever introduction to the mutual relation between the home and the city, as to different ways of analysing this relation. Otherwise, the author describes herself as a 'privileged nomad' with safe shelter in various places of the world.

After the keynote, the first of the peer-reviewed papers also can be related to the theme of nomadism, even if the author never mentions the word. Hannah M. Strothmann's *Unsettled – Reconsidering the notion of 'homelessness' through the lens of urban movement* is an intellectual take on the symposium theme: for the homeless living on the move, often by no choice of their own, the city itself has literally become their home. The paper is a refreshing example of societally critical writing on urban planning and housing. Indirectly, Strothmann also exposes the self-evident assumption that 'homes' equal particular spaces and buildings in a city. In fact this assumption tacitly underlies the other papers collected here, which otherwise address the topics of home and housing in many different ways.

From an historical point of view, one of the most important developments of the twentieth century was the concept of the 'neighbourhood unit'. In Europe alone, neighbourhoods established after the Second World War now form much of the existing suburban environment. In Finland urbanisation occurred relatively late,

One of the most important developments of the twentieth century was the concept of the 'neighbourhood unit'. In Europe alone, neighbourhoods established after the Second World War now form much of the existing suburban environment.

making this change particularly visible. From the beginning, Finnish neighbourhoods adopted urban planning principles from the Anglo-American concept of the neighbourhood unit in combination with architectural influence from the early-twentieth-century modern apartment house. Urban growth now tends to densify these areas. Beginning in the 1990s Finland's Ministry of the Environment launched several neighbourhood development programmes. Both cities and research institutions participate in these.[1]

The next two papers demonstrate how fundamental a question the large-scale construction of new housing was during the twentieth century. *Quarticciolo – A suburb as 'dissonant heritage',* by Minna Kulojärvi, analyses urban heritage of a fascist-era satellite district of Rome through three narratives. The district is an example of the urban environment programmatically produced by the fascist regime in the 1940s. Hence, the first and second narratives concern political urban history. The third narrative analyses the district as an example of rationalist architecture. The focus of the paper is on not only changes in urban structure and architecture but also 'dissonant heritage', its meanings and interpretations.

When a patio becomes a city: (In)volution of Carrières Centrales, Casablanca (1953–2018), by Luis Palacios and Beatriz Alonso, examines another kind of modernist urban-housing project. The original plan was based on a reinterpretation of the traditional Moroccan house. What followed later was about not only changing meanings but also the tangible changes of buildings and urban fabric. Based on recent empirical material, the paper examines this profound metamorphosis. The authors do not try to witness the failure of modern architecture but rather valorise the problem of resilience when the needs for housing change.

The next paper equally concerns urban history. In *The tall building and urban space: In light of two modernist case studies,* Minna Chudoba observes how the role of tall buildings was seen very differently in two historical skyscraper projects by Le Corbusier and Eliel Saarinen respectively. Meanings attributed to tall buildings depended on the goals of urban planning and on understandings of urban space. In this way the paper succeeds in demonstrating essential differences within modern architectural history.

With regard to the legacy of modern architecture, in *Learning from precedent: The (ir)reproducibility of home* Ranald Lawrence discusses his own designs and their relation to earlier examples of modern architecture. Daylight was one of the issues that particularly interested the architects of the twentieth century. It also became an object of engineering studies, measurable and calculable. However, in architecture daylight depends on such other important aspects of design as the plan, fenestration, orientation and site. These are well described in the paper.

Questions of the contemporary architecture of social housing are discussed in *Affordable Housing Reimagined: In search of the neighbourly, spacious and rebuildable* by Michael Asgaard Andersen. He uses three recent buildings as key examples to illustrate respectively three recent themes in Danish social housing: 'the social', 'the formal' and 'the technological'. He consequently discusses the particular questions of each theme.

One way towards sustainability in residential construction is to apply green building certifications. *The potential contribution of wood in green building certifications: Prospects in sustainable residential buildings,* by Chiara Piccardo, Ashraful Alam and Mark Hughes, is the only technologically orientated paper of

[1] An example of ongoing research in the current programme is our project 'The changing concept of neighbourhood unit in a densifying city', https://projects.tuni.fi/muuttuvalahio/esittely/in-english/

this journal issue. The authors compare four certifications for the assessment of wood as a building material. The topic is increasingly important these days.

The last two papers deal with urban development. Tiina Hotakainen's *Timescapes beyond the metropolises: Culture-led urban regeneration in Myllytulli, Oulu* focuses on cultural policies. According to the author a temporal-analysis framework would provide a holistic approach to culture-led urban regeneration. Furthermore, different temporal categories illuminate various aspects of the regeneration process.

Although the last paper is in Finnish, an abstract is available in English. *Osallistava suunnittelu supistuvien kuntien taajamien kehittämisessä (A participative approach to developing population centres of shrinking municipalities),* by Jonna Taegen and Tuula Kivinen, addresses the other side of urban growth elsewhere: the problem of shrinking municipalities. More information is needed for future urban policies and planning methods for these areas. Until now, urban planning has been based primarily on growth expectations.

Architecture, City and Home: A Personal Narrative of a Globetrotter

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Abstract
Based on a narrative approach, this contribution analyses a personal life journey to discuss the relationships between architecture, city and home.

Keywords: home, city, architecture, narrative research

Introduction
There is an abundant scholarship on what is home (Moore, 2000; Somerville,1997; Lawrence, 1995; Saunders, 1989), the meaning of home (Benjamin, 1995; Smith, 1994; Sixsmith, 1986;) and how architecture shapes the walls and roofs of our homes. Likewise, many have already written about the role of the city in providing the infrastructures and services needed to secure a strong sense of attachment, safety and homefeeling (Le Corbusier, 1924; Jacobs, 1961; Newman, 1996). I am afraid this is not what this paper is about. Rather than contributing further to this scholarship in a conventional way, I prefer to invite you to a small journey regarding the places I call home. As I have been lucky enough to live and work in different parts of the world, I believe that this exercise, run in parallel to my awakening to architecture, might provide some global views on the topic of home. I also hope it may inspire some further research into narratives of homes. I acknowledge that this contribution is incredibly biased as it is about my life story. Any resemblance to actual events, to places and to persons living or dead, is not a coincidence.
Welcome to my journey!

Based on a narrative approach, this contribution analyses a personal life journey to discuss the relationships between architecture, city and home.

Setting the context
I am French, from the country of the Enlightenments, the existentialists, the avant-gardists, the Arts, built heritage and innovative architecture! Alas, as much as I would like to tell how much I gained from this great environment, the truth is that I was born in a lower middle class family. Thus my education consisted mostly in what school delivered at that time (which I think was a good basis), and the systematic visit of castles and churches in a different region of France every summer, which I came to hate with all my heart as a teenager… Truly, although tourist guides must have been talking about architecture, the word remained a blank concept. I could only see old stones.

The earliest memory of home I have concerns the apartment we moved in when I was three, in a suburb 18 km west of Paris (Figure 1). Part of a social housing pyramidal complex built in the early 1970s to house **a diversity of people** from the former French colonies, it included up to 17-floor buildings with a typomorphology that highly contrasted with the rest of the town and was framed by two motorways on its north and west side. The complex looked huge to me

and I guess it was, with 1400 apartments housing 4,500 new residents, which represented 30% of the town population at that time (SOAinfo, 2016).

Home was a three-bedroom apartment where I lived with my parents, little brother and uncle, until the latter moved away. I remember the large glass windows bringing a lot of light into every room, the tall exotic plant in the corner of the living room, the narrow kitchen with a cold storage room and the door to the balcony where we were not allowed to go. But I also remember the square threshold without any natural light before entering home, where the light would turn off automatically, pushing my brother and I in a frantic panic whilst waiting for my mom to come home and open the door.

Home was this place, whilst the outside world was limited to the pedestrian path leading to school and back. It felt so far away and it was only 300m. It was always an adventure when my brother and I were allowed to visit my grandpa, alone, who was living in the same complex but in another building. We were proud as peacocks, yet we would hold our breath and run like crazy through the dark, foul smelling tunnel that led to his home. Other than this escapade, I clearly remember we were strictly not allowed to play outside, even though all the apartments had a view on the central green corridor. It is my first recollection of **safety** issues, strongly generated by the **racism** of my father.

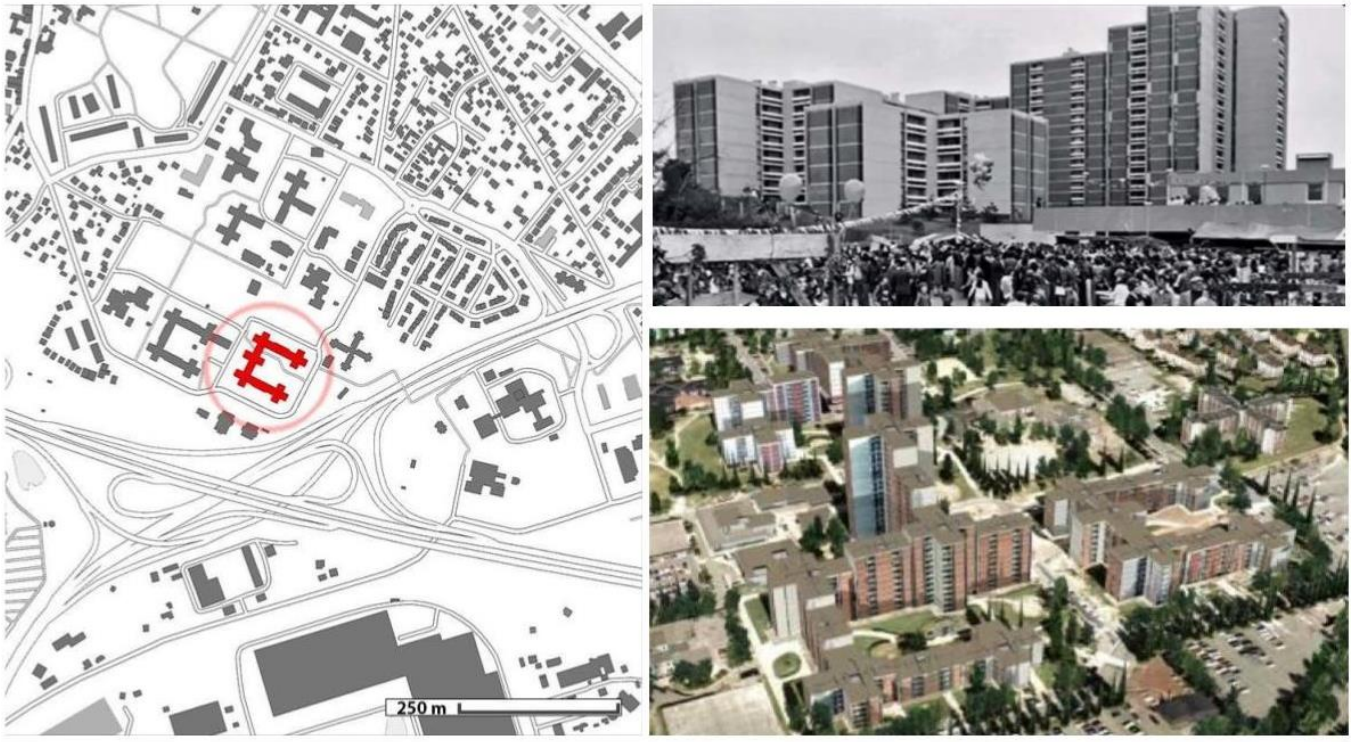

Figure 1. Saint Ouen l'Aumône (France): urban fabric and archival pictures of the housing complex.

When I was ten, my parents bought their first apartment just 10 km away from Saint Ouen l'Aumône, in Beauchamp, a town of 8,400 residents in 1980 (INSEE, 2019). Climbing up the social ladder, we moved into a smaller apartment complex, only three storeys high, adorning fancy triangular balconies with brown tinted glass. This home was both smaller and bigger, as we had lost one bedroom but the living room was twice as big (Figure 2). Otherwise, it remained quite similar to me but for a basement garage, and the surroundings, much more well maintained.

Further climbing the echelon of middle class, we lived in the only block of luxury flats in this residential neighborhood that mostly consisted of private individual

houses. It was the first time I was confronted with children who were not living in an apartment: almost all of them were living in their own house with their own garden and fruit trees. Our apartment was surrounded by greenery as well; you just weren't allowed to step on it. School was 750m away but still felt further away.

It was also around this time I became aware that going skiing during the winter holidays was a privilege validated by your tan, as was going somewhere during the 2-month long summer holidays. One kid or two stuck out due to their colored skin, but the **social homogeneity** prevailed in this quiet, relatively wealthy, and well managed suburb. My perimeter of investigation gradually expanded as I was growing and so changed my mobility. I started to bike to reach middle school which was located 1.5 km away from home, yet the journey was still very controlled by the ruling of my parents. I varied very little from what had been indicated as the safe way.

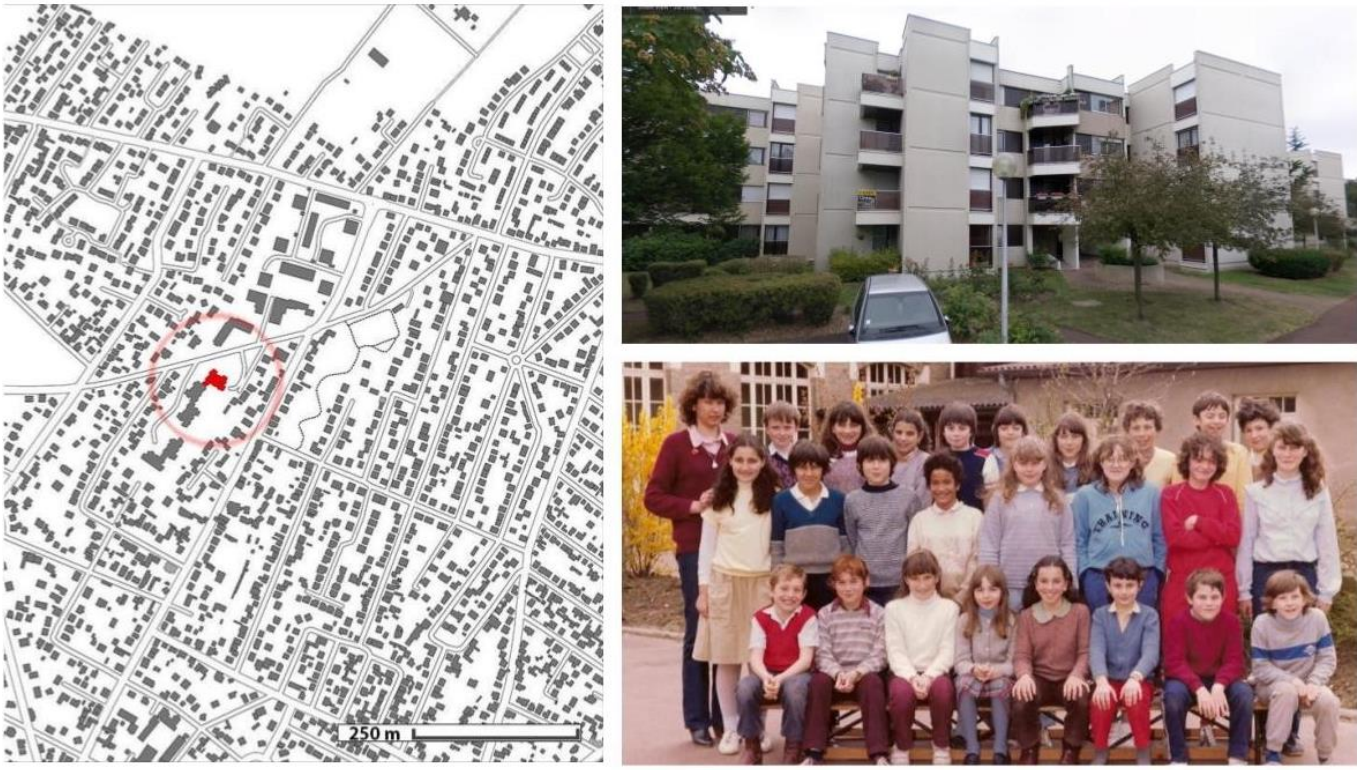

Figure 2. Beauchamp (France).

At last, my parents bought an individual house in Mery-sur-Oise, still 25 km west of Paris, where we moved when I was fifteen (Figure 3). My brother and I each had our own bedroom for the first time, and an immense garden (1500 m^2), with cherry, apple, and walnut trees. This was the dream of the average French family, so well described by Bourdieu (1979). Built in 1928 with millstone walls, the house also included an attic that would be later converted into two new bedrooms and one bathroom. I loved this home! The only problem was the setting and the distance.

What maps are not showing is the steepness of the main street (12%) and the countryside feeling: fields everywhere...old people everywhere, a street without children: we had ended up in a **gentrified town, one which was slowly dying**. The city consisted mostly of one main street and one town center, more or less well kept, and many residential areas, quite protected from the crimes of the bigger cities. Basically, we were living in what resembled one of our holiday places, only at the outskirts of Paris. Everything felt so far away. My high school

was 6.5 km away, which I would travel to by the means of one of three routines; walk-train-walk or walk-bus-walk or by bike. Whilst the two former were most inconvenient, the latter was the most favoured, not having to deal with the unreliability of public transport (traffic jams, strikes). However, this inconveniency gave me more self confidence in exploring my extended environment. Despite loving the building of my home, I was left dreaming of escaping this neighborhood, consequently leaving as soon as I graduated from highschool.

Figure 3. Mery-sur-Oise (France).

Formative years

Starting as a student of medicine, I moved to the northern area of Paris in the Gare du Nord district, an area totally rebuilt by Haussmann in the mid 19th century (Figure 4). Although I felt that I had always lived with a certain level of social mix, my new home proved to be quite a step up in that matter. All my neighbors were from Africa, India and Bangladesh; shops had signs in a language I could not read. The smell of spices that I never encountered before was permanent in the building' staircase; sheep were kept in the bathtubs before Ramadan. I was living in another world, sharing one toilet with at least five other families.

But I was in Paris, walking and walking, curious about everything! I experimented with the cold winds of Jussieu, the post-May 1968 built university intentionally designed to discourage student gatherings. I experienced **density, mixed uses** and the large faubourgs of each Parisian district that all had such a distinctive identity. And so many opportunities, everywhere. I was constructing my own mental map of Paris, not knowing yet of the work of Lynch (1960), with personal landmarks: my university, a bakery here, a museum there, etc. There were no limits to my curiosity, mostly by foot, bicycle, and public transport. Paris was not especially clean, but I never felt unsafe, although there were obvious changes of ambience at night. For the first time also, I experimented with the metro, its smell and the diversity of people. Tourists, beggars, drug addicts, homeless people!

Figure 4. Paris (France).

Admittedly I was absorbing all quite randomly, until I started studying architecture. My five years of architecture studies actually gave meaning to what I was seeing. It also gave a goal to my wandering as we were given specific tasks and briefs. For example, we had to sketch and analyse the threshold between public and private spaces, analyse the urban context of a park, imagine a new building in a specific district, etc. It literally opened my eyes to my surroundings and to architecture itself. It added a new layer to my personal map of Paris. This included historical buildings, contemporary buildings and districts to become.

During this time, due to my very limited income, I moved back to the immediate outskirts of Paris in places that offered cheaper rents and walking/ biking proximity to my university. The first place was in Vitry-sur-Seine (Figure 5, top), the bastion of communism with large blocks of flats built in the post World War II reconstruction period, that would accommodate families from multiple and diverse backgrounds (Vitry94, 2019). I can remember the multitude of languages being spoken at the Sunday market, whilst in my home alone, three were already spoken (French, Arabic and Spanish) because of the nationality of my roommates. I lived in one of those immense buildings on the main boulevard, with the big supermarket and public transport being conveniently placed right at my doorstep. In 1994, this city of 82,000 residents (INSEE, 2019) offered many services for its youth, which I took advantage of. However, I had to find another place when my roommates separated.

Bordering Paris through the peripheric, Saint-Mande was on the other hand characteristic of a bourgeois and Haussmann built environment, with an ageing population (Figure 5, bottom). The town of 19,000 inhabitants in 1997 (INSEE, 2019) was much cleaner and smart-looking due to its impeccably maintained built heritage, yet I felt it offered little for people of my age and income. Maybe it was due to the proximity of Paris that offered so many activities? However, the travel bug had got hold of me and I worked my way to leave as an exchange student for a very exotic place, where no one wanted to go: Finland!

KEYNOTE SPEECH

Figure 5. Top: Vitry-sur-Seine (France), bottom: Saint-Mande (France)

So I moved to Finland, Tampere more specifically (Figure 6). What a cultural shock! Please forgive my ignorance at the time. I didn't have a single preconceived notion about the country because I knew nothing about it. My first interaction with Tampere is still very vivid: it was in July 1995, long beautiful days, and large streets... empty, with almost no traffic. Big motorway junctions and no traffic. Shops with only one brand of soap or milk. I could not believe my eyes that supermarkets had microwaves for customer use and no one was stealing them! Remember, this was the time when Finland had just joined the European Union and debates were raging on whether it was a good choice or not.

I was surprised to see drunk women peeing in the street at night time and fishermen in the middle of the city during the day. And most importantly, I had never seen buildings that looked this way. To me, they resembled those of Disney movies, with their yellow walls and red roofs, or looked like my idea of Russian architecture: grey blocks standing alone in the middle of vast green areas.

I was living in a tower-like building called Uusi Domus, discovering the joys of student accommodation, including poor sound insulation, but also a shared sauna, TV room and laundry room. Once again sizing the territory by foot and bike, I was looking for places that felt more rooted and human to me, with which I could relate. Tallipiha and Finlayson were some I found. These places had history I could read and feel. I also discovered new types of discrimination (e.g. racism against Romani people) and issues I had never been confronted with before, such as the impact of natural light on people's mood, binge drinking, the

positive aspects of welfare state and its lack of empathy (remember the Yugoslavian refugee scandal in 1998?).

Figure 6. Tampere, Uusi Domus (Finland).

Despite being confronted to architectural students who were ten times better than me and ten times more efficient (no charrette!), I fell in love with the country and my husband Pasi. For me, this place had all the ingredients to start a family: safety (parents can leave their baby in a pram outside shops), good transport services, an incredible amount of public spaces which double in winter time with the freezing of the lakes; small enough territory to feel legible and entitled.

Retrospectively, it is also not a surprise that we bought a 1937 house in Pispala (Figure 7). It was loaded with history that both Pasi and I are fond of, and it was cheap so we could afford to renovate it entirely by ourselves. However there were also other criteria. Everything we needed was around, at a walkable distance: the day care *päiväkoti* (700m), the early childhood health centre *neuvola* (1,200m), the supermarket (400m), the bus stop (20m), the lake (300m), and, very importantly for Pasi, Rajaportin sauna (700m). It was exotic for me to bring my children to *päiväkoti* with a sledge!

Besides being a famous tourist precinct, Pispala offered a real community environment where people got to know each other. Maybe its historical activism and the fact that my beloved Pasi was the president of the Pispala resident association contributed to our integration, but most importantly I developed, maybe for the first time, an interest in district activism, outside the limits of my home. It mostly included the maintenance of the community garden and protecting it from being redeveloped into a housing estate, as we had witnessed just next door. We were also the proud owners of an electric car that I used for my daily trips to the university located in Hervanta.

KEYNOTE SPEECH

Figure 7. Tampere, Pispala (Finland).

My studies gave us the opportunity to live for a year in Gosier, a French small town in the Caribbean where I was studying for my PhD (Figure 8). The contrast with Tampere was startling: it was basically all the opposite of Finland, not only due to the tropical climate but also all the flaws that constituted the town. Disorganised public transport, missing facilities, rundown buildings, derelict university, corruption, and informal settlements with many crimes were dominant. Yet, rich colours and greenery were abundant; history poured everywhere, not only in buildings but in multiracial relationships, with a significant importance given to verbal exchanges, all constituting the urban life on the island of Guadeloupe. For the first time, we (my husband, my two children and I) were a minority, due to our skin color, and deeply immersed into **inequality** as we lived in the informal settlement I was studying. **We witnessed health, socio-economic and educational inequity and vulnerability, and social injustice**.

This provoked emotional and moral debates: feelings of rejection, guilt in relation to the colonial past and powerlessness to help . We also experienced distancing from family and known places, which affected our identities and capabilities. In Guadeloupe, I at first sight was assumed to be a *Zoreille* (which is a nickname given to mainland French workers), due to my physical appearance. Yet working on the nearby island of Martinique, I was *Chabine*, a racial category that implies that at least one of my ancestors was a colored person. However, what ‘saved’ us in terms of relationships with locals was the fact that Pasi did not speak well French at that time, so we could not possibly be from France. We lived in an informal settlement that had been partially renewed. Our district was a labyrinth well controlled by its inhabitants and every day coming home from work, I knew exactly what Pasi had done during his day as all the neighbours, one after the other, would tell me.

Back in Finland, it was difficult to remain there knowing what we lacked: social connections. Despite our beautiful Pispala home that had turned into a community during our absence, the Finnish mal de vivre was too heavy. And so,

our journey to France and Australia started. I was not a student anymore, we were a little family on the move.

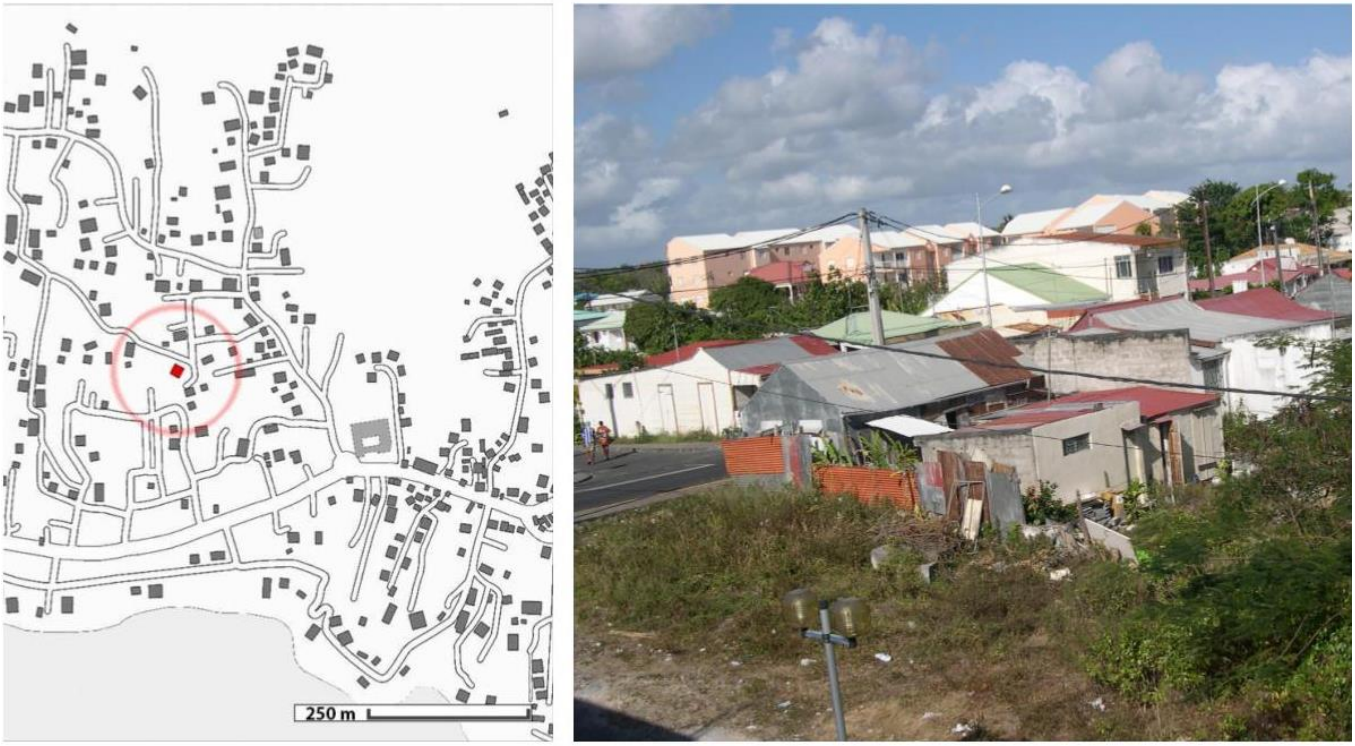

Figure 8. Gosier (Guadeloupe).

Adulthood

At first, we moved to Nantes, a town in the West of France with a very long history and extensive architectural heritage (Figure 9, top). The sixth largest city in France, it offers a strong urban structure with the first tram being reinstalled in 1986. We moved there with only two cubic meter of books and found a place that corresponded to our values. Proximity to school and leisure opportunities were prioritized as well as walkability. It was a voluntary adult choice both for sustainability, to reduce our footprint, and to make our lives easy. Our home was in a residential area, among like-minded people. We fitted in easily, quickly making a lot of friends, although our tiny 56 m^2 flat, built during the reconstruction of Nantes after World War II, was certainly contrasting with the standards of this community. As I got a new job, we moved to the other side of France.

Strasbourg, east of France and bordering Germany, had an even richer history, but basically presented the same assets: a clear urban structure, well maintained, and urban projects to bridge the territory with Germany. We also settled in with the same walkability principles. The only difference is that we got to build a new home (Figure 9, bottom), a passive house inspired by what we did and learned in Finland. Strasbourg has always been an avant-garde city regarding sustainability and ecological environment within France, and proved to be fertile ground for our project. This house was exactly our perfect house, entirely built by Pasi.

Yet, I never liked the city: there was a tension in the air that made me uncomfortable, and unfortunately made many headlines, specifically regarding racism. Social injustice is visible in the urban fabric as there is also a clear contrast between ultra-rich neighborhoods, where all the European union members are living and working, and others, mostly inhabited by low-income

people. Eventually, when our daughter got physically attacked fifty meters from home by a gang of girls, there was no doubt we were leaving. I found another job in Australia at that time.

Figure 9. Top: Nantes (France), bottom: Strasbourg (France)

We moved to the Gold Coast, the sixth largest city in Australia on its east coast, and the place of our current home (Figure 10). Do you know this feeling 'It looks like it, it tastes like it, but this is not the real stuff'? It was another cultural shock. Although the city looked very familiar in terms of existing infrastructures, services and landmarks, there was a major difference with the European cities that I had experienced so far: the spatial organisation did not follow the traditional patterns of development.

The Gold Coast is a car-oriented city, a strip with no real town centre but rather a series of small hubs. The wording 'town centre' is often used to name shopping malls, not real public places. Similar to one of Koolhaas' suburban pictures (1995), districts developed and still do without connections to a historic centre, since, as a matter of fact, there is no heritage older than the late 19th century. Besides, renown for a very fast pace of change (Bosman et al., 2016), the built environment of the Gold Coast is also characterised by new buildings being erected in place of 'older' ones, for which few people had time to create memories with. From a pedestrian point of view, the hot temperatures make it twice as dangerous to walk on the streets without sidewalks. As such, it was very difficult to find a place that met our walkability expectations, and once we did, we were

shocked by the unreliability of public transport. Luckily, the construction of the tramway and its opening in 2014 changed this aspect. The other major difference with all the other places we had lived in concerns the privatisation. It feels like every space is privatised, leaving only one truly public space: the beach. This is actually where major celebrations take place.

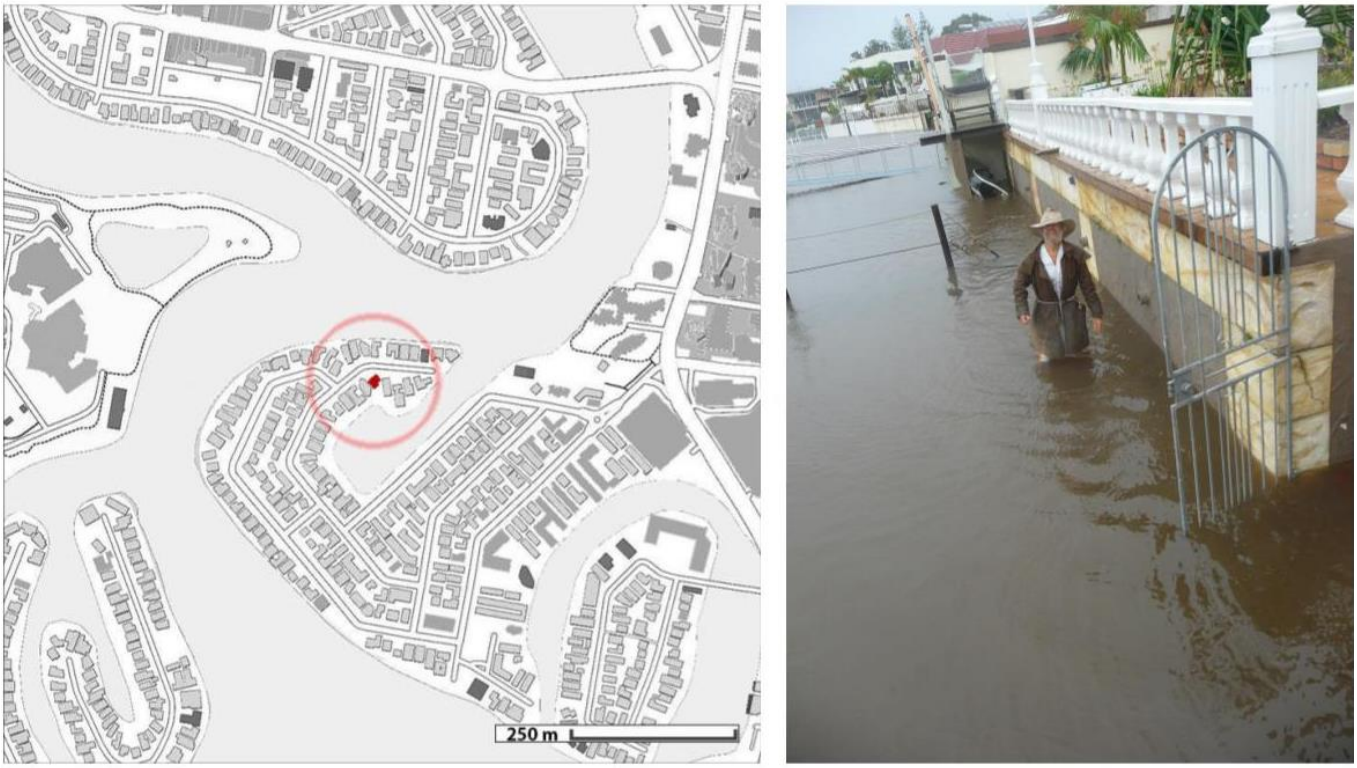

Figure 10. Surfers Paradise (Australia).

However, on a more positive note, this is the place where I got introduced to a real reflection on the meaning and construction of a qualitative tropical architecture. Although Australia is not really famous for its energy efficiency and ecological positions, many projects (whether small or big, private or public) address the challenges of sustainable living in the tropics. For example, maximising un-air-conditioned spaces through building orientation, wind flow and maximised shading; or creating generous outdoor living spaces and high quality landscaping as we experienced with our home. Furthermore, there is no argument that **climate change is experienced everyday** in Australia as natural disasters often strike the country and endanger its population and economy. I confess this is the place where I became the most aware of it, not only because of the cyclone of 2013 that welcomed us when we settled in, but because of the yearly floods, droughts, cyclones and fires.

From a cultural perspective, similar to Guadeloupe, I observed social injustice, with the ongoing issue of not recognising the rights of the First People that permeates the society's social changes (or lack thereof). At the same time, the ban of guns and a very high level of health and safety laws have resulted in one of the safest countries in the world, which I acknowledge daily and appreciate even further with teenage children. Interestingly, **wellbeing is a hot topic** in architecture and planning in Australia, as well as healthy ageing. I had never encountered such a strong interest in the latter topics elsewhere.

KEYNOTE SPEECH

Discussion

As you may remember, at the start of this paper, I was telling you how biased this contribution will be since the emphasis is on my life story. In reality, I have not been fully honest with you, as I actually used several methods to present this story and analyse it.

I was telling you how biased this contribution will be since the emphasis is on my life story. In reality, I have not been fully honest with you, as I actually used several methods to present this story and analyse it.

Firstly, I used the **narrative approach,** which is a research method, often used in social sciences. It studies the experiences of a single individual as well as the meaning of these experiences (Lieblich, 1998; Carless and Douglas, 2016). I hope the previous sections provided a good example of how valuable this can be. While describing the different places I lived in, I could decipher my growing understanding of architecture and planning.

Secondly, I **used typo-morphological analysis with the help of Nolli maps** to read the different urban fabrics in which I lived. I find the results eloquent. For example, we can easily read the dormitory nature of the first three towns of my childhood (Figure 11). In the same way, it evidences the misconception that segregated large housing programs would be an innovative solution to housing issues. Forty and fifty years later, all these large programs have failed without exception. They are currently facing or have already faced heavy restructuration to break down the ghettoization, create better connections with the rest of the city, and provide the same social opportunities to its residents. Restructuration is currently underway in Saint Ouen l'Aumône, and also in Vitry-sur-Seine.

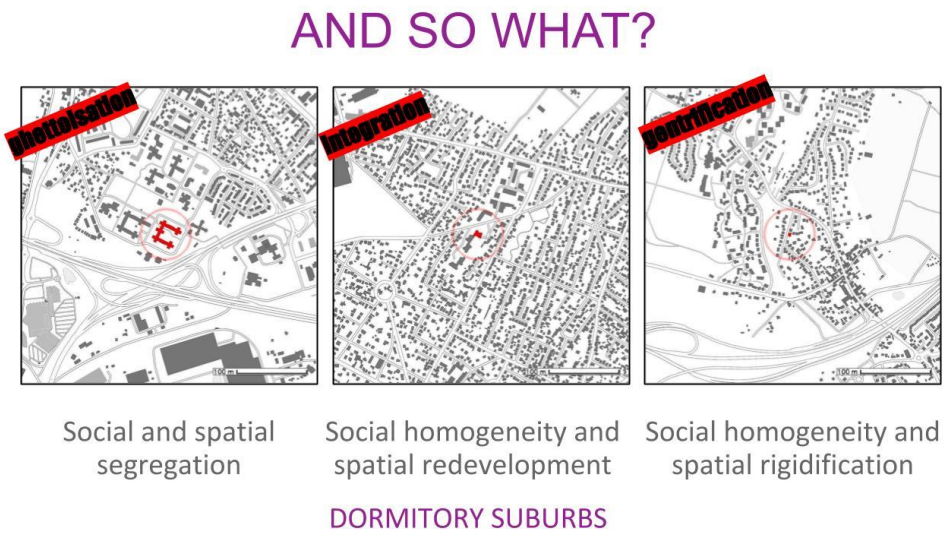

Figure 11. Summary 1.

These maps also help to understand the role of history and the different layers it added to the development of the city (Figure 12). They also show how the diversity of programs, such as housing, businesses, retail, transport, etc. participates to the diversity of the urban experience, to the city's dynamism and often to a better enjoyment. Opportunities are key in this type of setting, because once they fade away, the area identifies as a dormitory suburb as the case of Saint Mande shows. Yet for many residents of Saint Mande, home is there because it is cheaper and the city offers all the advantages of Paris without its flaws.

The analysis also shows that one can experience otherness, yet urban fabric and processes repeat themselves, here and there, demonstrating a universal call for the way we inhabit and we develop our environment (Figure 13). For example, Pispala was also a type of informal settlement area before it became an attractive place for better off people.

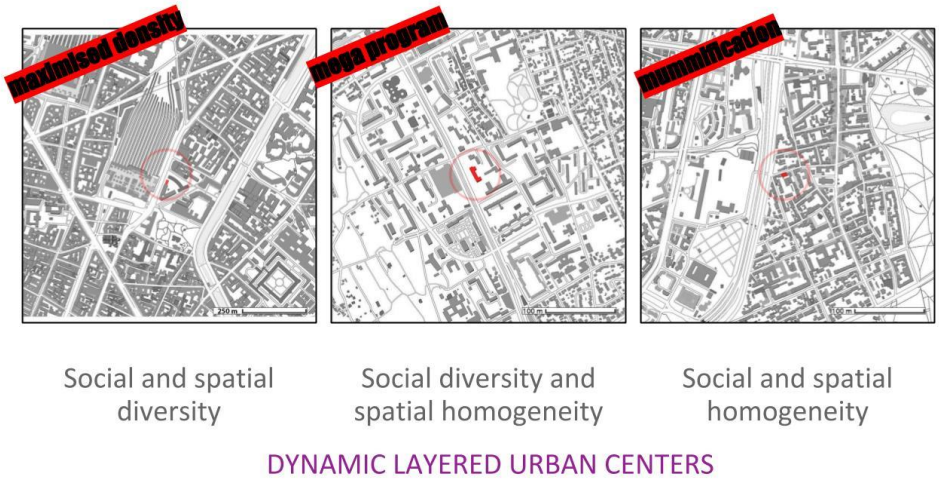

Figure 12. Summary 2.

In the same way, gentrified morphologies are not a problem, providing the public realm is well thought after and managed. There is a consensus about what qualifies good urban places such as **accessibility, connectivity, variety, adaptability, versatility, legibility, active spaces, human needs, sustainability, and urban landscaping.** What is interesting to see here is that the urban morphology can vary as well as the social features, yet the place still feels like home.

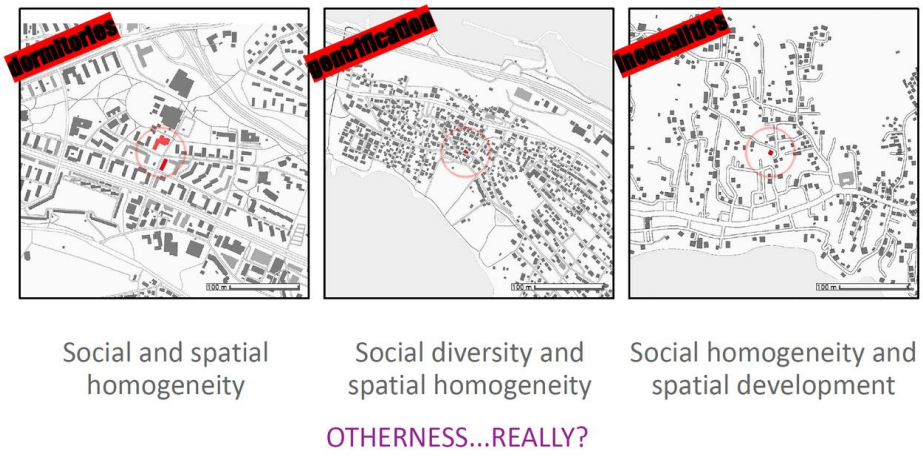

Figure 13. Summary 3.

Thirdly, I have developed a reading grid that is inspired by the six principles of Crime Prevention Through Environmental Design (QG, 2007). These principles are **territoriality** ("people's sense of control that others will not transgress or trespass on 'their territory' without invitation")**, ownership** (for the surrounding public realm)**, legibility** (or wayfinding)**, surveillance, management, vulnerability.** They are part of guidelines for urban design, commonly used in Australia, and derived from Jane Jacobs' focus on safety within cities, 'eyes on the street' (1961), and further developed by Newman in the 1970s with Defensible space (1972).

Methodologically, I have marked each of my successive homes according to the six principles on a score of 100 (100 being the maximum). It shows some interesting results (Figure 14). For example, regarding territoriality, Finland gets the lowest score, which could be culturally explained (not a long tradition of fencing in open plan housing). Ownership logically evolved throughout time with

my financial capacity and growing activism. Surveillance came as a surprise because it revealed that Gosier and Saint Ouen l'Aumône got the top marks. However it seems logical as it demonstrates the role of people in controlling the environment, as well as that of good design to facilitate it. Legibility shows the evolution of complexity in my life trajectory: from very simple as a kid to more complex later on, as codes are being understood and territory of investigation expands. Management never succeeded to reach a maximum whatever the city, which seems normal: we are all aware of elements that could be improved in our built environment. Logically, cities with the least developed urban structures got the lowest score. Vulnerability also displays some ambiguous results are high scores were given for obvious reasons (social insecurity, high level of crime in Gosier, Vitry, Saint Ouen l'Aumône, even though I did not personally experience them) but also for less obvious ones such as lack of empathy (I witnessed too many times the fall and hurt of someone in the street of Tampere with no one caring) or direct violence (the attack of my daughter in Strasbourg, as well as many reports from my students). Clearly there are some limitations to the scores as it relies on the input of one person, but I still believe it is relevant in the context of this narrative research. Of course, it would be an interesting project to have many other people scoring these cities to see whether the results align with mine.

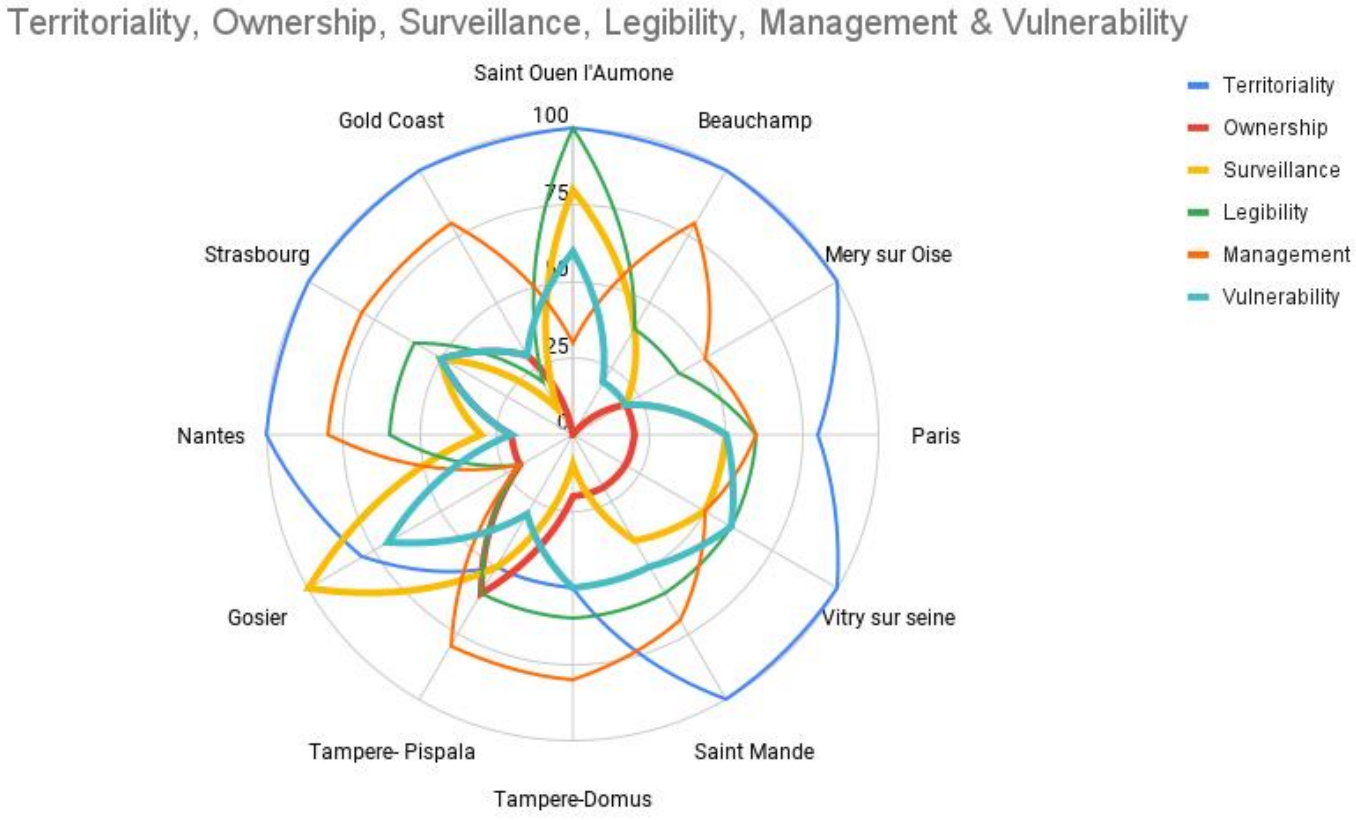

Figure 14. Reading grid from CPTED.

At last, I have tried to measure my attachment to all the different places I described earlier, in comparing home attachment versus city attachment. Why would I do that? Because I am convinced that architecture is not only the authored design of spaces we live in, but rather a discipline that organizes our bodies in space and facilitates the building of care, feelings and memories. Within this context, I agree with Massumi (2002), that our affect actually occurs prior to any understanding and meaning we might give. In that sense, attachment cannot only be explained by Nolli maps and reading grid; emotions are also involved. For example, Maurice Halbwachs, in his work On Collective Memory (1992),

efficiently demonstrated the attachment to places that might not exist anymore and moreover, might not even be considered so great by today's standards. Affect is an implicit process in the creation of values.

Therefore it is not surprising that my house in Pispala is the biggest winner regarding home attachment, because it is mine. I have heavily sweated to fix it with Pasi and friends, and most importantly, this is where our two first children grew up and where we have built so many memories. Regarding which city I feel most attached to, it is quite impossible for me to choose. I know exactly which ones I am really not attached to, but basically, as soon as there is good walkability, minimum services for my children, mixed uses when I stroll here and there, opportunities such as a new theater play, a street demonstration, etc, I am happy. So again, it is not surprising that Paris, Nantes, Tampere arrived all equally on the top of my list.

However, there is another little town with none of these features that came at the same ranking: Le Gosier. Why? Because the place talked to my sense of aesthetics! Because of the oral culture and the music! Because of the harsh weather! Because I felt I could contribute! Because of the risk as well, to some extent: I had a feeling that the unexpected could happen and I felt like an adventurer. More recently, I visited New Orleans for the first time and it provided me with exactly the same feelings. The irrational me got very very excited!

So in conclusion, again, this is my personal journey and I know Pasi might have a very different perspective on these different places. For example, I know he is dreaming to live in Marseille, a coastal city south of France we once visited, and I am not, because I have sensed urban violence and roughness where he could only see nice urbanscapes.

The trends that have been described were presented in chronological order, like snapshots. For me, integration and safety were the focuses I experienced in France; social isolation in Finland; ageing and healthy city, resilience and climate change in Australia. These trends and the way I presented them don't reflect how they evolved since I left.

I also know I am a **Privileged Nomad**, to borrow a term coined by Pels (1999) in another context. My life is an easy one, without much financial hardship and many privileges to take advantage of. Knowing that, I don't think it makes my story less valuable, but represents a certain type of population and lifestyle. It certainly questions life journeys and their relationships to the city we inhabit.

So what makes architecture and city a home? Personally, I would define four aspects. Firstly, landmarks one can recognise. Secondly, places that are familiar (also by all senses such as smell and sound) and that we feel safe in. Thirdly, memories that we build into these places, in the same way that I am convinced that architecture builds memories, not only places. At last, this little thing that is so personal and that manages to talk to each of us individually: something in the air that appeals to who you are, and/or who you want to be.

Credit illustrations

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Figure 3, 6, 7, 8, 9, 10,14: © author
Figure 4, 5: © Google

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KEYNOTE SPEECH

Unsettled – Reconsidering the Notion of 'Homelessness' through the Lens of Urban Movement

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Abstract

This paper proposes to reconsider the notion of 'homelessness' under the lens of urban movement, suggesting that the long prevailing stigma against people experiencing homelessness is a repercussion of the idea that living an unsettled life can destabilize capitalist societies. Living on the *move*, by choice or, most commonly, without one, embodies a resistance to the capitalist valorization of land: Transient lifestyles resist the precept of property ownership, and hint at alternative ways of living in cities, beyond capitalist norms. Simultaneously, they are bodily evidence of the mechanisms of urban displacement further triggered by real estate speculation, as it is the socio-economic and political system of capitalism which produces contemporary conditions of unchosen homelessness. Thus, the paper links the stigmatization of homelessness to notions of urban movement and capitalist urban logics. Untangling these complex dependencies, then, becomes also a way to reconsider notions of making a home in cities.

Keywords: movement, home, homelessness, stigmatization, informality

Introduction

Who has the right to call the city a home? And what does it mean to inhabit no traditional home in the city – to experience *homelessness*? The experiences and causes of not having a home or being denied to call one's dwelling place a home are diverse and multi-layered. Clearly, there is not one reality of being homeless or a 'homeless' identity and lifestyle as stigmatized conceptions and derogatory representations might suggest. Parsell's (2011) ethnographic research gives a nuanced account of how identities ascribed onto "homeless people" are highly problematic and differ from self-enacted identities. Yet, these derogatory conceptions and resulting exclusionary practices greatly affect individual lives on many levels, including physical and mental health. Research in Public Health has shown that the "excess mortality associated with considerable social exclusion is extreme" (Altridge et al 2018, 247), such as that people experiencing homelessness are more than six times as likely to die early (Altridge et al, 2018). Thus, systemic forces producing social, political and economic exclusion shape the very state of what it means to seek shelter in the urban sphere. By focusing on the political and economic allowances, prohibitions and responses to homelessness as a codified state of being, the article aims to reveal some of these invisible forces as well as to analyze how and why certain forms of urban movement are considered acceptable while others are stigmatized and criminalized in capitalist societies. The theoretical and abstract perspective on homelessness pursued by this paper is, therefore, deliberately chosen, and not

Reconsidering notions of homelessness and tracing origins of stigmatization is not just a theoretical effort, but a way to challenge norms of living and making a home which are embedded in the urban morphology, its economics and social policies.

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meant as disrespect for the individual realities and multi-layered causes of experiencing homelessness which will not be addressed by this paper.

The discipline of architecture itself is involved in the socio-economic and political production of space in multiple ways: by translating human needs into spatial configurations, as part of the building industry and housing market and by designing elements of the urban environment. Thus, it seems highly relevant to also reflect from this perspective on notions of homelessness, existing societal stigmas, and their spatial implications. While homelessness is considered to be a global 'issue', the term and its connotations differ across cultures and languages. Someone living on the streets of Mumbai is not necessarily considered a homeless person in Indian society. The notion of 'home,' there, is not related to housing, dwelling space, or shelter, but instead linked to the idea of kin, of family. In this context, "security comes, not from ownership and control, but from the rights and responsibilities of kinship" (Speak 2012, 5). While in the English language the term "*homelessness*" is clearly tied to the notion of home and not house, roof or shelter, other languages, such as German ("*Obdachlosigkeit*"), French ("*sans abri*") or Italian ("*senza tetto*") refer to it as 'roofless' or 'shelterless,' whereas in other languages, such as the main Ghanaians, there is not even a word for homelessness (Speak, 2012). Even though definitions vary and remain fluid, they encompass far reaching implications. In most countries in the Euro-American context, to which this paper mainly refers to, the label of 'homelessness' is a statutorily defined social status, determining whether a person is eligible for housing assistance, or not (Kiddey 2017, 201). Language in this case not only reflects and reshapes normative conceptions of living in the urban, but it also becomes a tool to allocate responsibilities and determine political agendas based on statistics and comprehensive data collected according to these definitions' criteria (Busch-Geertsema, Culhane and Fitzpatrick 2016, 126-127). While there is no global definition of homelessness, the aim to develop a common language is often regarded as crucial to assess current practices, policies and their embedded societal conceptions and norms. Thus, Busch-Geertsema, Culhane and Fitzpatrick (2016, 131) propose a relational framework that works with a broad definition of homelessness as "*'living in severely inadequate housing due to a lack of access to minimally adequate housing'*, with adequacy evaluated in respect of the 'security', 'physical' and 'social' domains of home." This suggested definition aims at being comprehensive to encompass a broad range of 'inadequate' living conditions across the globe, thereby losing the ability to take distinctions into account. Here, living on the move and having some informal shelter are equally considered, which in turn disregards the specific 'inadequacies' of each living situation. Moreover, while trying to be inclusive, this framing still relies on three aspects of *home* as a factor to define who is *homeless*, which inevitably renders "home" a normative concept again. – Reconsidering notions of homelessness and tracing origins of stigmatization is, therefore, not just a theoretical effort, but a way to challenge norms of living and making a home which are embedded in the urban morphology, its economics and social policies.

The argument of this paper is tripartite: The first section explores the idea of living on the move as a potential *revolt* against a top down urban order. Movement has the potential to reinterpret public space, and to disrupt urban routines, thereby questioning the existing urban order. Yet, the presence of informal homes in the urban fabric also discloses the failure of the capitalist system to equally care for all citizens and that it is, in fact, this particular socio-economic and political system which produces contemporary conditions of homelessness. The second part traces these different ideas of *order*, questioning whether transient lifestyles disrupt capitalist urban routines, or whether capitalist urban routines disrupt individual transient lives. The third part examines the resulting *penalization* strategies which follow a two-fold logic: hiding the subversive potential of movement and impermanence in the urban, as well as the failures of the system

producing the condition in the first place. Most penalization methods force further movement onto those living on the move, leading to a reinforced circularity and further stigmatization of unsettled lives.

Revolt – urban movement as reinterpretation of public space

In 1993, Lucius Burckhardt, founding father of Strollology, the Science of Walking, made a stroll with his students in the German city of Kassel; nothing remarkable, if they had used the sidewalk. But instead they occupied the street itself, each carrying a replica of a car windshield in front of their faces. Their so-called 'Windshield Stroll' was a commentary on the street life of Kassel, rebuilt after the Second World War as a car-oriented city with wide avenues, expelling strollers to underground passages and further margins of the urban space. With their concerted motion the strollers not only critiqued the limited perception of drivers roaming around the city in their cars, but also disrupted the everyday routine of the other urban dwellers. Re-appropriating the streets and re-interpreting their intended use, they appeared as agitators; their movement questioned the established infrastructural hierarchy and revealed creative possibilities to undermine top-down urban planning practices.

Epistemologically seen, the act of movement always incorporates the potentiality of transformation. Motion enables individuals to continuously change positions and adopt new perspectives, experiencing different angles and prospects of a seemingly unchanged physical environment. Similar to the Windshield Stroll which challenged the post-war paradigm of car-friendly urban planning, movement can turn into means to confront and denounce existing frameworks, values or societal structures.

Spatial practices

Urban planning paradigms and urban movement represent two distinct types of spatial practices according to Michel de Certeau (1984, xix), who differentiates between *strategies* and *tactics* as two hierarchical forms – "calculus of force-relationships" – of spatial practice. Urban planning policies regulating public space are a part of *strategies*, applied on the institutional side which retains the producing power over space. *Tactics*, however, are enacted by individuals and their everyday use of the public sphere, reacting to strategies defining space by either abiding by their rules or undermining them. In that sense, the act of moving or walking through the city represents individual tactics, forming a spatial practice, that "secretly restructure[s] the determining conditions of social life" (de Certeau 1984, 96) and a "*migrational*, or metaphorical, city, thus slips into the clear text of the planned and readable city" (de Certeau 1984, 93). While the city planners of Kassel envisioned the rebuilt city as smooth ground for cars moving unobstructed from pedestrians and general urban life through wide avenues, the Windshield Stroll as an artistic intervention draws on the notion of an everyday *tactic* that questions this urban strategic order. As such, "contradictory movements that counterbalance and combine themselves outside the reach of panoptic power" (de Certeau 1984, 95) challenge institutionalized constructions of space and are regarded as a potential danger for the system of power. In that vein, the Windshield Stroll needed to be officially registered as a 'cultural political convocation' and was accompanied by police forces. Employing the state's executive branch as guardian for this disruptive stroll, represents a *strategy* emphasizing and symbolizing the state's control over this disruptive stroll seen as subversive *tactics* of collective human movement, not abiding the urban rules. Yet, the presence of police forces reveals that something is out of order and the state in need regain control, restricting the movement in advance to certain forms and routes in order to hinder it from becoming uncontrollable: Movement, according to Aristotle (1934, 191), is "clearly one of the things we think as 'continuous', and it is in connection with continuity that we first encounter the

concept of the 'illimitable'." In its potential to quickly gain momentum, movement has the ability to develop into an action which can not be regulated externally without applying another contrary force, according to physical laws. Aristotle, therefore, describes motion as a synonym for change in general, including the potential to threaten long established power structures.

Concerted movement

It is this characteristic of movement as continuous and potentially illimitable change, gaining further momentum when enacted by a multitude of people, which forms the political clout of street demonstrations. Here, "bodies congregate, they move and speak together and [...] lay claim to a certain space as public space" (Butler, 2011). According to Judith Butler, it is the mere *appearance of bodies* in space that formulates a political demand, as their bodily, physical presence questions the allocation of power over urban space and its predominant interpretation. In that moment, "the very public character of the space is being disputed and even fought over" (Butler, 2011) – it is the collective action of gathering that makes urban space *public*. Here, the square represents to some extent an accepted space for political unrest, considering that within its circumscribed space people's actions can easily be controlled and integrated into the usual urban operations. Yet, once the emerging crowds leave this allocated place of protest in the city, and move into the side streets, taking over everyday infrastructures and spaces, the movement of 'bodies' becomes an unwelcome act to governing authorities of urban society, interrupting the established regular flow and order of the city. Then, "politics is no longer defined as the exclusive business of a public sphere distinct from a private one, but it crosses that line again and again, bringing attention to the way that politics is already in the home" (Butler, 2011). Concerted movement of bodies in urban space, thus, not only reconfigures the environment, but also challenges the differentiation between public and private. This dissolution of boundaries between the public and the private sphere, which Butler describes as an exceptional state of urban protest, oftentimes represents the everyday reality for people experiencing homelessness. Urban niches accommodated as a home, tents along sidewalks or benches functioning as beds blur the boundary between what is considered public versus a private space. Here, *home* appears as infraction into accepted ways of movement in the city, that collide with the *public*. Thus, following Butler's argument, making a *home* in the urban becomes a political act.

Not all urban dwellers, however, are granted the same rights of urban participation or intervention; socio-economic and political power structures are also inscribed into urban movement. The Windshield Stroll as a subversive tactic was performed by a university seminar and their professor; urban street demonstrations mostly consist of protestors disposing of enough time and material resources which they can dedicate towards forming an alliance for a political cause. Concerted motion can only arise and be recognized as an act of subversive power when its performing 'bodies' have the ability to gather and appear as a plurality. Butler's argument also points to the brutal reality that public attention is oftentimes only given to people if their bodies are perceived as "productive and performative," as they are supported "by environments, by nutrition, by work, by modes of sociality and belonging" (Butler, 2011). Following that logic, 'non-performative' bodies are neglected from public consciousness, and are in that sense excluded from collective political action. This public neglect further hides the individual and collective productive and reproductive labour of securing not only a home in the urban sphere, but also sustaining life in general. The created invisibility of these individual tactics further renders unsettled realities of living in the urban as passive, which likewise denies existing forms of agency. Meanwhile, the shortcoming of privacy puts most intimate situations on public display, which are otherwise concealed behind the walls of a privately housed home. This in turn "provides an image of identity that emphasizes their deviance" (Parsell 2011, 458). Yet, "to be outside established and legitimate

political structures is still to be saturated in power relations" (Butler, 2011). Even though certain 'bodies' are excluded from being seen and heard as loudly as those of street demonstrators, "whether abandoned to precarity or left to die through systemic negligence, concerted action still emerges" (Butler, 2011). Butler refers in this context to the state-less, and not right-less, as she derives rights from a mere bodily appearance – a theoretical claim that is often neglected in practice. Yet, this argument of state-lessness can be extended to the reality of people experiencing homelessness, as this paper will point out later.

Inhabiting and reinterpreting public spaces with all bodies' needs, people without 'proper' homes become visible, they "appear" to speak with Butler, and make a claim – a denouncement of and a revolt against existing social conditions and the capitalist system producing them.

Order – transient lives disrupting the urban, or the urban disrupting transient lives

Hence, the mere presence of informal homes and transient urban lifestyles and their visible spatial tactics are regarded as disturbances of a capitalist urban order. The origins of stigmatizing unsettled lifestyles as 'disturbing' lie in the social relations of a capitalist society which produces contemporary conditions of homelessness; in order to understand the perceived offensiveness of the homeless realm, these relations need to be analyzed (Hennigan 2018, 149).

'Productivity'

Based on the paradigms of monetary value, profit and growth, the capitalist economy is in need of workers to produce the necessary surplus value. On the contrary, individuals *appearing* non-productive are considered valueless for the economic system, and are, therefore, neglected or even penalized by capitalist societies and their institutions: "The apparent offensiveness of homeless people, specifically the apparently 'able-bodied' homeless, originates because they are seen to not be regularly selling their labour power, not producing new, surplus value through commodity production" (Hennigan 2018, 150). In capitalist terms, productivity is solely associated with wage labour, neglecting the fact that most appearing 'non-productive' are constantly working to maintain and manage their everyday lives. As seemingly non-productive individuals, people without proper homes appear antagonistic to a capitalist logic. Moreover, in cities with ever rising rents an increasing number of precariously employed workers can no longer afford to live in an apartment, a 'proper' home. Thus, the equation of homelessness and unemployment is not only highly stigmatizing but also long obsolete: according to a 2017 survey, 13% of San Francisco's homeless population was employed (Wagner, 2018).

Propertied citizenship

On an institutional level of state administration individuals living a mobile life are difficult to be governed, as citizens are administered and controlled best if they maintain stable circumstances of habitation and can be physically allocated. Hence, one needs to present a permanent address in order to be eligible for citizenship as the right to be protected by the state in the form of welfare or police protection, or to make use of political rights such as voting (Kannisto 2016, 223). It is in that sense, thinking of Butler's argument earlier, by being non-eligible for certain rights of citizenship like voting or social welfare, that experiencing homelessness in contemporary societies can be seen as a form of being stateless. The discourses of home and homelessness have to be considered in regard to this notion of state control exerted on individuals, or as Rachel Kiddey (2017, 200) puts it more drastically: "Home in the Euro-American context, must now involve stasis, a building or place that can be fenced around, however small

or ill equipped it is to function as home – because it must be taxed." It is the interest of the capitalist state that its citizens invest in property, in a certain piece of land, which needs to be tended both physically and financially: Resources are extracted or taken care of, and render the land physically productive, while mortgage and tax payments integrate it and its owners into the larger capitalist economy. Property ownership is, therefore, regarded as a 'positive,' monetarily valued contribution to capitalist society. Living on the move, then, can be regarded as a form of resistance to this idea of *propertied citizenship*, described by Ananya Roy (2003, 476): "The paradigm of citizenship has come to be tied to property ownership, so the homeless have been seen as trespassers in the space of the nation-state." This paradigm of *propertied citizenship* not only forms the model relationship between state and individual, but "also an ontology of being in the world, [which] emphasizes a system of values and norms, requires certain epistemologies or ways of knowing and is constantly articulated and extended" (Roy 2003, 464). A propertied home, then, is a way to regulate individuals not only financially and on an administrative level, but also socially. On the contrary, "the homeless body is [declared] the 'constitutive outside' of propertied citizenship, the alien figure that at once violates and thereby reinforces the norms of citizenship" (Roy 2003, 464).

Constitutive outside

Roy borrows the notion of a 'constitutive outside' from Chantal Mouffe who refers to Derrida, emphasizing that "the 'them' is not the constitutive opposite of a concrete 'us,' but the symbol of what makes any 'us' possible" (Mouffe 2000, 13). Therefore, exclusionary measures addressing those living unsettled lives within the urban fabric are used to define who is a propertied citizen, and who is not. Rendering the urban homeless population as 'constitutive outside,' then, is an inherent part of the system itself, and this process of exclusion a result of capitalist economic development, which produces contemporary conditions of homelessness:

The continuous growth of urban areas and the rising demand of housing made land a scarce urban resource, rendering investments in housing as highly profitable and relatively safe. Housing was transformed into a global commodity, a money depot or a bank account translated into physical form, accumulating and increasing surplus value. Indeed, state legislation enabled this transformation of housing into assets of a speculative market (Rolnik 2013): Land was privatized, formerly city-owned social housing projects were sold to private investors, while the number of newly funded social housing projects decreased (Schönig, 2020). Investments in the transformation of urban infrastructures were used as a strategic tool to encourage property development and attract capital, "even though this transformation means the dispossession of current and longtime residents" (Baldwin, Crane 2020, 366). Here, the financialization of housing in Berlin can serve as a paradigmatic example: After the demise of the German Democratic Republic and the subsequent Fall of the Wall, Berlin's housing market was deregulated and urban neoliberalization strategies as described above were increasingly applied in the entire urban area, marking a drastic shift from socialist to neoliberal housing policies (Rink, 2020). Today, thirty years later, 8,000 formerly municipality-owned real estate plots have been privatized, an area which would stretch out over an entire city district if cumulated (Schüschke, 2020; *1989–2019: Politik des Raums im Neuen Berlin* 2019). This long term transformation process continuously drove rents up, displacing communities, and in some cases even leading to the entire loss of housed homes.

The commodification of housing and its transformation into an investment asset traded on a global financial market is a global trend which "profoundly affected the enjoyment of the right to adequate housing across the world" (Rolnik 2013, 1059). It is these "processes of accumulation by dispossession that render capitalist development possible [which] produce informality as their constitutive outside," according to Sheppard, Sparks and Leitner (2020, 394). While from a

capitalist perspective transient lifestyles as “invasive” elements disrupt the way the city is supposed and strategically designed to work, the exact opposite holds true from the perspective of those driven out of their apartments, seeking to make a home in the urban. Here, it is the way the city is supposed to function according to municipal administrations which disrupts the individual reality, and the routines of making oneself a home in the city.

Penalization – involuntary movement and reinforced circularity

Appearing non-productive, excluded from the paradigm of propertied citizenship as well as certain rights of citizenship, and rendered as constitutive outside, people without formal homes are criminalized and penalized by the capitalist state. Criminalization strategies make use of the criminal justice system to reduce the visibility of the homeless population by restricting their activities and movements in public space. Penalization, then, describes the punishment through criminalizing certain activities in public space, blocking access to services and rights, imprisonment, displacement etc. (FEANTSA 2013, 15-16). Criminalization and penalization methods serve a two-fold hiding function for the state. Intended to dispel those experiencing homelessness to invisible margins of urban space, penalization policies hide, on the one hand, social issues of inequality and poverty. On the other hand, they disguise the state’s disinterest to enforce human rights for all of its residents, as the right to housing and an adequate standard of living, formulated in Article 25 of the Universal Declaration of Human Rights (UN 1948). Brian Hennigan (2018, 162) points towards a slightly other direction in emphasizing the effects of such policies driving people off the streets and into institutionalized structures as a way to ‘reintegrate’ those experiencing homelessness into the capitalist system of employment: “the vast landscape of criminalization and welfare, then, is nothing more than the necessary mode of governance for this mode of production.” Enforcing movement onto individuals and ‘relocating’ them – not only into institutional settings – becomes a technique of the state to revalue these bodies and to make them productive again.

It is no coincidence that anti-homeless laws and policies have increasingly been implemented in the United States from the 1980s onwards, accompanying the proliferation of neoliberal urban policies and the retrenchment of the welfare state, not only in the US, but also in Europe (Schönig, 2020). Municipalities and city administrations passed laws which forbid sleeping in public and strictly regulated the use of sidewalks, thereby making way for undertaking so-called ‘sweeps’ of homeless dwellings in the US (NCH/NLCHP 2006, 14). ‘Sweeps’ describe the brutal clearance of urban homes and encampments, often involving bulldozers which destroy informally built structures. The wording is alarming, as it draws on notions of uncleanness, filth and waste which need to be cleaned up, swept away. Here, language directly reflects the dehumanizing approach of penalization strategies towards the homeless population in general which goes hand in hand with criminalization strategies (Dozier, 2019) and the social construction of further stigmas. From a top-down state perspective unhoused personal homes and their private belongings do not count as individual property that is to be protected, in contrast to other forms of property such as urban land. In her research on strategies of dispossession and criminalization in Los Angeles’ Skid Row neighbourhood, Deshonay Dozier (2019, 186) cites a neighborhood activist who describes a scene of one of those ‘sweeps:’ A woman running after a dumping truck which had just deported all her belongings, including the ashes of her deceased mother, screams “‘I need to get my mom out of there’, ‘I need to get my mom’s urn out of there’, ‘I need to get my mom’s ashes out of there’, and they didn’t even think twice.” Thus, the activist concludes that if you are “not allowed to get your mother, that means that the people on the other side of the

equation don't give a damn about anything that you have to offer. You're not even human to them and you don't deserve anything." (Dozier 2019, 186)
Although the scale and frequency of systemic 'sweeps' is (still) less extensive in Europe, an intensified regulation and enforcement of a 'proper' use of public spaces, officially advocated to ensure 'public safety,' has increasingly been adopted by various national policies in Europe as well. While national context and regional legislation vary, "there are notable common features and possibly some common underlying explanations for these new legal orientations" (FEANTSA 2013, 61) which prevent those without traditional homes from accommodating their needs in the public sphere and making a more permanent claim on urban space as a space of dwelling.

Enforced movement and 'relocation'

Penalization methods employed by the state to criminalize and discipline humans living on the *move* and thereby resisting capitalist norms of productivity and spatial disposability have precursors in social history (Hennigan 2018, 160). Marx coined the term "the bloody legislation against vagabondage" to describe the brutal methods employed to discipline those out of work and on the move: "If it happens that a vagabond has been idling about for three days", one 1547 English statute read, "he is to be taken to his birthplace, branded with a redhot iron with the letter V on the breast, and be set to work, in chains, in the street" (Karl Marx cited in Hennigan 2018, 159).
While a lifestyle of impermanence is, on the one hand, penalized by municipalities and government bodies, measures introduced by the state to address homelessness enforce impermanent lifestyles and movement onto individuals. It is, in fact, often not movement as such that is directly penalized, but it is the act of staying at one place and accommodating it to one's needs, the 'loitering' and 'lingering' in public, which is rendered offensive and criminalized.
In 1987, the municipality of New York City began to distribute free one-way bus tickets out of the city to people sleeping rough, with the intention to 'relocate' individuals and families to other places inside and outside of the US if a contact address at the end of the journey could be confirmed. Under the mandate of mayor Michael Bloomberg this program was relaunched and heavily funded, making New York City the main originator city in the US of this so-called 'Homeless Relocation Program' (Bosmann, 2009; Gee, Wong and Lewis, 2017). While city councils officially declare it as a possibility to start anew and find greater stability, the individual outcome is likely to be unsettling instead. As a cheap way for cities to dispose of their 'homeless problem' this practice reveals the broad social hostility against the unhoused population. It is a cosmetic operation on the statistical level of official data, reducing the local quantitative number of the unhoused population, while the systemic causes of homelessness and its resulting challenges are not addressed, but instead shifted to other places. Ironically, most municipalities which employ this method dispose of a high median income (Gee, Wong, and Lewis, 2017); yet, they leave individuals basically roofless again, only this time on the couch of a family member or friend.

Reinforced circularity

Besides the brutality of advocating displacement, the Homeless Relocation Program represents a contradictory and cynical approach: It encourages people without traditional homes to continue a life in impermanence, while this is a main reason for their socio-political and economic exclusion and penalization in the first place. Similarly, everyday evictions and 'sweeps' force people living unsettled to keep moving further into potential instability, both in a literal and a metaphorical sense. 'Sweeps' often not only mark the individual loss of personal belongings with emotional value which make a home, such as the remains of one's mother as described above, but even more so a dispossession of valuable documents and tools important to "participate" in urban society, such as personal identification or everyday medication, money, laptops, radios etc. (Dozier 2019, 186).

'Hostile Architecture' as a criminalization strategy directly translated into physical space follows a logic of unsettling in a more literal sense: Small metal ridges as park bench partitions, thorns set in concrete in urban niches and other seemingly subtle design elements form a hostile environment to human appropriation. This design intends to prevent people from appropriating the urban as a comfortable space of rest according to individual needs, let alone turning it into a homely environment or temporary dwelling. Similar to the Homeless Relocation Program, these socio-spatial design strategies lead to a self-reinforcing circularity of displacement.

Thus, there is a clear distinction between these two notions of urban movement: Self-chosen movement as a subversive tactic is not to be confused with movement enforced onto individuals by the various strategies discussed above. Here, it becomes a tool of governance, a practice of displacement that pushes people living unsettled lives repeatedly more into motion. These strategies perpetuate social stigmas and patterns of penalization, which creates a vicious circle of exclusion and displacement that is not only physically uprooting, but also socially. In their research on the interdependencies of urban displacement, poverty and race, Baldwin and Crane (2020, 366) point out that "this movement – this forced urban migration – sabotages and fractures the very politics and relationships necessary for collective, place-based resistance." As such, enforced movement as a displacement strategy not only pushes individuals to less visible margins of urban space, but also hinders the formation of social bonds, a prerequisite for forming alliances to develop a collective action and potentially an urban revolt.

To say that our society is falling apart is only to say that it is alive and well – conclusion

Urban movement, if voluntary and self-chosen, has the potential to reinterpret public space, and to hint at alternative urban routines and lifestyles. When movement is enforced on individuals, however, it turns into a practice of continuous displacement, creating a vicious circle of exclusion which uproots individual lives. The crucial difference between movement as the potential for revolt and subversive acts and movement as a penalization strategy generating continuous displacement, then, is whether it is individually chosen or whether it is forced.

Therefore, retracing to the etymological thoughts of the beginning, another way to challenge societal stigmas of homelessness and of transient ways of living is to reframe what constitutes a home, instead of dwelling on the negation, the lack of a home. Contemporary archeologist Rachel Kiddey accompanies people experiencing homelessness as research partners to their dwelling places occupied as homes, and notes: "a quiet space in front of a hot-air vent, where one is free to come and go, where smoking is permitted and dogs are allowed seems more 'homely' than a bed in an overcrowded night-shelter" (Kiddey 2017, 212). The chosen spaces have the disposition to provide the "intangible aspects of home – privacy, space, control, personal warmth, comfort, stability, safety, security, choice, self-expression and physical and emotional well-being" (Kiddey 2017, 211). Yet, in societies which criminalize and penalize individual tactics of making a home in the urban, these qualitative characteristics necessarily remain just a *potential predisposition* for a home. The regulatory strategies of governing public space such as the discussed penalization methods, deny individuals a main characteristic of home: control over one's personal place, thus also limiting all other homely parameters such as privacy, stability, or security etc. Acknowledging these important, rather invisible characteristics which constitute a home, which are often overlooked by spatial design, can help to rethink normative conceptions of housing and *home* in general. Referring to Michel de Certeau's notion of spatial practices, learning from everyday tactics of attempting

to make a home in the urban fabric, can help re-form and re-conceptualize the city as a home on an individual level. In endorsing the need to build a home, not necessarily as permanently built structure on private property, but also as temporary and supportive infrastructure in urban public land, lies the possibility for architecture and architects to support those living on the move by helping to enhance these homely aspects of urban dwellings.
Yet, this would presuppose the formal acceptance and practical support of informal homes as part of the contemporary urban landscape, which are generated by the capitalist system, while simultaneously revolting against it. This contradiction which renders informal homes as a *constitutive outside* – produced and socially excluded by the same system – makes a formal and practical acceptance of urban informality in the capitalist city quite unlikely: Questions of legal status, ownership rights and the allocation of infrastructural responsibilities would need to be addressed in a way that contradicts capitalist urban logics based on accumulative practices and strictly set ideas of property and ownership. In that vein, Sheppard, Sparks and Leitner (2020, 402) see a subversive potential for systemic change in acknowledging urban informality: "The congenital failure of capitalism to end poverty as we know it means that urban informality remains a necessary alternative, demonstrating that capitalism also can be destabilized from the grassroots." Tent city communities can be seen as such grassroot alternative communities. They "are based on collective labor" and form a stark "contrast to the individualized survival and social exclusion in a society that has learned to either despise their homeless or to look through them as if they were ghosts" (Lutz 2015, 103). Here, the potential of forming a collective is a crucial aspect; thinking of Butler's argument earlier, it is the *conjoint gathering* of 'bodies' in public space which endows individual actions with a collective agency, developing a subversive power, that is also publicly seen and cannot easily be rendered marginal.

Yet, these communities have to continuously fight for their right to live on urban land. Acknowledging informality as inherent to the urban built environment could be a way to support their constant struggle. This would imply to recognize the systemic failure of the capitalist state to take care of all its citizens equally and to end social inequalities. Yet, the active role of neoliberal states in expanding housing as a global-local commodity on a national level can be seen as a confession that profit is more valuable than people's lives. Therefore, most municipalities still favor urban planning and management strategies like 'sweeping' informal settlements in order to hide the controversial role of the capitalist state in producing and stigmatizing homelessness, whereas transient lives in informal urban homes do not seem to matter in this process of 'social clean-up:' whether their 'relocation' is intended to make them productive again, to be a deterrent example to 'good' citizens to stay obedient and maintain their productivity, or whether capitalist society simply does not value lives outside of its norms and lets them die by neglect – all options are equally brutal.

Grassroot initiatives continuously fight this clean-up on a juridical level as well as on a day to day basis. Their resistance reveals the daily contestations of urban space, its use and interpretation, as Dozier (2019) analyzes in her research on Los Angeles' Skid Row. Here, in 2011, a successful court case against "homeless dispossession" as enacted by 'sweeps,' publicly disclosed the biased reading of property with all its undertones of racism and classism, and counteracted discursive strategies of framing informal belonging as insanitary and health hazards by "formalizing homeless property as being subject to collective determination and care" (Dozier 2019, 188): why should it be allowed to clear an informal home illegally erected on a sidewalk, and to destroy and crash it, if a convertible illegally parked on the same sidewalk would just be toed? Simple arguments like these show the biased reading of property as well as of urban space and its use. – In the wake of this successful court case "Property Not Abandoned" signs were handed out to residents which "included municipal codes

that constituted the removal or confiscation of homeless property as theft and auto-theft" (Dozier 2019, 191) so that they could stick them to their belongings; and this worked: Identifying them as property in these legal terms prevented local authorities from removing them, which, again, also reveals the biased perceptions of property and property rights.

According to Jessie Speer's ethnographic research in Fresno, California, the constant contestation of urban space, and societal stigmatization of transient lives also mark a clash between different visions of home: "With the re-emergence of large-scale informal housing, homeless communities today are once again challenging dominant notions of the meaning of home, while state intervention continues to police these expressions of domesticity." (Speer 2017, 521) Although meanings of *home* and characteristics of what constitutes a home remain relative, subjective and fluid, 'home' has been turned into a normative concept which excludes expressions openly enlivened in the urban public sphere. Moreover, in denying people experiencing homelessness to take individual or collective control over their dwellings in public space – as transient as they may appear – a fundamental aspect contributing to the notion of home-making is permanently being rejected. Thus, stigmatizations of 'homelessness' are closely linked to normative conceptions of 'home' which should instead be conceived of as the fluid concept which it has always been. Rethinking these normative prescriptions of 'home', then, can also be a way to overcome stigmatizations of 'homelessness', refraining from both romanticizing informal dwellings as well as stigmatizing them. –

In the midst of these growing inequalities and contradictions, ongoing contemporary crises and increasing social divides, when all feels to disintegrate, capitalism is still striving. The constant dynamics of destruction for 'innovation' are inherent to the capitalist logic, as Marshall Berman's reading of Marx pointedly shows: "To say that our society is falling apart is only to say that it is alive and well" (Berman 2010, p.95).

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Quarticciolo

A suburb as dissonant heritage

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Abstract

Applying case study methodology, this article addresses problematics related to the identity and origin of the Italian fascist-era residential satellite areas constructed around the capital, Rome. The article focuses on one such suburb, Quarticciolo, built mainly between 1940 and 1943 on the eastern periphery of the city. Three narratives contributing to the formation of the area's identity are identified and presented: Quarticciolo as (i) an expression of the fascist government's aspirations, (ii) a significant centre of anti-fascist resistance, and (iii) an example of modern rationalist architecture.

The three narratives, along with their constitutive elements, are then compared, and counterarguments to them are presented. It is argued that although all the narratives, in different ways, are connected to historical facts, each one of them on its own offers a one-sided interpretation. The narratives are then connected to the process of the public memorialization of the fascist era and the resistance, and to broader ongoing discussions concerning the architecture of totalitarian and dictatorial regimes as 'dissonant heritage'.

Keywords: Italy, 1930s–1940s, fascism, residential architecture, urban planning, cultural heritage, identity

Introduction

Cultural heritage produced by the totalitarian and dictatorial regimes of twentieth-century Europe stirs charged reactions due to the complex memories and meanings attached to those historical periods. This heritage may be characterized as 'difficult', 'contested' or even 'undesirable', which in turn may be regarded as subforms of the wider concept of 'dissonant heritage'.[1] In Italy, the architecture and art of the fascist era (1922–1945) have also given rise to various contemporary discussions.[2] These discussions often concern public buildings and monuments, the evidently controversial character of which easily sparks strong reactions.

Mundane architecture and the everyday residential environment, in contrast, have drawn less attention in discussions concerning the dissonance of the

[1] The concept of 'dissonant heritage' was introduced by Turnbridge and Ashworth (1996), who used it to characterize the discrepant and incongruous elements that are inherent to cultural heritage. For them, dissonance is "intrinsic to the nature of heritage", and hence the term is not exclusively reserved for *difficult* or *actively contested* forms of heritage (Turnbridge & Ashworth 1996, 21). The latter may thus be viewed as more restricted subforms of heritage dissonance. Macdonald (2009, 1) defines 'difficult heritage' as deriving from a historically significant period in the past which, due to its contested nature, is difficult to reconcile with "a positive, self-affirming contemporary identity".

[2] For recent research on the contested heritage of the Nazi and fascist regimes, see e.g. Bodenschatz et al. (2015) and Hökerberg (2018).

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architectural heritage built during the dictatorship of Benito Mussolini. Accordingly, this article focuses on the problematics related to the identity and origin of the fascist-era residential satellite areas around the Italian capital, Rome, using the suburb of Quarticciolo as a case study object. Three different narratives regarding Quarticciolo's identity can be recognized, viewing Quarticciolo (i) as a creation of the fascist regime, (ii) as an important centre of partisan resistance, and (iii) as an area of avant-garde architecture that combines modern elements with tradition.

These narratives – the first two of which reflect disharmonious memories related to the fascist era and the resistance – have all contributed to the construction of Quarticciolo's identity. While the first narrative presents Quarticciolo as a creation of the fascist regime, the other two offer alternative interpretations of the area and aim to remove the stigma related to its fascist origin. Various elements – including accounts given in popular historiography, images produced by mass media, oral histories, and citizens' personal memories – have contributed to the narratives. Although partly incompatible, the narratives do not entirely invalidate each other but are parallel. Each narrative, when observed alone, offers a one-sided and limited view of the complex process of development of these residential areas.

Figure 1. The twelve satellite areas around Rome, constructed by the Istituto Fascista Autonomo per le Case Popolari (IFACP) between the 1920s and 1940s. 1. Primavalle. 2. Trullo. 3. Tor Marancio. 4. Gordiani. 5. Quarticciolo. 6. Prenestina. 7. Tiburtino III. 8. Pietralata. 9. San Basilio. 10. Tufello. 11. Val Melaina. 12. Acilia. Of these, Primavalle, Trullo, Quarticciolo and Tufello are almost completely preserved today. Map: Rossi (1991, 71).

The *borgata* Quarticciolo

Quarticciolo is the last of the twelve *borgate ufficiali* (Figure 1), the so-called official satellite villages[3] constructed during the fascist era in the peripheral area around Rome,[4] planned by architect Roberto Nicolini[5] of the Istituto Fascista Autonomo per le Case Popolari (IFACP, Institute for Public Housing).[6] The building projects formed part of a social housing programme of affordable rental apartments for working-class people.[7] Many factors contributed to the growing need for apartments: population growth and internal migration, increasing rental prices, a desire to get rid of the shanty towns around Rome, the decentralization efforts of the regime, and the demolition projects undertaken in the city (Insolera 1962, 104–160).

Figure 2. Quarticciolo seen from the north in the 1950s. Photo: Insolera (1959, 53).

[3] 'Official' in contrast to the spontaneous construction projects that were characteristic of the surrounding peripheral areas during the post-war decades. The term *borgata* derives from the word *borgo*, meaning village (Insolera 1962, 139). Insolera saw it as a derisive name for an area that was "neither city nor countryside", an area where "the only possible social activity is dreaming" of a better future (Insolera 1959, 45). Today, the term *borgata* is considered obsolete and somewhat inappropriate and pejorative. For more on the origins of the word *borgata*, see Bartolini (2017).

[4] The new 1931 Piano regolatore (PRG, Master Plan) for Rome did not determine the location of Quarticciolo; the area was located outside the PRG, together with most of the twelve satellite areas built between 1924 and 1940 (Insolera 1962, 145, 159). Most of the goals of the 1931 PRG were never achieved, and the plans were changed. This change was enabled by the totalitarian nature of the regime: Rome's self-government was abolished, and the city was placed under a governor who was directly responsible to the regime (Fried 1973, 29–39).

[5] Nicolini (1907–1977) became director of the Ufficio Tecnico of the IFACP of Rome in 1940. Following his graduation as an architect in 1934, his career at the IFACP was characterized by peripheral residential projects such as Tiburtino III (1936–), Trullo (1939–) and Villaggio Breda (1939–), co-designed with architect Giuseppe Nicolosi. In the same period, Nicolini took part in competitions for the new towns of Aprilia and Pomezia in Lazio, and in the planning of the town of Incoronata in Puglia (Nicolini 2010, 15). In Quarticciolo (1940–), he further developed the solutions trialled in his earlier projects. For more on the planning and construction of Quarticciolo, see Villani (2012, 249–259) and Farina & Villani (2017).

[6] The IFACP was founded in 1904. From 1923 until 1943, its director was Alberto Calza Bini.

[7] This was a contribution to the Modern Movement's search for cost-effective minimum housing. The minimum dwelling was examined by, for instance, the second International Congress of Modern Architecture (Congrès International d'Architecture Moderne, CIAM) in Frankfurt-am-Main in 1929.

Quarticciolo, the main part of which was constructed between 1940 and 1943, is located roughly nine kilometres east of the city centre. Work on the area was decelerated by the Second World War, which Italy entered in 1940, but the IFACP's construction sites were not completely halted (Rossi 2003, 601–615). The area's last buildings were finished during the early post-war years. (Figures 2–3)

I will begin by describing and problematizing the three narratives. I will then proceed to elaborate on the politics of memory in relation to the fascist era and the resistance, and on contemporary discussions concerning the architectural heritage of the fascist era.

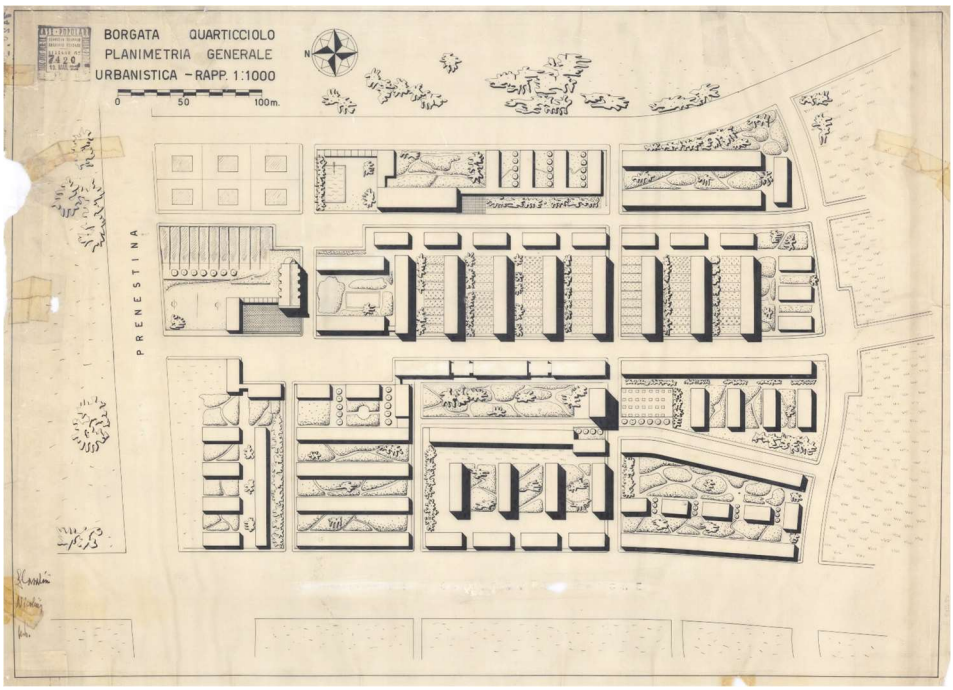

Figure 3. General plan of Quarticciolo. Roberto Nicolini, 13 March 1940, drawing no. 7420. Courtesy of: ATER del Comune di Roma (former Istituto Autonomo per le Case Popolari della Provincia di Roma), Archivio Disegni, Rome.

Narrative I: the fascist legacy

The first narrative is closely related to the area's genesis. In the collective memory of Rome's citizens, Quarticciolo has been stigmatized as an area built by the fascists,[8] and it is often seen as an expression of the fascist regime's desire to control citizens by means of urban planning. Furthermore, there has even been the belief – repeated in interviews with local people – that when seen from the air, the buildings of Quarticciolo form the word *DUCE* or *DUX*, or the letter *M* referring to Mussolini.[9]

> *In the 1940s, let's say, more or less […] Mussolini made … this structure, let's say. Actually if you travel, once, when it was constructed, … from an aeroplane, in the shots from the aeroplane one saw written: 'DUCE', there is really written 'DUX'.*[10]

[8] "*I lotti costruiti da Mussolini*" ("the blocks constructed by Mussolini", my translation). Memory recounted by Giancarlo Conte in Bogliolo (2013).
[9] "*mi dicono che, dall'alto, il Quarticciolo riproduce la Emme di Mussolini*" ("I have been told that, [when seen] from the air, Quarticciolo reproduced the M of Mussolini.", my translation.) Interview with Mario Michele Marlino in Casalena & Merlino (2018); see also Cianfarani (2020, 255).
[10] "*Ner Quaranta, diciamo, più o meno […] Mussolini ha fatto … questa struttura, diciamo. Infatti se lei, se viaggia, una volta, quando è stato costruito, … dall'aereo, le riprese dall'aereo si vede scritto:*

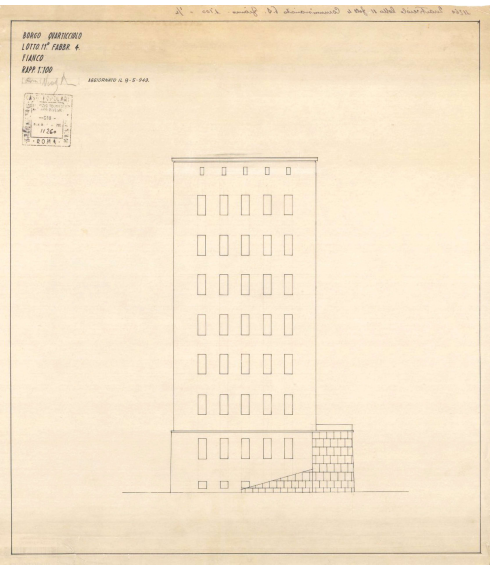

Figure 4. Former Casa del Fascio and police station, Quarticciolo, east façade. Roberto Nicolini, June 1940 (modified 9 May 1949), lotto 11, fabbricato 4, drawing no. 11260. Courtesy of: ATER del Comune di Roma, Archivio Disegni, Rome.

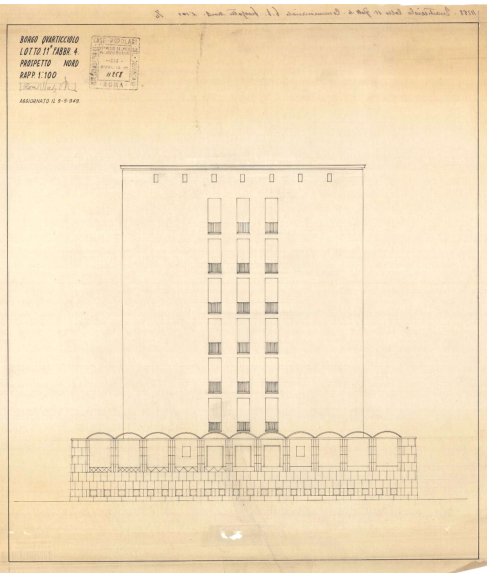

Figure 5. Former Casa del Fascio and police station, Quarticciolo, north façade. Roberto Nicolini, June 1940 (modified 9 May 1949), lotto 11, fabbricato 4, drawing no. 11258. Courtesy of: ATER del Comune di Roma, Archivio Disegni, Rome.

This narrative of Quarticciolo as an urban and architectural creation of fascism has many facets stressing different aspects of the regime's aspirations to control.

Quarticciolo and forced resettlement

Quarticciolo's origins have been connected to evictions and the forced displacement of people. According to this account, the area was built for a socially homogenous group of lower working-class people who were evicted from their homes in the historic centre and forcibly transferred to the new area on a remote periphery of Rome, in the middle of deserted fields.[11] Their old homes were demolished together with vast areas to realize Mussolini's plan for the monumental Third Rome, the capital of the fascist state. According to this story, involuntary transfer to the *borgata* meant a dramatic decline in living conditions, and the people became totally isolated from daily life in Rome's centre (Berlinguer & Della Seta 1960, 59–64, 79–97; Insolera 1962, 130–145; Ferrarotti 1970, 56–69).[12] The association between the *borgate* and the dictatorial regime remains evident in the recollections of local interviewees (Bartolini 2017, 141; Ferrarotti 2009, 104–108; Portelli 2003, 61–64).

This 'myth of origin', which believes the demolition projects in the historic city centre to have been the reason for the construction of the *borgate*, was especially kept alive during the early post-war decades, when the population transfer to the periphery was generally contested as a 'segregation policy' to separate the elite from the lower classes (Berlinguer & Della Seta 1960, 79–80). However, to condemn this simply as 'discriminatory mass deportation' would be to give a one-sided image of a complex historical process.

At the beginning of the 1940s, when the Quarticciolo construction started, *sventramenti* (demolition projects) were executed, for example, in the areas of the Borgo (the future Via di Conciliazione), Via delle Botteghe Oscure, and the surroundings of the Capitoline Hill (Insolera 1962, 132–133, 142–143).[13] Even though the demolitions and the construction of the *borgate* were parallel phenomena, this does not mean that they were as interconnected as the narrative suggests. Later studies (Salsano 2010; Villani 2012) have described the complex social structure of the IFACP residential areas in Rome and have shown that people evicted from the historic centre comprised only a minority of those to whom apartments were allocated.[14]

The residents were selected by the Ufficio di Assistenza Sociale of the governorship of Rome according to certain criteria.[15] The majority of Quarticciolo's first 300 apartments were allocated in 1942 to large families with at least seven children, to applicants with fascist political or military merit or who had been widowed or maimed by the war, and to *squadristi* and *combattenti* (*Il Messaggero* 1942, cited in Farina & Villani 2017, 46).[16] Besides, in July 1943

'DUCE', c'è proprio scritto 'DUX'." Memory recounted by Quarticciolo resident Vincenzo Pujia, quoted in Ferrarotti and Macioti (2009, 104, my translation).

[11] Such stories are not limited to Rome, however. Similar memories about evicted people are narrated in Milan, for instance (Sica 1985, 435–437).

[12] In addition to Quarticciolo, this myth of origin is associated with e.g. Pietralata, Tor Pignattara, Gordiani, La Garbatella, Tor Marancia and Primavalle (Trabalzi 1989, 38–39; Painter 2005, 95; Sinatra 2006; Camarda 2007; Ficacci 2007; Viccaro 2007, cited in Salsano 2010, 225).

[13] On the demolition projects, see Etlin (1991, 391–403) and Cederna (2006).

[14] However, it has been noted that in Primavalle, 17.5 per cent of the apartments (240 out of 1363) were allocated to people from the historic centre, especially from the Borgo area (Villani 2017, 37).

[15] Salsano (2010, 214) has noted that in many cases, in order to win approval for their application for an apartment, people appealed to *equità fascista* (fascist equality) or *bontà del Duce* (the benevolence of Mussolini) and claimed to have *sincera fede fascista* (sincere fascist faith), a real or pretended support for the regime. A letter of recommendation from a local association of the National Fascist Party was often also useful.

[16] *Squadristi* were armed fighting groups of fascists; they played a decisive role, especially at the beginning of the dictatorship. Each local squad had its own distinctive name, banner and membership

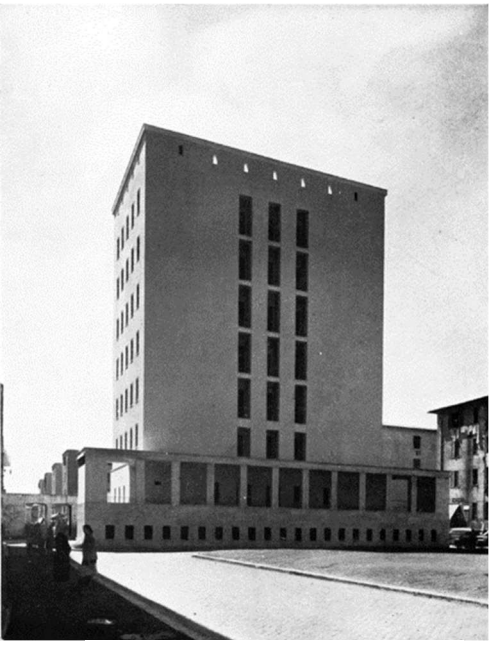

Figure 6. Former Casa del Fascio and police station, Quarticciolo. Photo: Cinquant'anni di vita dell'Istituto Autonomo per le Case Popolari della Provincia di Roma. 1953. Roma: Istituto Grafico Tiberino. p.81.

Quarticciolo received a number of people who had been left homeless by the bombing of the areas of San Lorenzo and Prenestino (Villani 2012, 257–258). Generally, the majority of the satellite areas' residents typically belonged to the city's lower working class and had either come from surrounding peripheral areas or migrated from other parts of Italy, especially from the south (Ferrarotti 2009, 104–105; Painter 2005, 92). Thus, the residents of Quarticciolo were a heterogeneous group consisting of people from diverse backgrounds.

Contrary to the narrative, a transfer to peripheral areas also did not automatically mean a deterioration in living conditions. This recollection may have been sustained by the memory of the *borgate rapidissimi*, residential areas – such as Gordiani and Prenestina – that were rapidly built on the periphery in the early 1930s by the IFACP or the city government. These areas were of low quality with no services and they typically consisted of one-storey houses that were often meant to be temporary. (Berlinguer & Della Seta 1960, 95–97; Villani 2017, 173–177). Areas designed at the turn of the 1940s, such as Primavalle (1938–1954), Trullo (1939–1940), Tufello (1940–1947), Villaggio Breda (1940–1948)[17] and Quarticciolo (1940–1943), were of higher quality, offering basic services and apartments with kitchens and running water (Insolera 1962, 143).[18] However, inadequate local maintenance and the destitution of the war years meant a decline in living conditions. The long distance to the centre and the lack of an adequate transport system deprived people of normal city life and rendered the situation difficult for those who worked in the centre.

Surveillance by means of architecture and urban planning

In addition to forced displacements, the narrative is connected to recollections of the control and surveillance of residents. According to the story, many of Quarticciolo's first residents were anti-fascists and revolutionaries. Due to the social segregation and isolation of the periphery, people who were considered politically suspicious could easily be kept under control (Rossi 1996, 154, cited in Painter 2005, 95).[19] In addition, there are memories of experiences of supervision in other comparable Roman suburbs, such as Primavalle (Trabalzi 1989, 43) and a *case popolari* area on Via di Donna Olimpia (1930–1938), about which the following memory was collected from a resident:

> *I lived in Donna Olimpia. They built these big projects, the [so-called] sky-scrapers and in my way of thinking, these projects were not conceived in order to give a home to working people. They were conceived in order to concentrate people who were adverse to Fascism in strategic places, where they could be controlled easily.*[20]

Figure 7. Casa del Fascio in Tiburtina III. Photo: Capitolium, Rassegna mensile del Governatorato, "Il nuovo centro assistenziale per la borgata Tiburtina III", no. 1, January 1939. p.180.

In the middle of Quarticciolo there is a high-rise tower, originally a combined Casa del Fascio[21] – the local seat of the fascist party – and a police station

card (Cannistraro 1982, 515–517). *Combattenti* were veterans of the First World War, assisted by the organization Opera Nazionale Combattenti.

[17] Trullo and Tufello differed from the other Roman *borgate* in respect of their intended residents: they were constructed for *rimpatriati*, migrant Italians returning to their home country from abroad due to the Second World War (Villani 2017, 38). Villaggio Breda was constructed in Torre Gaia for workers at an armament factory (Società Italiana Ernesto Breda, established in 1866).

[18] When Giuseppe Bottai became Rome's governor in 1935, the role of the IFACP strengthened, and a new building programme was initiated in 1936 (Villani 2012, 122). This meant that the 'second-generation' *borgate*, planned between 1937 and 1940, were of higher quality.

[19] Exile to a place where an opponent of the regime could be controlled was used as a disciplinary measure during fascism. One experience of such internal exile is described by Carlo Levi in his book *Christ Stopped at Eboli* (*Christo si è fermato a Eboli*, 1945). He was exiled to a remote area of southern Italy between 1935 and 1936.

[20] Recollection by Goffredo Cappelletti (Portelli 2003, 61).

[21] The construction work of the building was given out to the company Quoiani in February 1942. (Archivio di Stato di Roma, fondo Genio civile di Roma, b. 536, cited in Villani 2017, 46.) On Casa del Fascio, see De Bernardi and Guarracino, eds. (1998, 196). In ancient Rome, the *fascio* (Latin, *fasces*) comprised a bundle of rods with a single-headed axe, representing authority (Cannistraro 1982, 205).

(*commissariato*, Figures 4–6). The height renders it the most important building in the area, and certain features, such as the thin gaps in the façade, make allusions to a fortress with portholes. From the top of the tower, the whole neighbourhood would be visible.[22] The square in front of it, Piazza del Quarticciolo, was for civil gatherings and rallies. (Villani 2012, 253; Villani 2017, 46)[23] Buildings for the central institutions of the fascist regime – such as Casa del Fascio,[24] the Opera Nazionale Maternità e Infanzia,[25] and Gioventù Italiana del Littorio[26] – were typically located in the new settlements created during fascism (Figure 7).

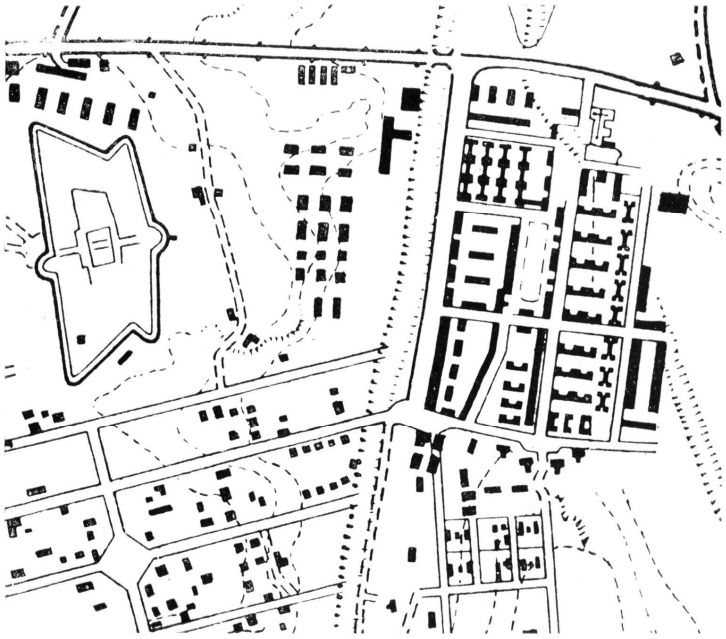

Figure 8. Forte Prenestina fortress and Quarticciolo. Map: Insolera (1959, 53).

In relation to the theme of supervision, it has been noted that Quarticciolo, like many of the other Roman *borgate* planned between 1935 and 1940, is located in the vicinity of a military fortress – intentionally so, according to suggestions by a few historians (Insolera 1962, 108–109, 142–143; Sica 1985, 415).[27] There is indeed a circle of fifteen fortresses and three batteries that were built around Rome between 1877 and 1891, after the unification of Italy, with the aim of

[22] Some residents recall in interviews that the entire area would have been controlled from the top of the tower. See: Associazione Sguardoingiro, 2012.

[23] In plans dated June 1940, the ground floor of the building has separate police cells for men and women, and the first floor has rooms for the political squad. On the fourth to sixth floors there are barracks for over sixty people (Nicolini, R., 1940. Commissariato di P.S. e Caserma Agenti P.S. Borgo Quarticciolo, Lotto 11, fabbricato 4, drawings no. 11250–11257. Rome: ATER del Comune di Roma, Archivio Disegni). In the early post-war years, the building was used as a police station, a common fate for many former Case del Fascio.

[24] Casa del Fascio was also constructed in Pietralata (1934), Primavalle (1938), Tiburtino III (1939, see Figure 7) and San Basilio (1940–) (Villani 2012, 78, 172–173, 183–184, 253–254, 269).

[25] The Opera Nazionale Maternità e Infanzia was a fascist propaganda association that assisted mothers and infants. Established in 1925, it was one of the measures designed to strengthen the Italian family and remove women from the workforce. (Cannistraro 1982, 202–204)

[26] The Gioventù Italiana del Littorio was a fascist youth organization. Established by the regime to mobilize the support of young people, it was a powerful instrument of political persuasion. Fascist youth organizations comprised over five million children, adolescents and young adults by 1940. (Cannistraro 1982, 569–573)

[27] In 1929, Raffaello Ricci argued that "*borgate rurali* of 1000 to 1500 people" should be constructed so that they would be under the surveillance of "a police station or military volunteers, for reasons of security of the state" (Ricci 1930, cited in Insolera 1962, 108–109, 143; see also Bossalino et al. 1975). In addition to Quarticciolo, the suburbs of Pietralata (1935–1936), Tiburtino III (1936–1937) and Primavalle (1938–1954) are all located near fortresses. For more on the fortresses around Rome, see Iacobone (2006).

protecting Rome from possible attacks after its nomination as the new capital in 1870. Forte Prenestino, beside which Quarticciolo is located, was built between 1880 and 1884 to guard Via Prenestina, which leads to the Porta Maggiore gate in the city wall (Iacobone 2006, 87, Figure 8). The fortress could facilitate a military intervention if needed, and – like the tower of the Casa del Fascio – its presence would be a constant reminder to residents of the power of the regime (Cianfarani & Porqueddu 2012, 112).

A strong psychological factor is thus at play in the presence of fascist institutions and military fortresses in these areas. Indeed, the emphasis on the areas' fascist origin has sometimes even driven people to create recollections of fascist symbols that turn out to be illusory. The recollections quoted above, which claimed that letters referring to Mussolini would be visible when Quarticciolo was viewed from the air, may be taken as examples. Aerial photographs and maps do not support the claim that the buildings of Quarticciolo would form any particular letter or word.

Figure 9. The borgata San Basilio near Via Tiburtina, 1944. Note the buildings forming the word *DUCE*. Photo: ICCD Aerofototeca (Istituto Centrale per il Catalogo e la Documentazione) in Bonomo (2006, 152).

However, the formation of letters through the arrangement of buildings was not uncommon in Italy in those years. For instance, in San Basilio – constructed north-east of Quarticciolo by the IFACP between 1940 and 1942 – a group of buildings was configured to form the word *DUCE* (Figure 9). Among these buildings were a school, a kindergarten and a small church. The area consisted mostly of low-quality single-storey houses for large families. The text could be seen from an aeroplane until the buildings were demolished during the 1950s (Villani 2012, 268–276). In addition, the city of Latina (formerly Littoria, founded south of Rome in 1932) is known to have Palazzo M, a former Casa del Fascio constructed in 1943 in the shape of the first letter of Mussolini's surname. The fact that similar recollections were connected to Quarticciolo shows, I believe, that stories and memories concerning different areas have interacted and overlapped with each other.

Nevertheless, there were also other reasons for placing these suburbs on the periphery besides those related to control and social segregation. Under fascism,

the population of Rome almost doubled (Insolera 1962, 146).[28] At the same time, the regime introduced a deurbanization policy, implemented through the depopulation of cities (*sfollamento*). Population growth, which was a goal of the regime, was thus intentionally directed towards the countryside and supported by means of propaganda (Villani 2012, 256).[29] In publications overseen by the regime, the new satellite areas were marketed with images of fresh air and sunlight, the 'healthier life of the countryside', with services and lower-density housing, and in opposition to the old, dense and unhealthy quarters of the historic centre (Painter 2005, 94). As a part of the propaganda, the fascist regime wanted to represent itself as improving living conditions and helping poor families to acquire new homes, while at the same time also striving to get rid of anything that might threaten the image of the new modernized Rome (Salsano 2010, 224).

Furthermore, decentralization was also regarded as an answer to the question of air raid protection for citizens. The Italian National Union of Air Raid Protection and the Commissione per le borgate satelliti, of which the architect Gustavo Giovannoni was the leader, set out a plan for satellite villages around Rome in 1938 (Cohen 2011, 160). A system of small rural agglomerations around the city was to be located in areas where there was nothing of strategic importance that would interest the enemy (Stellingwerff 1940, 7–9).

While narrative I correctly captures the fact that Quarticciolo was constructed as part of the fascist era's plans for urban development, the observations above imply that both the regime's aspirations to relocate its opponents in the peripheries and its attempts to control its citizens by means of city planning are overemphasized in this narrative.

Narrative II: resistance

The second narrative can be seen as a kind of counter-reaction to the first, challenging the idea that fascism was the constitutive feature of the area's identity. This second narrative – supported by the recollections of local people and by public historiography – is built around the story of a person called Il Gobbo, the 'hunchback of Quarticciolo'.[30] According to the story, he was the leader of a partisan band called Basilotta (Majanlahti & Guerrazzi 2010, 129), which fought in the resistance during the nine-month German occupation of Rome between 1943 and 1944.[31]

Figure 10. Memorial plaque on the façade of the former Casa del Fascio and police station in Quarticciolo, dedicated by "the anti-fascists of Rome" to "the partisans of Quarticciolo". Dated 24 April 2010. Photo: author (2018).

The partisans had a number of supporters in Quarticciolo, and the suburb served as a hiding place for Il Gobbo's band, which was "always on the edge between anti-fascist struggle and common crime" (Portelli 2003, 64). Il Gobbo was born in Calabria in 1927 and moved to Rome with his family in the 1930s. Aged only seventeen, he was especially active during the first months of the German occupation in 1943. He earned his reputation as a benefactor by organizing attacks, stealing from Germans and fascists, and giving the loot to the poor of the area; he gradually became one of the most wanted resistance fighters (Vidotto

[28] At the end of the 1930s, Rome's estimated annual population growth was 50,000 people (*Capitolium* 1938, 81–86, cited in Painter 2005, 92).
[29] On these events, see Kallis (2014, 175–186).
[30] His real name was Giuseppe Albano. He gained the nickname 'Il Gobbo', which means a hunchback, due to a malformation of his back.
[31] The resistance can be defined as both a civil war and a patriotic war since it targeted both the fascist Italian Social Republic (ISR) and the Nazis. Support for the regime reached a peak after the invasion of Ethiopia in 1936, but it then started to decline, due to the alliance established with Germany and the anti-Semitic laws that came into force in 1938. In addition, the impact of the Second World War increased anti-fascist sentiment among the people (Portelli 2003, 10). Mussolini was voted out of power by the fascist grand council on 25 July 1943, and soon after this the Germans occupied Rome. Nonetheless, it was not until April 1945 that the whole country was liberated and the ISR came to an end.

2001, 238). He was later killed in unclear circumstances (Portelli 2003, 64).[32] In addition to Il Gobbo's band, there were several other small partisan groups (Villani 2012, 258). Quarticciolo's association with partisan resistance is something that people living in the area have often recalled in interviews (Portelli 2003, 63–64; Ferrarotti & Macioti 2009, 111–112).[33] (Figure 10)

Consequently, during the post-war decades, Quarticciolo was remembered as one of the most important centres of anti-fascist resistance in Rome, together with several contemporary peripheral areas, such as Pietralata, Gordiani and Tor Pignattara (Camarda 2007; Ficacci 2007; Viccaro 2007). The peripheral areas were even called *la cintura rossa* (the red belt) of Rome. The role of the periphery in the anti-fascist resistance was especially highlighted by the political left (Bartolini 2017, 138–139). Residents' support for leftist parties showed in their voting behaviour: in the election of 25 May 1958, more than 60 per cent of Quarticciolo's residents voted for the political left (Berlinguer & Della Seta 1960, 107–108).[34]

The first years of Quarticciolo corresponded with the years of the Second World War and the period of Rome's occupation[35]; thus, the events of 1943–1944 essentially defined the early identity of the area. Although the population of the periphery was mainly working class, the residents of Quarticciolo and the surrounding areas came from diverse backgrounds, as pointed out above. From a microhistorical perspective, the recollection that residents were active opponents of fascism is understandable, as it reinforces the area's identity. Nonetheless, from a broader perspective, the process of national memorialization of the resistance and the fascist period may be considered problematic.

Narrative II and the collective (loss of) memory

The public memorialization of the fascist era has indeed passed through several phases, with attitudes towards the recollection of that period varying depending on the political emphasis (Fogu 2006, 151–165). Besides local memories, popular historiography and the mass media have also contributed to how the fascist era and the resistance are remembered in Italy. It has been argued that this historiographical process has created a strong collective memory of the resistance as covering the whole of Italy, and an image of Italians as anti-fascist from the beginning (Fogu 2006, 149–151). In this process, the twenty years of fascism that preceded the resistance have often been forgotten.

However, the partisan movement in Italy was largely a northern phenomenon, and it emerged mainly during the *biennio* of 1943–1945 – the two-year period of the fascist Italian Social Republic (ISR), which Mussolini, controlled by the Germans, directed from the town of Salò. The experiences of this period were very different in northern Italy (from north of Milan to south of Rome), which was administered by the fascists and occupied by the Germans, and in southern Italy, which was administered by the Italian monarchy and liberated by the Allies (Fogu 2006, 148–149).

Hence, after the Second World War, the word 'resister' primarily referred to a person who had opposed the nineteen-month ISR regime, not to an opponent of the whole fascist period, which had begun when Mussolini took power in 1922. Certainly, the resisters also included long-term opponents of fascism. Although

[32] For more on the character of Giuseppe Albano, see Recchioni and Parrella (2015) and Gemelli (2009).
[33] See also Ferrarotti & Macioti 2012; Associazione Sguardoingiro 2012; and Scuola Media di via Pirotta & Scuola Media di via del Pergolato 2015.
[34] The main leftist political parties were the Christian Democrats, Italian Socialist Party and Italian Communist Party.
[35] Most of the plans for the buildings in Quarticciolo were dated spring 1940, just before Italy entered the Second World War in June 1940.

the Italian resistance was the largest such movement in Western Europe – the number of partisans reached 250,000 by the time of Italy's liberation in 1945 – the ISR still had about 487,000 members and almost 400,000 soldiers in the spring of 1944 (Ben-Ghiat 2001, 201–204). Pollard (1998, 116–117) has noted that although the efforts of the partisan bands were important, it was ultimately the Allies who defeated the fascists and Nazis in Italy.

The somewhat exaggerated emphasis on the resistance movement is only one example of how collective responsibility for the fascist period was downplayed in the years after the fall of the regime. In 1944, the philosopher Benedetto Croce called the fascist dictatorship a pathological "parenthesis" in the nation's history (Croce 1963, cited in Ben-Ghiat 2001, 207), thus implying an image of fascism as something that was not innate to Italy but stemmed from external origins. Furthermore, the post-war decades saw the creation of an image of the fascist dictatorship as a rather benign form of totalitarianism, "a 'lesser evil' with respect to National Socialism" (Ben-Ghiat 2004, 137; see also Focardi 2004). Similarly, the Italians of the fascist period were often seen as *brava gente* (good people), victims of the Nazis and fascists. In the post-war years, many Italian films, such as Roberto Rossellini's *Roma città aperta* (*Rome, Open City*, 1945), supported these images of the past (Fogu 2006, 147).

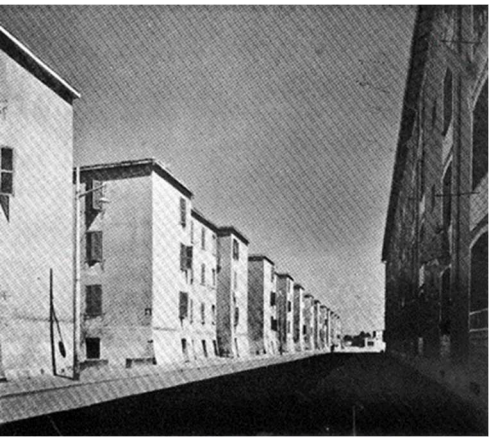

Figure 11. Residential buildings in Block 8 along Via Ugento, Quarticciolo. Photo: Cinquant'anni di vita dell'Istituto Autonomo per le Case Popolari della Provincia di Roma. 1953. Roma: Istituto Grafico Tiberino. p.80.

Yet, in response to Groce, the author and journalist Giame Pintor argued as early as 1950 that the dictatorship "was not a parenthesis, but a grave malady that had corroded every fiber of the nation" (Pintor 1950, cited in Ben-Ghiat 2001, 207). The image of Italians as *brava gente* has worked as an "exculpatory paradigm", demonstrating the citizens' innocence and releasing them from feelings of guilt regarding the events that took place under fascist rule (Fogu 2006, 169). The fact that most of the Italian Jews survived, and their deportations to concentration camps did not start until 1943, has undoubtedly contributed to this image.

According to the historian Emilio Gentile, when it comes to looking back at the *ventennio* – the twenty years of fascism – Italians as a nation suffer from *amnesia collettiva*, a public memory loss (Gentile 2009; Lonigro 2018). Some parts of the memorialization process – such as the fascist era's absence from the history taught in Italian schools for several decades after the war – can even be called an "active process of forgetting" (Mezzana 1997, cited in Fogu 2006, 150).

Figure 12. A balcony-access building type (casa a ballatoio) in Block 2 along Via Ostuni, Quarticciolo. Photo: Nicolini (2010, 69).C

The public memorialization of the resistance and the preceding twenty years of fascism may thus be considered an obstacle to the nation's coming to terms with its dictatorial past. In this respect, the Italian reaction to fascism differs considerably from the German path of *Vergangenheitsbewältigung* (dealing or coping with the past) with regard to the Nazi era.

Narrative III: rationalist architecture

While the first narrative condemned Quarticciolo as an oppressive creation of the fascist regime, and the second emphasized the role of the resistance, the third narrative offers alternative perspectives. Like narrative II, it also denies that fascism is the main factor determining the area's identity. In contrast to the negative description of Quarticciolo as a monotonous, desolate and squalid area where "all the buildings are oriented in the same way, the main axis in north-south direction" (Ferrarotti 1974, 80–81; Ferrarotti & Macioti 2009, 104), the area is represented as an avant-garde example of Italian rationalist architecture and as anything but monotonous. This narrative sees the whole area in a different light, as influenced simultaneously by classical and vernacular architectural traditions and the international Modern Movement (Figures 11–12).

According to this interpretation, Quarticciolo's orthogonal street network follows a rectangular pattern, inspired by the model of an ancient Roman settlement

outlined by *cardo* and *decumanus* streets (Via Manfredonia and Via Ostuni) (Nocera 2010, 37; Cianfarani & Porqueddu 2012, 117).[36] The series of separate but still connected religious and secular piazzas, and the gradual emergence of the tower-like building in the middle of the area, have been construed as inspired by Austrian urban theorist Camillo Sitte's (1843–1903) studies of medieval public spaces (Farina 2017, 94). Furthermore, following the interpretation, the plain, simplified building typologies reflect the interest in *architettura rurale*, the vernacular architecture of the Roman countryside (Cianfarani & Porqueddu 2012, 117). In contrast to these aspirations, the area has also been praised for its experimental architecture, especially for the development of the strictly rational, grid-façaded, balcony-access building type (*casa a ballatoio,* Figure 12), which enabled the creation of numerous small apartments at a reasonable price (Angeletti et al. 1984, 22). It has been argued that the area was particularly inspired by the functionalist German *Siedlung* settlements and the idea of *Existenzminimum* (the 'dwelling for minimal existence'), a shared ambition among European architects (Cianfarani & Porqueddu 2012, 118).

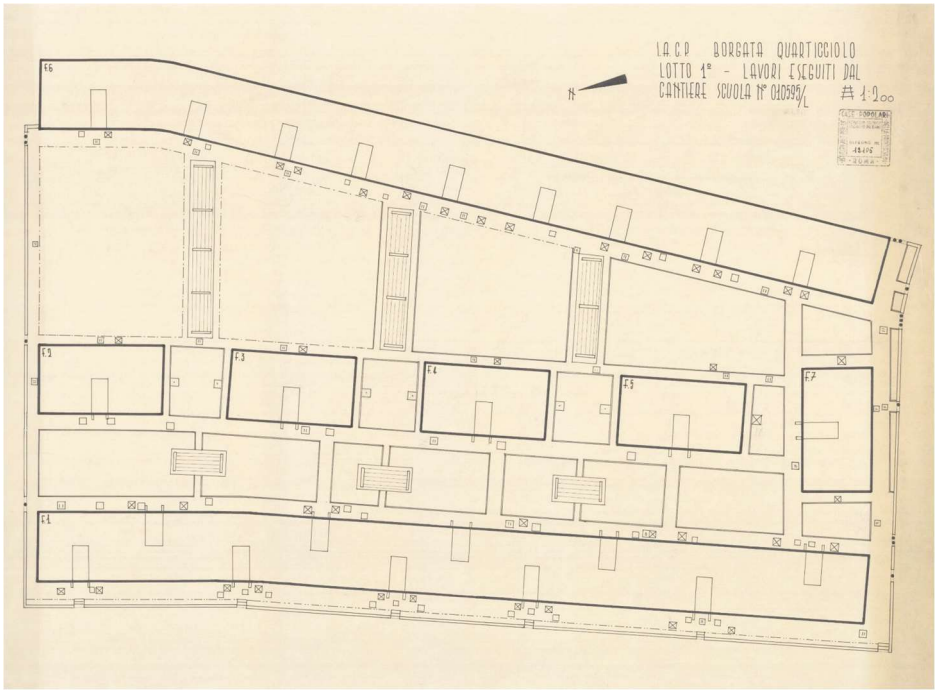

Figure 13. Plan of quarter 1, between Via Castellaneta and Viale Palmiro Togliatti, Quarticciolo. Roberto Nicolini, 1940, drawing no. 12105. Courtesy of: ATER del Comune di Roma, Archivio Disegni, Rome.

When the area is observed more closely, a myriad of valuable features can be noted. At the area level, Quarticciolo clearly differs from the surrounding miscellaneous post-war neighbourhoods thanks to its well-defined spatial structure, uniform appearance and strong architectural character. At the quarter level, despite the buildings' plain appearance, the area is rendered spatially versatile by the rhythm of the open spaces and building volumes, and by the continuous sequence of public spaces from the church piazza (Largo Mola di Bari) to the main piazza (Piazza del Quarticciolo), which is dominated by the tower-like building (the former Casa del Fascio and police station) indicating the location of public and commercial functions.

[36] *Cardo* and *decumanus* were terms used in town planning, based on the ancient Roman *castra* settlement, where the main horizontal axis was *cardo maximus*, and the central vertical axis *decumanus maximus* (Nissen, Höcker & Prayon 2006). Admiration and mimicry of ancient Rome, *romanità*, was also a central feature of the fascist regime. On *romanità*, see Visser (1992).

Figure 14. Lamellar houses (casa in linea) in Block 9 along Via Manfredonia, Quarticciolo. Photo: author (2018).

Figure 15. Long lamellar house with nine staircases in Block 1 along Via Castellaneta, Quarticciolo. Photo: author (2018).

Figure 16. Lamellar houses in Block 8 along Via Ugento, Quarticciolo. Photo: author (2018).

There is plenty of variation in building typologies and in the way the buildings are arranged. The comb-shaped quarter structure, repeated in different ways, affords a series of semi-private, enclosed courtyards between the residential buildings (Villani 2012, 251, Figure 13). The building types consist of different versions of lamellar and balcony-access houses from three to five storeys high.[37] The variation continues at the level of the façades, enriched by the open grids of the staircases and the arched vaults of the balconies and loggias. (Farina 2017, 91–134) The ideals of international functionalism and contemporary social housing production are visible in Quarticciolo's grid structure and open quarters, the arrangement of the dwellings' main rooms in favourable directions, and the plain plastered walls with minor ornamentation.

Besides rationalism and the classical, medieval, and vernacular traditions, the architecture of Quarticciolo[38] (Figures 14–17) was strongly shaped by the policy of autarchy, the national self-sufficiency programme executed by the fascist regime.[39] In fact, the interest in vernacular architecture – common among architects internationally at the time – and the fascist policy of autarchy led to somewhat similar results. The economic principles of autarchy required e.g. the saving of steel, cement and wood, and promoted the use of local materials. This in turn caused a return to traditional construction techniques, such as masonry bearing-walls and vaulted openings, and stimulated the development of new structural experiments. (Farina 2017, 126)

Most of the characteristics described above are shared with the other Roman *borgate* from the turn of the 1940s – in planning many of which Nicolini had participated – demonstrating their high architectural quality in comparison with earlier such projects. These architectural features are undoubtedly an important factor in creating a sense of belonging to place among the residents (Farina 2017, 134).

While the first two narratives were supported and sustained by residents' and citizens' oral histories, the third narrative has mostly been promoted by specialists such as art historians, architects and researchers. It is also of later origin than the first two, having emerged in recent decades as scholars have become increasingly interested in the peripheral areas. However, this narrative, which focuses only on the area's architectural features, also offers a one-sided perspective on Quarticciolo if considered in isolation.

When we examine the architecture of a totalitarian or dictatorial regime, according to urban planner and sociologist Harald Bodenschatz, instead of evaluating the buildings and urban planning projects as "products alone" we also need to pay attention to the political, social and cultural context in which the architecture was created. This is crucial for understanding "why and how the products emerged and why they took a particular shape and character". (Bodenschatz 2017, 144, 153) However, the Italian rationalist architecture of the fascist era is often described, for instance, as *razionalismo degli anni Trenta* or *architettura*

[37] There are roughly 2300 apartments in the area (Angeletti et al. 1984, 82–83).

[38] Roman modernism had a strong association with history and tradition. In this respect it differed from the more standardized rationalism of the northern Italian architects, who had closer connections with the International Style. The Roman Modern Movement, led by the architects Marcello Piacentini and Gustavo Giovannoni, strived to mix international 'universal architecture' with the contextual approach (Etlin 1991, 271–279, 323–325).

[39] The general director of the IFACP of Rome sent a letter to the IFACP chief of offices, and also to Roberto Nicolini, in January 1940. In the letter, he ordered the *borgate* to be constructed according to the principles recently validated by Mussolini: '*autarchia – economia – rapidità*'. This especially meant making savings in materials and work hours, aiming for rapidity of construction and 'good enough' apartments for the masses without risking the quality of construction (Ordine di servizio N° 2 "Criteri per la progettazione e l'esecuzione dei nuovi gruppi", 6 January 1940. [letter] Rome: ATER del Comune di Roma, Archivio atti Direzione Generale).

Figure 17. Lamellar house in Block 1 along Viale Palmiro Togliatti, Quarticciolo. Photo: author (2018).

metafisica,[40] with no mention of fascist ideology, which is considered problematic. For instance, the fascist-era city of Tresigallo, which markets itself as the *città metafisica*,[41] has been accused of the "complete removal of its political past" (Capresi 2019, 43). A growing number of researchers and historians view with caution the tendency to consider the architecture and art of the fascist era in isolation from its ideological and political meanings (see e.g. Carter & Martin 2017, 355).

The narratives and post-war identity formation

At this point, it is advisable to sum up the most important points related to the narratives. The first narrative illustrates the strong association between the satellite areas and the fascist regime, foregrounding the segregation, control and surveillance of residents, especially those adverse to fascist ideology. The second narrative, recalling the area's role in the resistance, may in turn be interpreted as a counter-narrative to the first. The emphasis on the memory of active anti-fascist resistance may be regarded as an emancipatory remedy that strives to remove the stigma of the suburb's totalitarian origin.

Indeed, the first two narratives seem to share the view that the majority of the suburb's inhabitants were opponents of the fascist regime. With regard to the population flow towards the periphery, it has been suggested that "the most extensive slice of the Fascist 'third layer in Rome'" was largely a consequence of the "strategy of making people invisible" (Kallis 2014, 185–186). Narrative II, in turn, presents a story of these 'invisible people' uniting their forces in the partisan resistance. The historical reality, as pointed about above, is more complex.

The narrative of forced displacement and resistance has probably united people, as Luciano Villani has suggested, to fight against the isolation of the periphery and affirm a sense of belonging. The hard times they experienced together increased solidarity among the residents, who felt underprivileged and marginalized (Villani 2017, 38, 49).

The need for such possibilities was urgent in the post-war decades, which were characterized by waves of migration, congestion, unemployment, destitution and poverty. Quarticciolo, among the other areas, suffered from an absence of healthcare services, electricity and transport (L'Unità 1944, 1945, cited in Villani 2012, 255). The difficult living conditions on the periphery during the post-war years were criticized especially strongly in the 1950s and 1960s (Berlinguer & Della Seta 1960; Insolera 1962; Ferrarotti 1974). These aspects of the marginalized periphery were portrayed in cinema, for instance, in the short film *Terzo mondo sotto casa* (Giuseppe Ferrara, 1970), which also showed glimpses of Quarticciolo. However, this documentary film has been criticized for conflating the problems of the shanty towns and areas of provisional and spontaneous construction (*baraccopoli*)[42] and the higher-quality official *borgate* into a homogenous whole (Villani 2017, 51).

Many of the earlier provisional residential areas on the periphery deteriorated quickly, and most of them – such as Gordiani, Prenestina, Pietralata, Tiburtino III and San Basilio – were demolished between the 1950s and 1970s, whereas most areas from the turn of the 1940s – Primavalle, Trullo, Tufello, Villaggio Breda and Quarticciolo – remained largely intact (Farina & Villani 2017, 51–55). In 1976, after a long period of Christian Democrat administration, Rome's city

[40] This refers to the Italian artistic movement '*pittura metafisica*', which was started in the 1910s by the artist Giorgio De Chirico, and which also inspired modern Italian architecture.
[41] See: Associazione culturale Torri di Marmo, 2017.
[42] New waves of migration in the 1950s created a housing shortage and a market for illegal construction work outside the city's official residential districts. By the 1980s this 'unauthorised city' had expanded to 800,000 inhabitants (Della Seta & Della Seta 1988, 241, cited in Bonomo 2009, 39).

Figure 18. Former Casa del Fascio and police station, Quarticciolo. The upper floors have been converted into apartments. Photo: author (2018).

Figure 19. Former Casa del Fascio and police station, Quarticciolo. The ground floor is occupied by the association RedLab Quarticciolo. The façade was covered with a mural in 2018–2019. Photo: author (2018).

administration was won by the political left, and efforts were made to improve living conditions on the periphery (Vidotto 2001, 334–335).

Today, these satellite areas have gradually become part of the expanding metropolis, and the experience of isolation has become less dominant. Nor is the contrast between centre and periphery as pronounced as it used to be (Ferrarotti & Macioti 2009, 58). Similarly, the fascist stigma that oppressed Quarticciolo has started to become less prominent (Villani 2017, 47). This may also imply that the time is ripe for a re-evaluation of Quarticciolo's history. Of the three narratives, the third, stressing the modern traits of the suburb's architecture, is chronologically the most recent, and it provides possibilities to view Quarticciolo in a new light.

Recently, social associations established by the residents have started to fill in the lack of communal services in Quarticciolo. For instance, in 2007 the old market hall was transformed into the Teatro-Biblioteca (Villani 2017, 46–47), a library and cultural centre that organizes lectures and theatre plays, including works of an anti-fascist character.[43] The tower-like former Casa del Fascio (Figures 18–19), used as a *commissariato di polizia* until the 1980s and then left abandoned, was occupied in 1998 and is now used as the RedLab autonomous cultural centre, which promotes social-political initiatives in defence of 'solidarity' and housing rights. The upper floors are used as apartments. The former military fortress Forte Prenestino was occupied as early as the 1980s for use as the autonomous cultural centre Centro Sociale Occupato Autogestito, which offers diverse activities such as a restaurant, sports and music.

Compared with the other remaining Roman *borgate* from the turn of the 1940s,[44] the role of autonomously led social initiatives is emphasized in Quarticciolo. The significance of this is increased by the fact that two of these initiatives are located in the former Casa del Fascio and the fortress, which have thus been transformed from instruments of control into common public spaces directed by residents.

Another means to enliven the cityscape and direct attention to conditions in the peripheries' residential areas is street art. In addition to Quarticciolo, many other public housing areas, such as Tufello, Trullo, Primavalle and Tor Marancia, have recently become known for their murals. Even though murals alone do not offer a solution to the problems faced by these areas, they can be an important channel for participation in activism against marginalization (Villani 2017, 55).

The activities described above continue, in their specific ways, the tradition of the battle for better living conditions and the 'right to the city' – residents' active involvement as equal citizens of Rome. They can also offer a model for similar suburbs suffering from the common problems of peripheral areas. Although the void left by the lack of public services cannot be completely filled by such residents' initiatives, they are highly likely to reinforce the feeling that one is able to have an influence.

Discussions concerning 'dissonant heritage'

The three identity-forming narratives concerning Quarticciolo, along with the recent developments in the area, can be related to contemporary discussions about dissonant heritage in the context of the *borgate* and the city of Rome more widely.

[43] On these events, see, for instance: Roma Today 2018.

[44] Primavalle, Trullo and Tufello have plenty of small companies and outlets. In addition to these, there is a cultural centre in Tufello, an autonomous cultural centre next to Trullo (CSO Ricomincio dal Faro), and a library, theatre and cinema in Primavalle. Primavalle's 1950s market hall (*mercato coperto*) is going to be renovated.

The apparently incongruent, parallel narratives about Quarticciolo are symptomatic of the heritage dissonance I addressed in the introduction. The dissonance in tangible and intangible heritage is manifested dissimilarly between Quarticciolo and central Rome, where the vast layer of fascist-era architecture has started to draw more attention, creating polemics of various kinds. Questions about how to negotiate difficult heritage, or how to manage material remains that represent a difficult past, are now more frequently posed in contemporary discussions concerning Italian modern architecture.

Indeed, fascist-era architectural heritage and art has stirred many reactions in Italy. One active party in the discussions concerning how this heritage should be treated is the Associazione Nazionale Partigiani d'Italia (Anpi), founded in 1944. For instance, Anpi demands that certain monuments, artworks and inscriptions that are reminiscent of fascism should be demolished or removed from public buildings (Corriere della Sera 2015; Il Messaggero Veneto 2015; Valsusa Oggi 2017). This illustrates the strong ongoing memory of the resistance, which sparks polemics about the justification for contested monuments remaining in public space.

Alongside the demands for demolition, an increasing number of fascist-era buildings have been announced as accredited architectural heritage that should be preserved. However, there is concern about the 'uncritical' preservation of this heritage, and a growing group of scholars and historians (e.g. Arthurs 2010; Carter & Martin 2017) argue that the ideological and political message that this architecture and these monuments carry should be contextualized, reinterpreted or transformed.

Figure 20. Palazzo della Civiltà Italiana (1938–1943), EUR, Rome. The same modern neoclassical architectural motifs are visible in both the Palazzo della Civiltà Italiana, one of the landmarks of fascism, and the residential architecture of Quarticciolo (see Figures 21 and 22). Photo: author (2018).

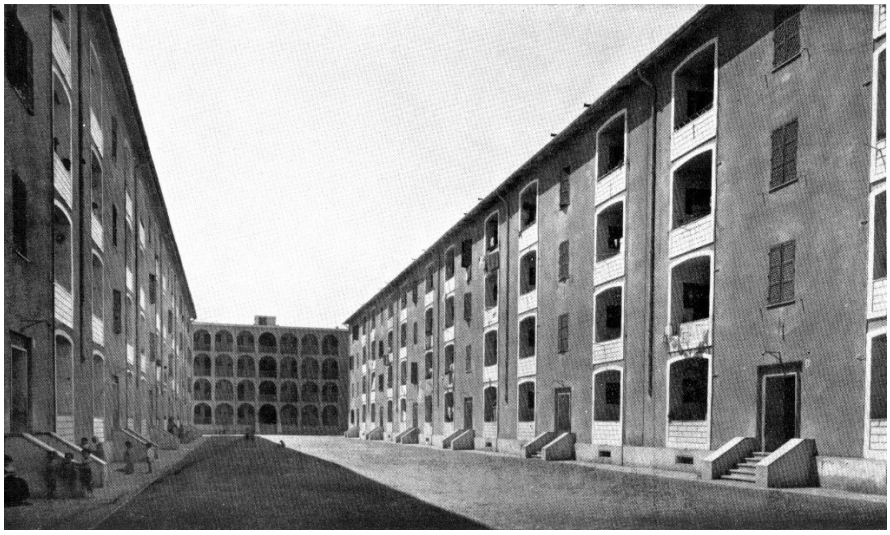

Figure 21. Residential buildings in Block 7 between Via Trani and Via Ugento, Quarticciolo, constructed between 1951 and 1953. A balcony-access building with arcade corridors in the background. In Italy, there was no immediate disengagement from the modern neoclassical architectural style after the Second World War – unlike in Germany, for instance. This continuity is also visible in the satellite areas completed during the 1940s and 1950s, especially Quarticciolo, Tufello and Primavalle (cf. Figures 20 and 22). Photo: Cinquant'anni di vita dell'Istituto Autonomo per le Case Popolari della Provincia di Roma. 1953. Roma: Istituto Grafico Tiberino. p.101.

Such discussions have typically revolved around the fate of rhetorical public buildings and monuments. Demands for demolition do not, however, threaten Quarticciolo's architectural heritage, which is devoid of conspicuous inscriptions or artworks alluding to the fascist regime (Figures 20–22). In fact, as narrative II shows, although the area was originally a creation of the fascist IFACP (Institute for Public Housing, cf. narrative I), it was adopted into the narrative of resistance

from early on. Instead of making demands for demolition, present-day activism in Quarticciolo focuses on the challenges of everyday life, as discussed above.

Concerning architectural heritage, Quarticciolo's value was recognized in the 2008 Piano Regolatore Generale (PRG, the master plan for Rome), together with other *borgate* from the turn of the 1940s and many post-war residential areas such as the INA-Casa areas of the 1950s.[45] The recognized values are especially connected to the area's architecture as a creation of modernism, as described in narrative III above.

Figure 22. Buildings constructed between 1951 and 1953 in Primavalle (cf. Figure 21). Photo: Cinquant'anni di vita dell'Istituto Autonomo per le Case Popolari della Provincia di Roma. 1953. Roma: Istituto Grafico Tiberino.

Concluding remarks

The testimonies of local people show that a recollection of a difficult past does not necessarily make the place related to that memory undesirable.

This article has addressed problematics related to the identity and origin of the peripheral areas of Rome, focusing on one fascist-era residential satellite area from the early 1940s as a case study object. Three narratives contributing to the formation of the area's identity have been examined and connected to contemporary discussions concerning Italian reactions to the nation's dictatorial past and its fascist-era architecture as dissonant heritage. Although the events related to the narratives I and II took place during a rather short temporal phase, their role in the identity formation of the area is highly pronounced.

This case study of Quarticciolo shows that areas that bear a stigma and a heavy historical-social burden, such as these fascist-era *borgate*, are not one-dimensional. An assumption naturally presents itself that dissonance in heritage might easily prevent people from being proud of the place where they live. However, as discussed in this article, the testimonies of local people show that a recollection of a difficult past does not necessarily make the place related to that memory undesirable. The residents of Quarticciolo generally share a strong identity. Despite ongoing problems, residents have reported feelings of pride in

[45] The areas are defined as follows: "*T8 – Tessuti di espansione novecentesca con impianto moderno e unitario, i complessi di edilizia pubblica disegnati, secondo i princìpi progettuali del Movimento Moderno così come interpretati dalla cultura urbanistica e architettonica italiana"* ("Areas of the 20th century expansion of modern and uniform structure, public housing complexes planned according to the principles of the Modern Movement, as interpreted in Italian urban planning and architecture"). Carta per la qualita: *"Tessuti caratterizzati dall'impianto volumetrico degli edifici*" ("Areas characterized by the volumetric structure of the buildings". Piano Regolatore Generale di Roma, 2008.)

and belonging to their home district (Ferrarotti & Macioti 2009, 60). Similarly, results from the Italian cities of Predappio and Forli – both closely linked to the person of Mussolini – show that "a community can create a strong tie with its cultural heritage even when dissonance is perceived and the memory is contested" (Battilani et al. 2018, 1420, 1432). Recent experience in Germany likewise suggests that the material remains of a difficult past do not need to be considered a "disruption to positive identity formation" (Macdonald 2016, 13–19). Especially when seen against the backdrop of the three narratives discussed above, contemporary developments in Quarticciolo reveal the complex dynamics through which an everyday urban area and its significances are constantly shaped and reinterpreted – on the public level, in historiography and through grassroots activities.

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When a Patio Becomes a City

(In)volution of Carrières Centrales, Casablanca (1953–2018)

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Abstract

In the 1950s, the city of Casablanca underwent a surge in demographic growth. Having become a strategic port during the French protectorate, it quickly had to accommodate more than 140,000 new arrivals from the countryside.

The most extensive urban development project in the city was Carrières Centrales, introduced as a case study in the CIAM IX by the GAMMA team. Michel Écochard, Candilis and Woods reinterpreted the traditional Moroccan house in a compact horizontal fabric as well as in singular buildings. This became the typology not only for a house, but for the whole city.

A revisit to Carrières Centrales 65 years after its construction provides an understanding of the metamorphosis that the urban fabric has undergone over time. The critical analysis in this research aims to uncover the main architectural and social parameters that have influenced its transformation.

To achieve this goal, fieldwork was carried out during a research trip in October 2018. The work involved contacting local professors, accessing the archives of the University of Casablanca, interviewing the residents, and redrawing and graphing all the architectural elements that had changed since their construction.

The urban fabric of Carrières Centrales was found to have evolved in a way that supports the following hypothesis: if an urban model imported into a developing country does not adapt to the changes in the life of its residents, it is considered a failure.

Time defines, modifies and adapts architecture to meet the needs of society. Similarly, culture, politics and the economy influence the transformation of the city as a reflection of its population. The Carrières Centrales experience teaches us the need to include time as a parameter in the design process to address the increasingly complex contemporary city.

Keywords: Carrières Centrales, Casablanca, Time, Change, Society, Patio House, Modern Heritage.

PEER-REVIEWED ARTICLE

Historical introduction

Casablanca during the French Protectorate (1912–1956)

Casablanca underwent rapid growth in a short period of time. In less than a century its population and economy grew exponentially, leading to intense social problems.

It was not until the 19th century that European merchants began to settle in the city. Its port went from exporting only 3% of Morocco's goods in 1836 to becoming the country's main port by 1906. During this period, the high demand for workers led the population to swell from seven hundred to twenty thousand inhabitants.

As the population and economy soared, so did port activity, resulting in the need to extend and improve the port's facilities. However, because the Moroccan government was economically unable to undertake the improvements, Spain and France decided to expand the port of Dar el Beida and thereby strengthen their hold in Morocco. Thus, the French protectorate began in Casablanca in 1912 and lasted until 1956.[1]

During the protectorate, Casablanca experienced uncontrolled growth. The presence of the port turned the city from a semi-rural settlement to the country's international business centre. As the industrial sector developed, the demand for labour increased, but the city was unable to absorb the large number of immigrants.

Figure 1. Casablanca's extension plan: Development for 140,000 inhabitants. Michel Écochard, 1953 Drawing by: García Dorce, C. 2017. *Un tiempo dilatado. Carrières-Centrales (Casablanca). Antecedentes, concepto y evolución.* Valencia: ETSAV (UPV), vol. B, 36.

Between 1900 and 1926, more than forty thousand people arrived in Casablanca from the rural countryside. In 1929 most of Morocco's industries were in Casablanca, but they only created employment for twenty-five thousand workers, most of whom were Europeans. This complicated social situation proved unwieldy for a city with such intensive development. Despite the scarcity of work, the rural exodus towards the cities continued unabated, with newcomers settling in five large development areas around Casablanca.

[1] Puschmann, P. 2011. *Casablanca. A Demographic Miracle on Moroccan Soil?* Leuven: Acco Academic, pp. 47-49.

Carrières Centrales' Bidonville

In 1953 there were approximately a hundred and forty thousand people living in slums in Casablanca. The most crowded one was Carrières Centrales, with fifty-six thousand inhabitants. Because it was located close to the port and well connected to the rest of the city, it became the first *bidonville* of immigrants from rural areas.[2]

The literal translation of *bidonville* is 'city of cans'. The term refers to slums that grew spontaneously and haphazardly, with no regard to city ordnances. These settlements reflected the population's need for affordable housing. They were structured similarly to Morocco's traditional rural settlements. However, high population density coupled with a lack of resources resulted in these neighbourhoods becoming unhealthy, unsafe and overcrowded.

Figure 2. Carrières Centrales' Bidonville: Bird´s eye view, Casablanca South, 1950. Available through: Archnet website.https://archnet.org/sites/10130/media_contents/93707 [26 August 2020].

Within a few years, the *bidonvilles* urgently needed a renovation to rehouse thousands of people crammed into precarious dwellings. To address this objective, the architect Michel Écochard (1905–1985) was appointed by the French protectorate as the director of the *Servicio de l'Urbanisme* and leader of the GAMMA group (*Groupe d'Architectes Modernes Marocains*), which also included the architects Georges Candilis (1913–1995), Shadrach Woods (1923–1973) and Vladimir Bodiansky (1894–1966), among other professionals dedicated to the study and improvement of Morocco's urban planning.[3]

[2] See García Dorce, C. 2017. *Un tiempo dilatado. Carrières-Centrales (Casablanca). Antecedentes, concepto y evolución.* Valencia: Universidad Politécnica de Valencia, Escuela Técnica Superior de Arquitectura.

[3] See Écochard, M. 1955. *Casablanca. Le roman d'une ville*. Paris: Ed. de Paris.

'L'habitat pour le plus grand nombre'

In 1953, at CIAM IX in Aix-en-Provence (*Congres Internationale d'Architecture Moderne*) Michel Écochard presented a detailed research study on Morocco's urban situation and ideas for rationalisation and growth to be carried out in Casablanca. As the leader of the GAMMA group, he wrote *'Habitat pour le plus grand nombre'*, a compilation of guidelines to give affordable housing to the inhabitants of the Carrières Centrales *bidonville*.

Figure 3. 'Habitat pour le plus grand nombre': Guidelines for the development of Carrières Centrales. Grupo GAMMA. CIAM IX, Aix-en-Provence, 1953. Image in: Risselada, M. & Van den Heuvel, D. 2005. *Team 10, 1953–81, in search of a Utopia of the present.* Rotterdam: Ed. Nai Publishers, pp. 28.

To provide shelter for the masses, Écochard redefined the neighbourhood structure: the most basic level was defined as a 'neighbourhood unit': a group of one thousand eight hundred inhabitants, with basic services such as an oven, a mill, a playground and commerce. Five 'neighbourhood units' formed a neighbourhood quarter for nine thousand inhabitants with public resources: a mosque, a market, schools and other collective services.

Each quarter was articulated through its public spaces, which maintained a hierarchy. On a smaller scale, small-sized pedestrian streets gave access to dwellings and small squares to promote the social relations of the immediate neighbourhood. On a larger scale were avenues and squares of greater entity, reserved for traffic and public services that provided assistance to the quarter. Thus, the quarters had a condition of autonomous and independent management.

Écochard also noted the consequences of these neighbourhoods changing over time: an increase in the purchasing power of their inhabitants could trigger a formal growth and evolution of the habitat. In his urban vision, Écochard differentiated between the permanent part of the city (urban planning) and the transient part (construction). He saw buildings as a changing element that depended on economic conditions, on the pursuit of modernisation and on the change in the forms and needs of housing. In contrast, the urban fabric itself remained immutable:

> *He qualified the inhabitants of his projects as evolués, which means that they were at an intermediate point between the rural and urban way of life.*[4]

[4] Avermaete, Tom. "Farming the Afropolis. Michel Écochard and the African City for the Greatest Number". *L'Afrique, c'est chic. Architecture and Planning in Africa 1950– 1970*, OASE, 2010 (82), 77–89, pp. 91.

Re-interpretation of the traditional patio-house

The rehousing plan was modelled on the *bidonville* residents' way of life as well as on their rural home habitat, their customs and Muslim culture in general. Moroccan traditions allow several families to coexist in the same house: when a son became an adult and started his own family, he would continue to live in the same house along with his parents. Traditional houses had at least two rooms, as men and women lived in different spaces. The intense need for intimacy of this culture influenced the openings of the house: the windows were few and minimal, just enough to allow natural ventilation and lighting. Openings were placed high up to keep out of view from the street, thereby ensuring privacy.[5]

These influences were integrated into a prototype of housing: the patio-house, recognizable in historical medinas but also as pattern in the *bidonvilles*. The reinterpretation of the patio-house preserved the elements of vernacular architecture while defining a modern architectural proposal, granting health, flexibility and spatial richness.

Figure 4. Re-interpretation of the traditional patio-house: Historical Morocco kasbah (left) and new urban fabric based on the Écochard Grid (right). In: Risselada, M. & Van den Heuvel, D. 2005. *Team 10, 1953–81, in search of a Utopia of the present.* Rotterdam: Ed. Nai Publishers, pp. 298.

To this end, the *Trame Écochard* was established: an 8x8 m grid that organised the space geometrically. It was the basic structure and represented the minimum unit of single-family housing with a patio.[6]

Access to each house was through a 5x5m patio. All the openings that illuminated and ventilated the interior of the house looked onto it as well, thereby avoiding the need for exterior windows.

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[5] See García Dorce, C. 2017. *Un tiempo dilatado. Carrières-Centrales (Casablanca). Antecedentes, concepto y evolución.* Valencia: Universidad Politécnica de Valencia, Escuela Técnica Superior de Arquitectura, vol. B, pp. 48.

[6] Écochard defined the modulation of the 8x8 m grid according to similar measurements of the bidonville´s informal patio-houses.

The *Trame Écochard* not only delimited the measurements of the patio-house, but also served to create the urban layout from its first cluster to the entire fabric.

High-rise buildings were also given a place within this habitat, such as the *Nid d'Abeille*, the *Semiramis* and the *Tower* introduced by architects George Candilis and Shadrach Woods as a vertically configured reinterpretation of the patio-house.[7]

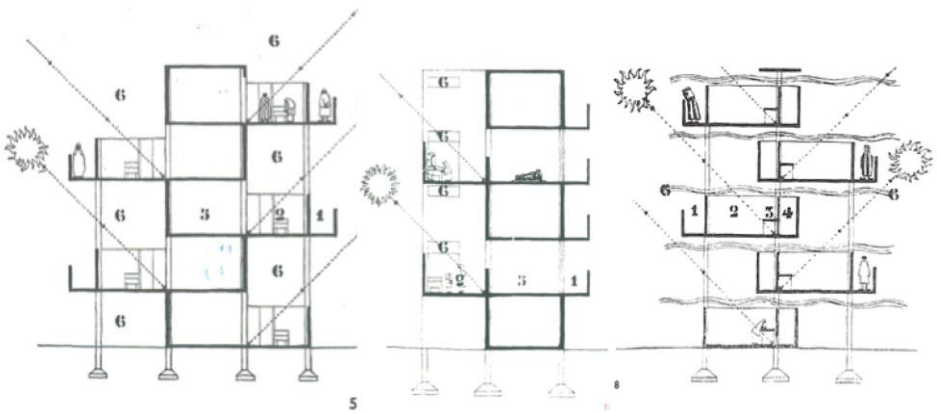

Figure 5. Vertical Patio-House Study: Candilis & Woods, 1952. Image in: MNAM-CCI, Dist. RMN-Grand Palais / Jean-Claude Planchet. *Habitat musulman, Types: Cellules*. París: Centre Pompidou, 1953, https:// www.photo.rmn.fr.

The stacking of the patio-house unit was intended to be a model for the future growth and evolution of a denser city. It would be an example of the coexistence of Islamic and European cultures while meeting the needs of the Moroccan population through modern architectural design.

Figure 6. The Carrières Centrales neighbourhood: ATBAT + GAMMA group, Casablanca, 1953. Image in: García Dorce, C. 2017. *Un tiempo dilatado. Carrières-Centrales (Casablanca). Antecedentes, concepto y evolución.* Valencia: ETSAV (UPV), vol. B, 55.

[7] In 1951, Georges Candilis and Shadrach Woods travelled to Africa to lead the ATBAT office (*Atelier de B'tisseurs*) along with Henry Piot: a research centre on architecture, engineering and urban planning founded by Le Corbusier in 1947.

Physical description

‘Écochard´s Grid’

The original model designed by M. Écochard for the horizontal fabric was organized into 8x8 meter patio-houses grouped into clusters[8] of four dwellings. The location of a 2.40-metre-wide access street caused the variation in size of the four grouped units. The result was the diversity of the courtyards, the number of rooms (2–3) and the relative position of the entrance and services.

Figure 7. Écochard Grid: 8x8 m Four-patio-house cluster. Author´s drawing, 2018.

Through repetition, rotation and symmetry, the clusters formed a compact, continuous and complex horizontal fabric laid out around small community squares.

These patio-houses were built as a prototype in 1952. They were sold mostly to railroad workers, manufacturers, and individuals; only a minority the inhabitants were actually rehoused from the *bidonville*. At the following stage, however, the urgent need for rehousing prevailed, so the housing type was unified as a way to speed up mass production.[9]

Construction process efficiency led to the solution of a single housing type: two rooms around a 12 m^2 courtyard plus an outdoor shed for the kitchen and the toilet. The 8x8 fabric was interwoven with narrow streets (2 m wide) that gave access to the dwellings. In addition, the uneven terrain fragmented the original grid, which thus lost its condition of comprising a continuous fabric.

Repetition of a single module resulted in mass production of housing,[10] but also in a monotonous grouping, offering the image of a horizontal honeycomb of a beehive.

[8] *Cluster* was the word used by Team X to define the recognizable grouping of urban elements.

[9] See Cohen, J., Eleb, M. 2004. *Casablanca. Mythes et figures d’une aventure urbaine.* Nanterre: Ed. Haza, pp. 319.

[10] See Smithson, A. & P. “Criteria for Mass Housing”. *Forum*, nº 1, 1960, pp.16-17.

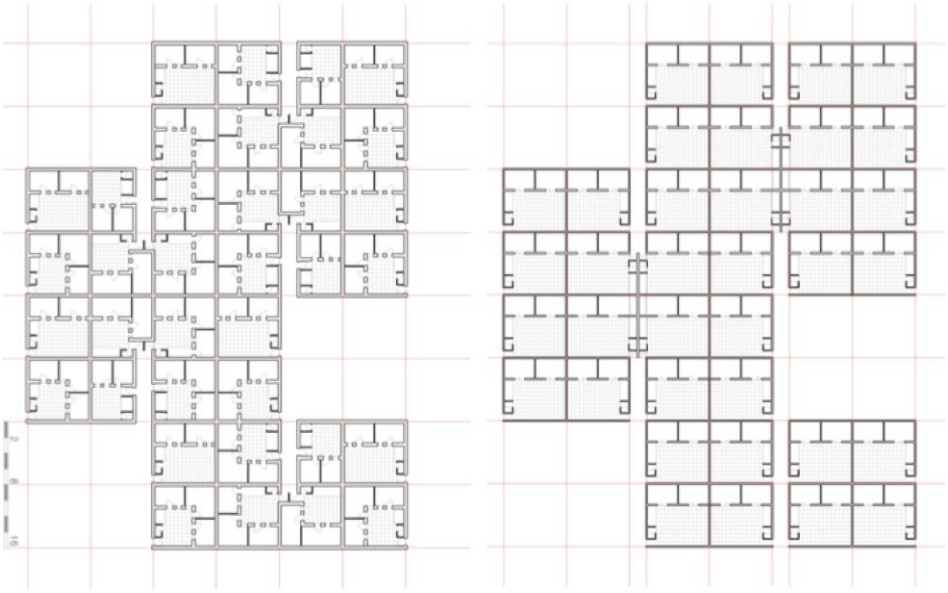

Figure 8. Écochard's Grid: Theoretical design (left) and as-built urban fabric (right). Author´s drawing, 2018.

Nid d'Abeille

The ATBAT group, led by Candilis and Woods, reinterpreted the patio-house as a vertical housing development. Its first approach, still low rise, investigated the overlapping of patio-houses by using a three-dimensional configuration.

Arranged on two floors, the upper houses moved a module from the lower level. Two types of ground floor patio-house completed a 'zippered' system, where infill and void had the same value.

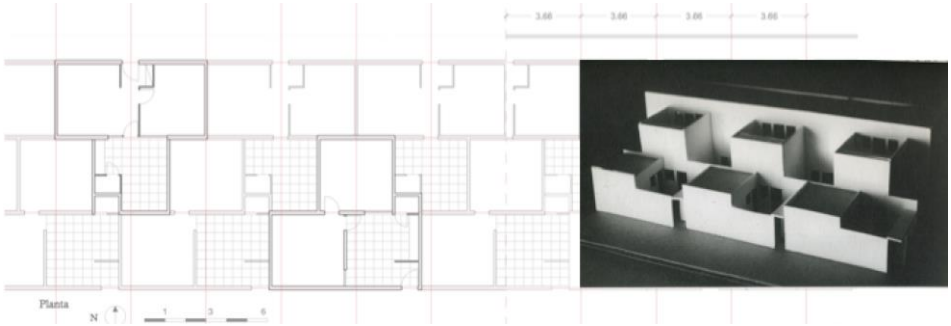

Figure 9. Row Patio-houses: Two-floor prototype. Candilis & Woods. Author´s drawing, 2018.

The image of this facade was later developed in the five-storey building *Nid d'Abeille*. It was the maximum height allowed to develop an economical vertical structure according to the means of construction available. The regular arrangement of pillars allowed the alternation of infills and voids, as well as their displaced overlap, creating a 'checkerboard' facade of white volumes.[11]

In contrast, the north facade featured a horizontal composition marked by the corridors. Inside, two-room houses had access to the courtyard, open at a double height but fenced by 1.80 m walls. The toilet and the kitchen in the courtyard were covered by the upper level, which ensured privacy while still affording ventilation and natural lighting.

[11] Multiple versions of this facade were developed, from similar compositions to those developed in France, to more abstract approaches that negated the window voids, as a reinterpretation of the indoor nature of the traditional Moroccan house.

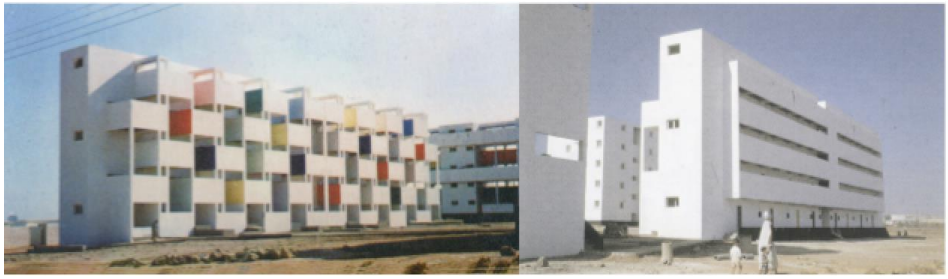

Figure 10. 'Nid d'Abeille': 'Checkerboard' south facade (left) and enclosed north facade (right). In: Risselada, M. & Van den Heuvel, D. 2005. *Team 10, 1953–81, in search of a Utopia of the present.* Rotterdam: Ed. Nai Publishers, pp. 29.

The proposal was published in the French magazine *l'architecture d'aujourd'hui*[12] but was not the one that was finally built. Indeed, a great many variations were considered in search of a more efficient and economical construction. The position of the vertical core was the most significant variation. The design originally called for a stairway at each end. However, only one in the middle of the floor was built, inducing a symmetry in the building and a disruption in the composition facade.

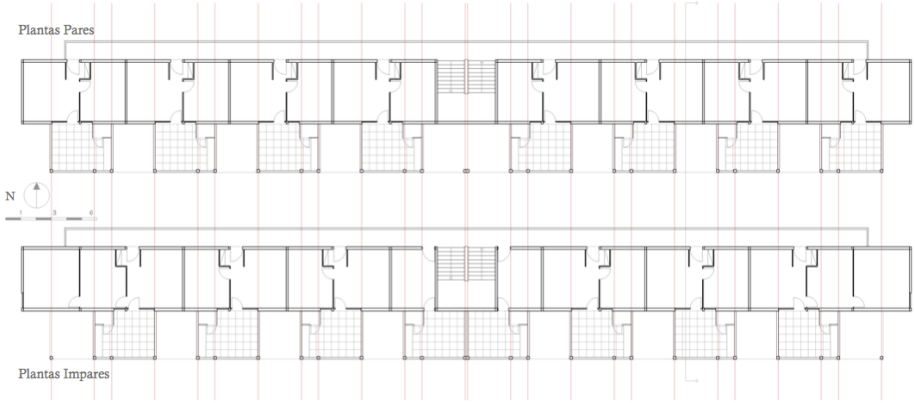

Figure 11. 'Nid d'Abeille': Second floor (above) and third floor (below). Author´s drawing, 2018.

As a result, the basic housing type was modified, with three-room units at the ends and a one-room unit in the middle of the building. While these decisions distorted the formal purity of layout and composition, they also created a richer typology, open to multiple users with different needs and budgets.

Semiramis

The *Semiramis,* another five-storey building, was a linear block with an East-West orientation, grouping two-room units around patios through corridors in height.

Unlike the *Nid d'Abeille*, which clearly differentiated between its north and south facades, the *Semiramis* developed its east and west facades similarly because of the counterbalanced position of the linear corridors.

However, the shape also underwent changes regarding its original design. Initially, the rooms of the houses were arranged in a row, leaving a band of patios at the front and concluding the series with stairways at each end of the building. In this model, the kitchen and the bathroom, placed in the open courtyards, were unduly small and exposed to the weather.

[12] The 1954 cover of the French magazine 'l'architecture d'aujourd'hui' collected the primary coloured volumetry of *Nid d'Abeille*, as a symbol of modern developments in North Africa.

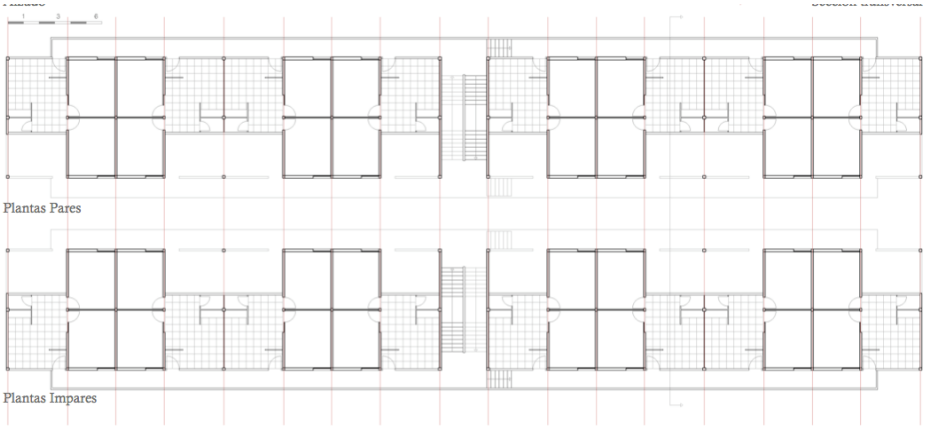

Figure 12. 'Semiramis': Second floor (above) and third floor (below). Author´s drawing, 2018.

In order to save resources and promote functionality, the built project featured a single central communication core, which resolved accessibility on markedly sloping terrain. The corridors absorbed the height difference by incorporating stairs that determined the compositional character of the facades.

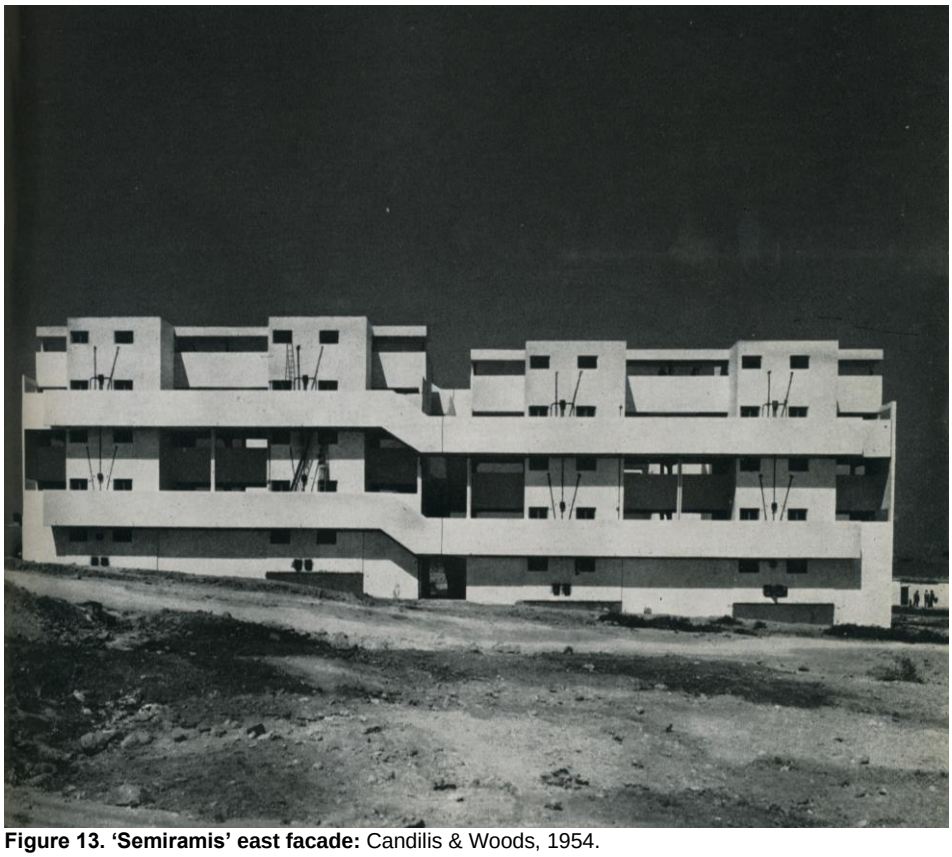

Figure 13. 'Semiramis' east facade: Candilis & Woods, 1954.

In the built design, the rooms of the houses were grouped into fours and alternated with patios in their symmetry, which configured two blocks of four rooms per floor, easily recognisable from the outside. Kitchens and toilets were on the same vertical and always covered by the counterbalance of the patios in height, making the system of facilities more efficient.

By contrasting infill and void, the *Semiramis* building sought an abstract volumetric composition, as did the *Nid d'Abeille*. But unlike the *Nid d'Abeille*, it did not shun having rooms with windows on the front facade, although it placed them high up to ensure privacy indoors.

The Tower

The third high-rise building was called the *Tower*, more for its centralised floor design than for its height, which was never more than five floors.

The ATBAT group's study proposed having six dwellings arranged around a vertical core. Each house had two rooms with access to an outdoor courtyard that alternated its position in height, recreating the composition of infill and void along the perimeter of the building. In this proposal, the toilets were located inside the dwellings rather than along with the kitchen in the outdoor courtyard, as in the *Nid d'Abeille* and *Semiramis* buildings.

Figure 14. The 'Tower': ATBAT Group theoretical design (left) Bodiansky built project (right). Author´s drawing, 2018.

However, the engineer Bodiansky was in charge of the design that was finally built. His proposal was more compact, with identical layouts configured by four equal houses, which kept the toilets inside and the kitchens outside. But, unlike the Candilis and Woods proposal, the position of the courtyards did not vary in height, nor was their volumetry explicitly reflected on the outside, thus losing the characteristic 'checkerboard' composition of the facade.

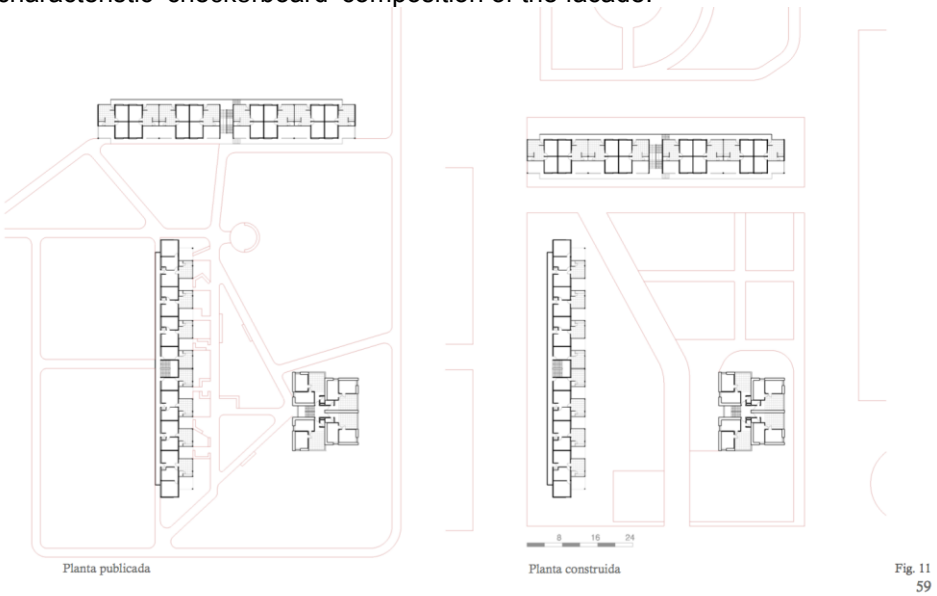

Figure 15. Free space: Theoretical design (left) and built project (right). Author´s drawing, 2018.

In both the studio and the built block, the communications core was located on the north facade, facing the square with the *Nid d'Abeille* and the *Semiramis*. The position of the three buildings and the public space between them also varied from their original design: from a more organic composition with a decidedly pedestrian character to a more conventional planning based on road traffic access.

(E/In)volution analysis.

The changes in the urban fabric over the years are numerous and complex. Today, it is difficult to recognise the neighbourhood that was Carrières Centrales in 1953. Even its name has changed. It is now called 'Hay Mohammadi' for King Mohammed V, who returned from exile after Morocco's independence.[13]

Carrières Centrales (e/in)volution should not be analysed only in physical and quantitative terms. The complexity of its transformation requires a broader look that goes beyond the scope of architecture. Therefore, the method used is based on three analytical tools:

1. Fieldwork: data collection obtained on site during a trip to Casablanca between October 31 and November 2, 2018. Relevant data for the research were provided through interviews with the residents of Carrières Centrales and meetings with Lahbib El Moumni, professor at the Casablanca School of Architecture.

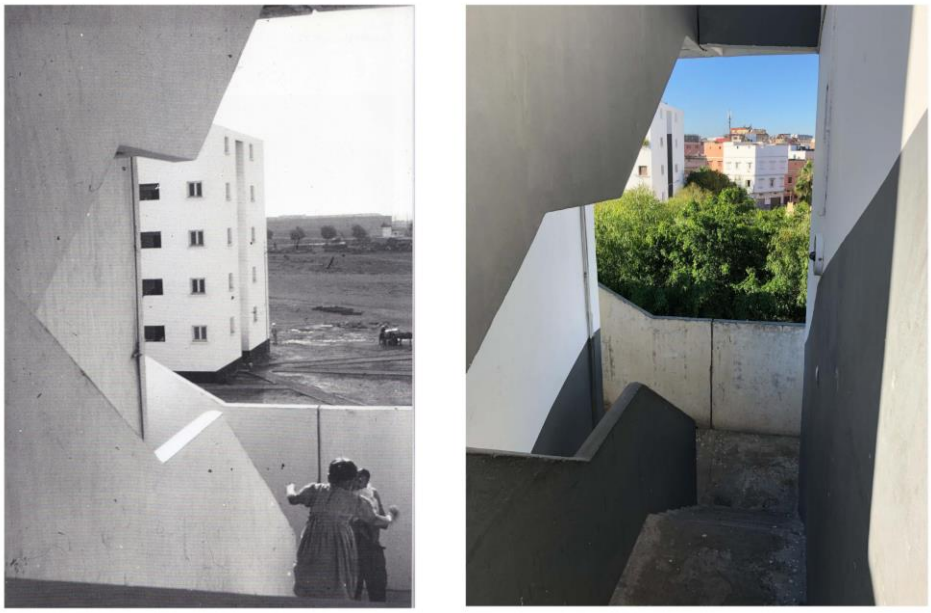

Figure 16. 'Inside the Semiramis building'. Comparation between photos of 1951 (left) and 2018 (right. Photo by the author). Left image in: Avermaete, T. & Casciato, M. 2014. *Casablanca Chandigarh. Bilans d'Une Modernisation*. Chicago: University of Chicago Press, pp. 291.

2. References in the literature: the relationship between vernacular architecture and the local way of life has social implications that go beyond the architectural discipline. The research is based on a recognised bibliography in order to understand these relationships and not to fall into social stereotypes.

3. Relation with other case studies: Carrières Centrales is just one example of the transformation of the Modern Movement heritage in developing countries. For this reason, it is linked to other interventions in North Africa, South America and India.[14]

The different areas addressed in the analysis are presented below: two of them carry out a physical study (construction and free space) and the other two (social and economic) look beyond the realm of architecture, although they are closely linked to it.

[13] See Culley, B. 2011. *Claiming Space in Casablanca: Modernist Experiments and User-initiated Dwelling Transformations in Hay Mohammadi*. Utretch: Utretch University, pp. 52.

[14] Similarities can be recognized in the evolution of the EWS Housing Colony, Sector 24. Gandhinagar, Gujarat (India. 1979-1999-2019) See Kalsariya, S. (2001). *Appropriating one's space*: process and result in Indian context. Ahmedabad: CEPT University.

Social

The metamorphosis of the neighbourhood has been closely linked to the social evolution of its inhabitants. Moroccan culture is based on a strong family base, where grandparents, parents and children live together in the same house. The house is the core of the family, and evolves according to its needs. As the family grows, the house grows.

It should be noted that in the Arab house, rooms do not have a specific function as in European homes, so their transformation capacity is greater. Their use changes over time according to the needs of the family.[15]

Aware of this cultural context, when young couples moved to the new quarter and had children, they needed more space in their homes. During their first years of life, the children slept in their parents' room, but as they grew up they demanded their own bedrooms. The most recurrent way of expanding the house was by closing in the courtyards, both in the horizontal fabric and in the high-rise buildings.

When the children became adults and started their own families, they did not move out. Some families adapted themselves to the layout of the house, with parents sleeping in one room and the children in another. But most of them expanded the house upwards, building an upper floor where the children lived with their families, reserving the ground floor for their parents and so on, turning the original patio-houses into a three- or four-storey block that reflected the growth of the family.[16]

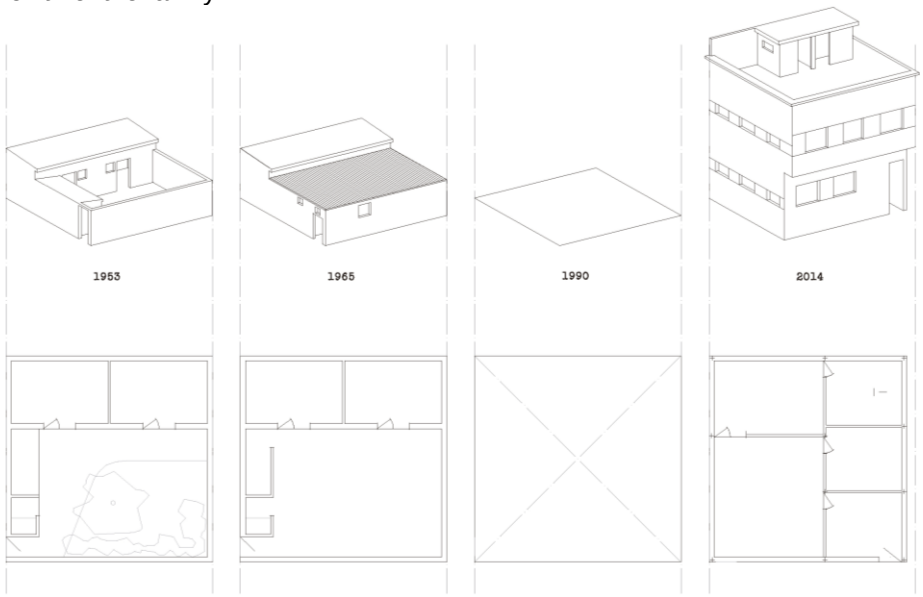

Figure 17. Écochard Patio-House (In)volution: Layout in 1953 (left), 1965, 1990 and 2014 (right). Drawing by: García Dorce, C. 2017. *Un tiempo dilatado. Carrières-Centrales (Casablanca). Antecedentes, concepto y evolución.* Valencia: ETSAV (UPV), vol. B, 90.

However, this social evolution became an architectural involution of the *Nid d'Abeille* and *Semiramis* buildings. Their original volumetries were altered and their facades were degraded by closing up the courtyards, losing their climate control status, blocking cross-ventilation and nullifying the sun control in favor of expanding the dwellings´ private space.[17]

[15] See García Dorce, C. 2017. *Un tiempo dilatado. Carrières-Centrales (Casablanca). Antecedentes, concepto y evolución.* Valencia: Universidad Politécnica de Valencia, Escuela Técnica Superior de Arquitectura.

[16] The concept of 'growing-house', which arises spontaneously in Carrières Centrales, was planned and pre-designed in settlements such as PREVI in Lima (Peru, 1978) where the architects foresaw the possible floor and height extension from a 'seed-house'. See García-Huidobro, F., Torres Torriti, D., & Tugas, N. (2008). *¡El tiempo construye! Time builds!* Barcelona: Gustavo Gili.

[17] Data collected through fieldwork on October 31, 2018.

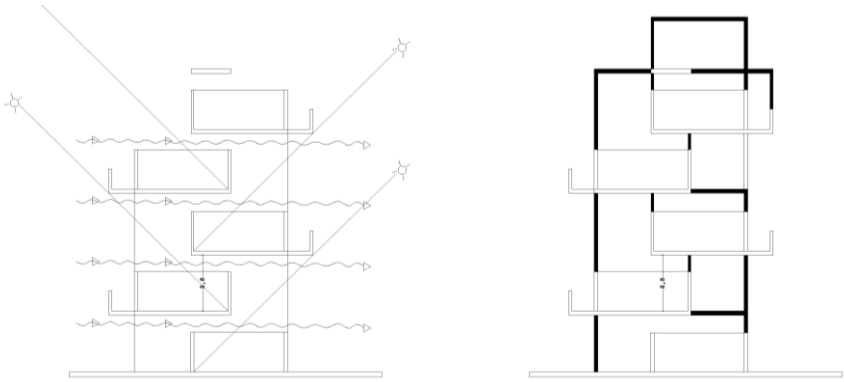

Figure 18. Semiramis (In)volution: Section in 1953 (left) and in 2017 (right). Drawing by: García Dorce, C. 2017. *Un tiempo dilatado. Carrières-Centrales (Casablanca). Antecedentes, concepto y evolución.* Valencia: ETSAV (UPV), vol. B, 101.

Economic

The urban fabric was also altered when the neighbourhood's economy grew, shifting from its initial residential nature to a mixed use.

Originally, the horizontal fabric lacked commerce, except in places reserved for market space or equipment. However, the demand for more services caused the inhabitants to bring commerce into their homes. Therefore, the ground floors of the dwellings were gradually colonised with shops. This led to a change in the configuration of the houses, as the living rooms moved to the upper floors, leaving the ground floor for business activities.

In contrast, the original ground floor of the *Nid d'Abeille* building was reserved as a commercial area. Nevertheless, over the years, these premises did not work, possibly as they were not linked to any housing.

Moreover, in terms of the economic profitability of their property, the owners of the patio-houses built upper levels and rented them out to other families.[18]

The most invasive factor was the privatisation of communal spaces in the *Semiramis* and *Nid d'Abeille* buildings. As a result of the families' economic growth and their demand for more space in the homes, the owners not only expanded and enclosed the courtyards in height, but also privatised the common access corridors.

When a family bought all the dwellings on a floor, they closed and covered the entire corridor, modifying the overall volumetry of the building. On the ground floor, houses with direct access from the street also illegally colonised the sidewalk, thereby converting the original public space into private.[19]

Constructive

The social and economic changes were reflected in the metamorphoses of the original architecture. Different construction processes were used in the horizontal fabric and the high-rise buildings. Methods and techniques were adapted to the needs and the resources of their residents.

In the horizontal fabric, the need for growth was reflected in an evolution in the height of the patio-houses. At first, only the courtyards were covered up with a metal structure of beams resting directly on the walls, and a metallic slab on top. These actions occurred in 1954, shortly after the sale to their first tenants.

[18] Data collected through an interview with a resident of the *Nid d'Abeille* building on November 2, 2018.

[19] Data collected through fieldwork on October 31, 2018.

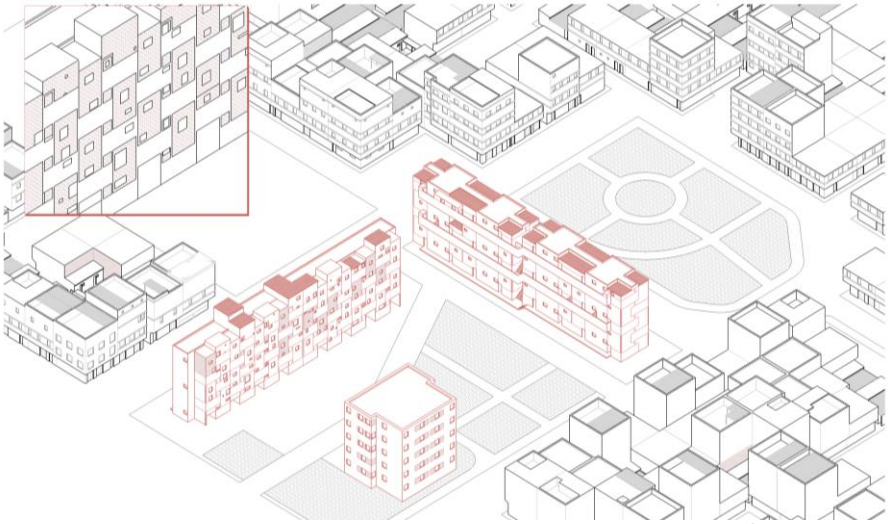

Figure 19. Nid d'Abeille (In)volution: Blocked 'chessboard' facade, 2018. Author´s drawing.

The original walls of the patio-houses were designed to support the loads of a single-storied building, so a new structure was built for the growth of the house: a series of pillars around the perimeter of the building on which to support the new floor slabs. The staircase was located at the front of the entrance, within the courtyard, respecting the original rooms.

This led the authorities to debate the increased height of patio-houses. Écochard proposed to prevent it, as it affected the health of the neighbourhood, but Bennani, a representative of the Moroccan Local Interests Commission, managed to allow it, taking into account the preferences of the inhabitants.[20]

Although the construction system was similar in all homes, each family adapted it to their needs. Consequently, they varied the heights of the floors, creating lines of discontinuous slabs and cornices. The placement and size of windows and doors, the colours of the facades and the type of roof were elements that each owner customised to suit his interests. The result was a heterogeneous urban fabric that reflected the character of its users.

If the horizontal fabric conditions allowed controlled heterogeneity, the high-rise buildings underwent an inverse homogenisation process. In an early phase of housing growth, high-rise residents enclosed the courtyards in height in similar fashion to the horizontal patio-houses: with metal beams and a cover slab.

To keep growing, since the structure was already designed for buildings with loads of various heights, the residents did not have to supplant it; they just had to embed the new slabs into the existing pillars.[21] They placed their private stairs inside the courtyards and closed in the double height, thereby collapsing the 'chessboard' facade of the *Nid d'Abeille*, which is currently unrecognizable.

Free space

The evolution of the morphology of free space became especially noteworthy when the population in Carrières Centrales tripled. The original low-fabric density of the patio-houses increased to a three- or four-storey block fabric.

Originally, Écochard's urban model set aside free space for neighbourhood services, which have been built over time. The best example was the informally managed football field, which in 2010 became a covered sports centre, giving the entire neighbourhood a regulated service.

[20] Ibíd, pp. 318.

[21] The outer walls were made with the traditional building block in Morocco, measures of 20x40x18 cm.

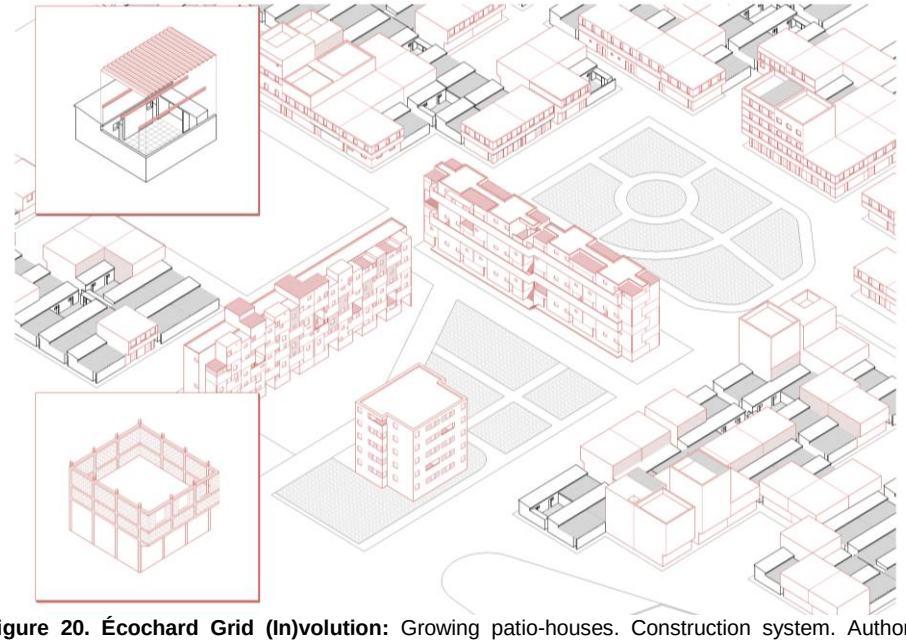

Figure 20. Écochard Grid (In)volution: Growing patio-houses. Construction system. Author´s drawing, 2018.

However, public space has also been colonised with buildings outside the legal framework. For example, attached to the *Nid d'Abeille* building, an irregularly shaped mosque was erected using local materials and construction systems. The absence of facility mosque within the urban fabric of Carrières Centrales forced the inhabitants to build their own.

In 1993 a new religious centre was built within the established urban fabric. The *Al Mostaqbal Mosque*, financed by a benefactor, replaced a traditional vegetable market. This did not bring about the demolition of the old mosque; rather, both were preserved by the growing demand for an increasingly religious population.[22]

The densification of the *Nid d'Abeille* and *Semiramis* buildings also entailed the colonisation of free space on the ground floor. That growth, however, was not for new neighbourhood facilities, but privatisation of public space for the exclusive use of the residents.

Private car ownership has damaged the quality of free space as well. Although Écochard intended the squares to be pedestrian spaces dedicated to coexistence and neighbourly relations, they have since been relegated to paved spaces where vehicles can be parked.[23]

The main square, bounded by the *Nid d'Abeille*, the *Semiramis* and the *Tower*, was originally designed as the centre of the new neighbourhood. Today, however, it does not currently afford quality public space, nor does it encourage social life. Instead, it is simply relegated to being a wasteland for passing through or parking.

[22] Data collected through interviews to Prof. Lahbib El Moumni at the Casablanca School of Architecture on November 1, 2018.

[23] Data collected through fieldwork on October 31, 2018.

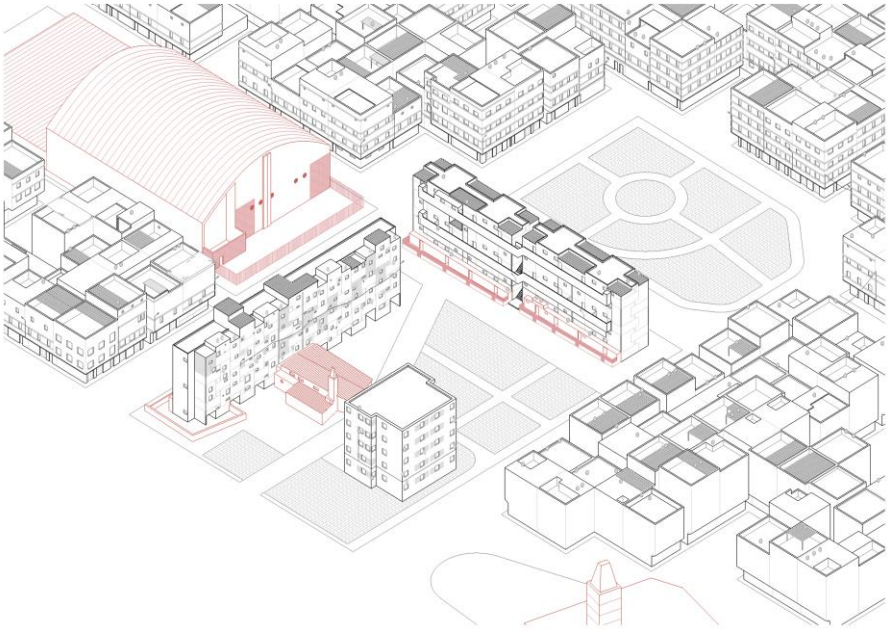

Figure 21. Free space (In)volution: Blocked public space, 2018. Author´s drawing.

Critical review

The study of the Carrières Centrales in Casablanca allows us to understand the changes in the urban fabric over time and the main social and economic aspects that have led to modification of its architecture and free spaces.

From the information obtained through this fieldwork in 2018, it can be concluded that the evolution and adaptation of architecture to meet the needs of the population was inevitable. Therefore, the original plan, which did not explicitly incorporate time as a design parameter, has resulted in an altered city model, thus failing in many of its principles.

The conclusion is evidenced by comparing how the original urban model has developed over time into the current city. Analysis of the urban fabric clearly shows that the original plann brought health and hygiene to the city and significantly improved the living conditions of its inhabitants. However, time has shown that the plan did not completely satisfy its needs. As a result, the Carrières Centrales has changed drastically since its construction in 1953.

The present research has revealed one major difference: Écochard's urban fabric has evolved more appropriately than the high-rise buildings designed by Candilis, Woods and Bodiansky.

Écochard planned the fabric as a base frame in which the original patio-houses could be replaced by high-rise blocks in process of controlled densification in the future. The lack of strict building and zoning regulations allowed changes to be made by users themselves, filling the urban structure in terms of density, complexity, and mixture of uses. The 8x8 frame was densified to fit the needs of the inhabitants, but it has maintained the order of the neighbourhood´s morphology and is both unitary and diverse.

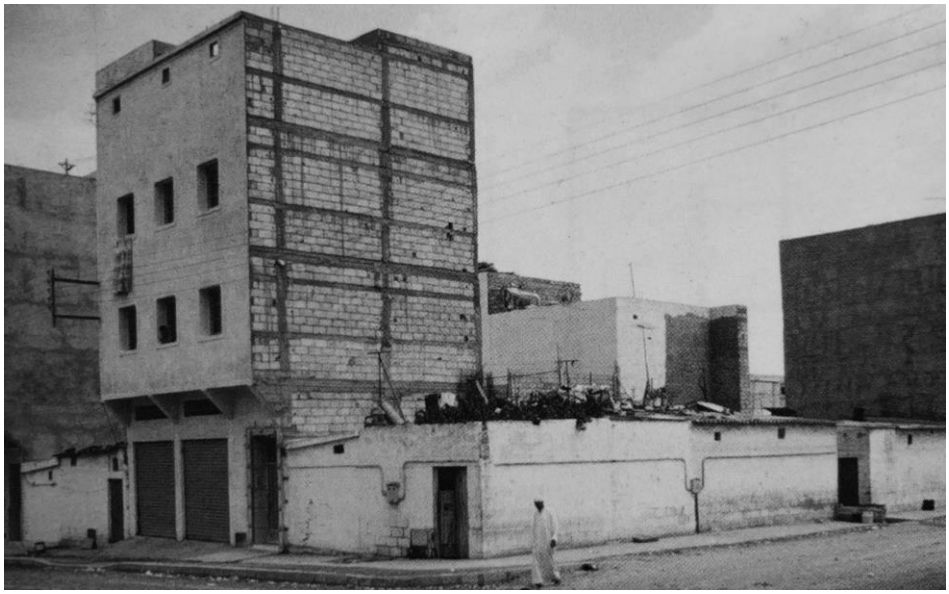

Figure 22. Growing-House. Example of block elevation in the 8x8 original patio-house. 1991. Image in: Cohen, J. & Eleb, M. 2004. *Casablanca. Mythes et figures d'une aventure urbaine.* Nanterre: Ed. Haza, pp. 346.

In contrast, the *Nid d'Abeille*, the *Semiramis* and *the Tower* have undergone a process of filling their structures that has diminished their value and initial qualities. The pre-design vertical configuration became a closed system that has not adapted well to the changing needs of the Moroccan home. The type of high-rise building has not been suitable for an ever-growing population, as it did not foresee its densification over time.

Figure 23. 'l'Architecture d'Aujourd'hui', 1954, magazine cover page: Nid d'Abeille as built, 1954 (left) Photomontage of the Nid d'Abeille today, 2018 (right). Author´s image.

Despite the fact that none of the architects who designed Carrières Centrales sought the changes that have come about over time, the Écochard frame has been better adapted to the needs of its residents than the high-rise blocks planned by the ATBAT-Africa group.

Even so, the main problem is not about support, but about growth management, or, in this case, the lack thereof. Regulations on growth are minimal in Carrières Centrales, and guidelines have been in place for only a short time. A lack of

concern in controlling the evolution of the neighbourhood led to the dwellings growing according to the interests of their inhabitants. This situation can also be found in other areas in North Africa and necessitates that the heritage of the Modern Movement be reviewed. This factor also encourages future research to search for strategies for its management.[24]

For this reason, this case study opens a debate on the future of cities, their adaptability and evolution over time, especially in developing countries. In the European model the changes in architecture are largely irrelevant, with only minimal changes visible from the outside. This is due to the strict regulation of heritage and efficiency in construction methods and technologies.

However, in emerging societies, the evolution of the city may be less scheduled, including unhealthy and inefficient conditions, worsened by the problems arising from pandemics, immigration, and climate change. It is therefore the responsibility of architects and urban planners to propose open systems that can adapt to the changing needs of society and define controlled growth management, with the view that the city is built more by time than by architects.

Acknowledgements & credit for illustrations

Figure 1. Drawing by: García Dorce, C. 2017. *Un tiempo dilatado. Carrières-Centrales (Casablanca). Antecedentes, concepto y evolución.* Valencia: ETSAV (UPV), vol. B, 36.
Figure 2. Carrières Centrales' Bidonville. Casablanca South, 1950. Available through: Archnet website.https://archnet.org/sites/10130/media_contents/93707 [Accessed 26 August 2020].
Figure 3. Image in: Risselada, M. & Van den Heuvel, D. 2005. *Team 10, 1953–81, in search of a Utopia of the present.* Rotterdam: Ed. Nai Publishers, pp. 28.
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Figure 7. Author´s drawing, 2018.
Figure 8. Author´s drawing, 2018.
Figure 9. Author´s drawing, 2018.
Figure 10. Image in: Risselada, M. & Van den Heuvel, D. 2005. *Team 10, 1953–81, in search of a Utopia of the present.* Rotterdam: Ed. Nai Publishers, pp. 29.
Figure 11. Author´s drawing, 2018.
Figure 12. Author´s drawing, 2018.
Figure 13. 'Semiramis' East façade. Candilis & Woods, 1954.
Figure 14. Author´s drawing, 2018.
Figure 15. Free space. Author´s drawing, 2018.
Figure 16. 'Inside Semiramis building' Comparation between photos of 1951 (left) and 2018 (right. Photo by the author). Left image in: Avermaete, T. & Casciato, M. 2014. *Casablanca Chandigarh. Bilans d'Une Modernisation*. Chicago: University of Chicago Press, pp. 291.
Figure 17. Drawing by: García Dorce, C. 2017. *Un tiempo dilatado. Carrières-Centrales (Casablanca). Antecedentes, concepto y evolución.* Valencia: ETSAV

[24] Authors are involved in the content and teaching of the Seminar: *Time Builds! (E/In)volución de arquitecturas pasadas.* MPAA 2020/2021 (Máster en Proyectos Arquitectóncios Avanzados), ETSAM, Universidad Politécnica de Madrid.

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Figure 18. Drawing by: García Dorce, C. 2017. *Un tiempo dilatado. Carrières-Centrales (Casablanca). Antecedentes, concepto y evolución.* Valencia: ETSAV (UPV), vol. B,101.
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Figure 20. Author´s drawing, 2018.
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Figure 22. Growing-House. Example of block elevation in the 8x8 original patio-house. 1991. Image in: Cohen, J. & Eleb, M. 2004. *Casablanca. Mythes et figures d'une aventure urbaine.* Nanterre: Ed. Haza, pp. 346.
Figure 23. Image in: Candilis, G. 1954. "L'esprit du plan de masse de l´habitat*", 'l'Architecture d'Aujourd'hui',* no. 57, December, cover page. Author´s photomontage, 2018.

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The Tall Building and Urban Space

In light of two modernist case studies

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Abstract

If public spaces in the urban environment are seen as extensions of one's home, then what role do tall buildings play in this setting? In terms of *space*, they can have various roles. They are visible from afar and often act as landmarks, but at the same time they give one a possibility to see the urban whole in its entirety, from above.

One of most iconic images of modern urban planning and modern urban space – Le Corbusier's plan for Paris – is shown from such a vantage point, depicting an urban area dotted with individual buildings set within a continuous spatial field. This modern space has often been described as open and homogeneous. The simplified general interpretation has further been complemented by the concept of heterogeneous space, paving the way for a more diverse spatial theory. Heterogeneous space has brought much needed complexity to interpretations of architectural space.

Modernist space is revisited in this article, explored through two particular cases. In addition to Le Corbusier, the study includes the work of another architect and urban planner of the early 20th century, Eliel Saarinen. The role of tall buildings in the designs and writings of the two architects is compared, with a specific focus on the spatial implications of these buildings in the cityscape. The comparison illustrates the fact that modern architects were not unanimous in their visions of urban space, although they shared the knowledge of a contemporary spatial theory.

Keywords: tall buildings, urban space, modern architecture.

Introduction

Finnish cities have been looking upward in the past decade, answering the need to densify urban areas and provide more housing for a growing population. At the same time, city dwellers, even families with small children, have come up with their own unique solutions to urban living, sometimes even opting for less dwelling area in exchange for a well-situated apartment (Lapintie 2017; Suomen Hypoteekkiyhdistys 2018, 3). The latter has put forth new challenges for public and semi-public urban spaces, as well as caused changes in the preferred services. For example, cafes and restaurants seem to have become the number one service request for a residential area – this reflects their rising importance as places for meeting and working (Suomen ympäristökeskus 2017).

When public and even semi-public places in the urban environment are seen as extensions of one's home, these spaces should meet the various needs of the inhabitants. How should public spaces be designed, furnished, and then used? Are they connected to form networks, and should they be specifically marked in

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the urban context? Tall buildings could possibly play a role in this. After all, as landmarks they are visible in the cityscape. At the same time, they offer a possibility to see the urban landscape from above, providing a view to be appreciated collectively – if the design of the tall building offers at least a semi-public point of observation. In terms of *space,* tall buildings can be accents that have a role in directing spatial flows, while providing this platform for appreciating open space with a controlling gaze.

The aim of this article is to look at the tall building question from a historical perspective, thus providing a background for understanding the current spatial possibilities offered by this controversial building type. A summarizing overview of modern spatial theory is offered first as a base for the study of drawings and texts of two architects: Swiss-French architect Le Corbusier (Charles-Edouard Jeanneret) and Finnish-American architect Eliel Saarinen. These architects' works illustrate the different attitudes to tall buildings and space in the early 20th century; both architects used high-rises or skyscrapers in their urban plans during the 1920s, and both supplemented their designs with text. The question asked is: What role did tall buildings have – spatially – in the visions of these modern urban planners? To answer the question, two specific designs are studied: Le Corbusier's visionary plan for the center of Paris (1925) and Eliel Saarinen's plan for Chicago's lakefront (1923). The study of these urban plans is complemented by the planners' texts, which give additional insight into their understanding of space as an element in urban compositions. In revisiting modern urban space and comparing the two example cases, the concept of heterogeneous space is used to complement the view of homogeneous modern urban space. A variety of views is necessary for understanding the complex spatial issue of tall buildings in the city.

Modern space and its urban implications

Space continues to be one of the most important central concerns in teaching architecture and urban design. First year students of urban planning learn definitions of space and then begin designing with it. It is, after all, both design material – architects even speak of the materiality of space – and a concept that influences design. In urban design and planning, the space concept is broadened in scale and painted with varying degrees of publicness. Public life brings forth people and their experiences of collectively perceived urban space. At the same time, individuality is present – one perceives as an individual. Architects speak of *townscape*, which implies visual connotations, an individual viewpoint, also a sense of being somewhere, being *placed*. For an architect or an urban planner, situating oneself in the urban space is an approach necessary for design-orientation.

When the space concept is paired with time, we have an idea of space that has been shaped by the modernist architectural tradition. The space-time continuum of physics received its architectural interpretation (on space-time, see Van de Ven 1978, 43-48; Giedion 1941/1974, 815-869; on Giedion's influence, see Kruft 1985/1994, 435; Vidler 2001, 194-199). While modernist theories of space are by no means unanimously uniform, modernist space has been called homogeneous (Hight et al. 2009, 10; Hara cited in Wakabayashi 2019). Homogeneous space, by definition, owes much to mathematical understanding of space. In architecture, it is linked to geometrical constructions of perspective drawing, which presuppose the existence of a consistent medium where objects may be located (Mitrović 2004, 424). As this view has its limitations, the concept of heterogeneous space has been used to pave the way for a spatial theory beyond a simplified understanding of modernist space. Nevertheless, even this concept has been described in relation to the modernist tradition, more often with what it is not, instead of what it is. Heterogeneous space has, in any event, offered a more diverse understanding of architectural space, bringing necessary complexity to contemporary interpretations, especially in the urban scale.

Cornelis van de Ven has claimed in his classic book *Space in Architecture* (1978), that space did not really exist in architectural theory before the late 1800s; only then did it become an artistic concept. With architecture understood as an art, space became the embodiment of human activity inside a shell provided by architecture. (van de Ven 1978, xi-xiv; also noted by Collins 1965, 285; cited in Mitrović 2004, 425.) Space was, however, used and understood long before it was taken into architectural theory as an artistic concept. Van de Ven (1978, 46, 243, with reference to Einstein) offered three premises of physical space:

- Space as *place*
- Three-dimensional absolute space – space as *container*
- Four-dimensional relative space – space as a *field*

The first premise was explained already by Aristotle in his theory of *place* (*topos*). This concept depended on material objects; empty space had no meaning in space understood through place. (van de Ven 1978, 15, 46.) Absolute space, on the other hand, was an independent concept. Space was seen as infinite, the container of all material objects. (van de Ven 1978, 30.) Relative space was a system of relations between coexisting things – here space became a *field*. (van de Ven 1978, 33.) However, the division was largely a theoretical, simplified construct. According to van de Ven (1978, 46), all three ideas of space were present simultaneously in architecture. Pure visualizations of the premises simply did not exist.

Sigfried Giedion, who has done much to define the very concept of space in modern architecture, similarly used a three-part division in his book *Space, Time & Architecture* (1941/1974, lv-lvi). He found space both as *interplay between volumes* and space as *interior* space in the architecture of ancient civilizations, but in his opinion, with the advent of modern architecture something entirely new had become the focus of spatial understanding. *Movement* was this essential component in experiencing contemporary architecture and urban space. (Giedion 1941/1974, lvi, 826, 850-853.) As his book was written to grasp the contemporary architectural scene and define its aims, the focus was less on the understanding of historical evolution of spatial concepts, and more on contemporary synthesis. The single viewpoint perspective had been abolished and modern architecture was trying to capture the essence of its time. This essence was motion, since *"the space-time feeling of our period can seldom be felt so keenly as when driving."* (Giedion 1941/1974, 826). This can be seen in much earlier texts already[1], for example, in Le Corbusier's *Urbanisme,* where he described moving in an urban environment, first as a pedestrian, then becoming elated with the speed of movement and the power represented by moving vehicles (Le Corbusier 1924/ 1987, xxiii). These descriptions seem to indicate that space was no longer just a container or simply interior space. Even so, modern architecture's attitude to space has been criticized for concentrating on mass and treating space around these masses as immaterial. In this case, the modern space-time-concept has been seen as a version of Newtonian view of the world as objects in a void (Kuoppamäki 1993, 57).

Skyscraper types and space

The tall building type had been approached with varying attitudes even with the onset of early skyscrapers in the late 1880s and early 1900s[2]. In New York, the race for the tallest building had resulted in clusters of skyscrapers, where the height differences could easily be compared as the buildings were constructed

[1] Van de Ven (1978, 84-90) mentions even earlier 19th century writers on the topic of space and time or mobility in space, for example: Adolf von Hildebrand and August Schmarsow.

[2] The story of skyscrapers in the United States has been touched by various authors, but a detailed account is found in Thomas A.P. van Leeuwen's *The Skyward Trend of Thought. The Metaphysics of the American Skyscraper* (1988). A European outlook on the issue has been included in Jean-Louis Cohen's *Scenes of the World to Come: European Architecture and the American Challenge, 1893-1960* (1995).

in close proximity to each other (van Leeuwen 1988/1990). These skyscraper clusters – and the dark urban canyons they made of the city streets – were criticized especially in Europe (Chudoba 2011, 56-57). The *Stadtkrone* idea promoted by Bruno Taut (1919) had given the tall building a central role in urban design. Tall building as a landmark, a focal point in an urban composition, was seen by many architects as the most proper use for the building type (Chudoba 2011, 57). A landmark building was helpful in orientation on the street level, and also gave a possibility to observe the vastness of open space – or nearness of the sky, as noted by Le Corbusier's in his quote on the major materials of city planning[3]. By the early 1920s, Le Corbusier had drafted his famous plan for Paris, where tall buildings were neither landmarks nor clusters, but building blocks in an ordered urban composition. Skyscraper city was shown in bird's eye views as a field of tall buildings in ordered rows, all equidistant from each other. This field[4] of skyscrapers allowed for space to move freely.

In his seminal book *Space, Time & Architecture*, Giedion placed major importance on the idea of motion in connection with space. He linked space with time, and this demanded a new way of seeing. To explain the role of motion in experiencing architecture, Giedion (1941/1974, 850-853) chose a composition which included a skyscraper. New York's Rockefeller Center, built in 1932-39 could not, as Giedion described it, be understood at a single glance, unlike many previous examples of tall buildings had been. For Giedion, the composition of buildings and the adjoining spaces had a new complexity, a time-lapse quality that could only be experienced through movement around the group of buildings. The space-time concept gave a new view of the example: a tall building was not just as an object to be contemplated, but also involved with the spaces and buildings around it, and with the movement and distances required for experiencing the architecture in its urban context. Space was linked with the object. In this case the objects were tall buildings and the spaces mediated their relationship to context.

All three attitudes to tall buildings – the cluster, the landmark, the field – had to deal with the tall building's role in the city. Each attitude resulted in a different use of the building type as a design element in an urban composition. Tall buildings have always been emblems of power, often financial. Height leads to image-generating visibility, especially if the skyscraper is of the landmark variety. A silhouette of skyscrapers – mostly associated with the cluster type – is thought to be an optimistic sign of growth and prosperity. The urban density such a silhouette implies is spatially demanding, therefore, the field type in its modernist apartment block guise was used as a solution to this challenge. When tall buildings were used in various ways as elements in an urban composition, the spatial implications of the different design choices were also manifold. The clusters of skyscrapers blocked light to the streets below, resulting in unique urban spaces: dark narrow ravines, which were sometimes able to capture the reflected light from flanking glass facades. Landmark buildings could be used as focal points of orientation in adjoining urban plazas, grounding each urban space into a network of places. The field of skyscrapers was perhaps not the best example to define the importance of movement in experiencing architecture – no surprise that Giedion did not use it – but the modern space concept of space-time could be applied to it. At least, with the open ground of green vegetation, from which the tall buildings rose like crystals (Le Corbusier's own description, see Le Corbusier 1937/1964, 53), space was given free flow.

[3] *"The materials of city planning are: sky, space, trees, steel and cement; in that order and that hierarchy."* The quote is attributed to Le Corbusier in numerous sources, original source mentioned as "in *Times* 1965". E.g. Weber 2008, 186.

[4] The concept of *field* has been known in urban planning education for decades. It was used in the Finnish textbook *Asuinaluesuunnittelu* (1997, 101), but more precisely defined as a concept, f. ex., by Stan Allen in his 1997 article, reprinted in Hensel et al. *Space Reader* (2009).

Le Corbusier's plan for the center of Paris and Eliel Saarinen's for Chicago's lake front were both drafted in the early part of the second decade of the 20th century. The two case examples can give us an idea of how the urban spaces enhanced or even created by tall buildings were dealt with in the early 1920s by two architect-planners who were branded with the "modern" epithet[5]. Both architects drafted plans as well as wrote about their design ideas. In this study, the main reference material used for researching Le Corbusier's ideas about tall buildings consists of the following: Plan Voisin (1925) and the Contemporary City (La Ville Contemporaine, 1922), *Urbanisme* (1924) and *Vers Une Architecture* (1923)[6]. From Eliel Saarinen, the following material has been studied: Chicago Lake Front Plan (1923), *The City, Its Growth*, *Its Decay*, *Its Future* (1943) and *The Search for Form in Art and Architecture* (1948).

The main plans studied for this article (Le Corbusier's visionary plan for the center of Paris and Eliel Saarinen's designs for the Chicago Lake Front) were both extensively published and included plans and perspective drawings, the drawings being the most informative when studying the spaces resulting from the design choices. To complement the plans, the reference material in this study consists of the two most famous books written by the two studied architects. Their books have similar topics: the city and its future, and then, broadly, architecture. Le Corbusier described his model for renewal of the centers of modern cities in *Urbanisme*; Saarinen promoted his version of organic decentralization in *The City, Its Growth, Its Decay, Its Future*. Le Corbusier's *Vers Une Architecture* was an influential manifesto about the direction modern architecture should take; Saarinen's *Search for Form in Art and Architecture* was a textbook on design issues, even if it did not give specific instructions for architects. The former books were about the city; therefore, they have been the most important sources of the authors' ideas on urban space. The books about architecture have been used to get additional information on the architects' spatial views – understandably, the descriptions in these books tended to focus on inside space.

The homogeneous space of a field of skyscrapers: Le Corbusier

As influential as Le Corbusier has been to modernism and the concept of space in modern architecture and urbanism, he has written surprisingly little about it in his two most famous books, *Vers une Architecture* and *Urbanisme.* The latter focuses on the urban environment. Nevertheless, one of his best-known quotes on city planning and space cannot be found in this book, nor even the one that had the word *space* in its title (*The New World of Space,* 1948). The quote gives a list of the materials needed in city planning: *"sky, space, trees, steel and cement"* (Le Corbusier cited in Weber 2008, 186). In the quote, vegetation is acting as a buffer between the extensive open spaces and the actual construction materials that make up the buildings. Spatial observations gathered from his drawings support this interpretation.

Eventually, Le Corbusier also wrote a book which had space as its main focus – *New World of Space* (1948). In this book he revealed the specific ability of space to evoke aesthetic emotion. In describing his own experience of encountering the Acropolis, Le Corbusier described architecture that releases vibrations to the surrounding space. Such a space was filled with directed rays or even shouts. Le Corbusier called this space ineffable and seemed in awe of the mystery of it (Le Corbusier 1948, 8, 66). This was a resonating space, and certainly not a void (Vidler 2001, 54).

[5] Le Corbusier was, of course, an iconic modern architect, who greatly influenced both architecture and urban planning in the 20th century. Eliel Saarinen had a career in two parts, first in Finland and then United States. He was called a modern architect on several occasions of his career – nevertheless, it must be noted that the very word *modern* changes with changing times.
[6] English versions of Le Corbusier's books: *The City of Tomorrow* and *Towards a New Architecture.*

Cornelis van de Ven (1978, 188-190), has seen Le Corbusier's space as an all-controlling element, even if mass was a main element before space. This assessment is demonstrated in the table of contents of Le Corbusier's book *Towards a New Architecture (Vers une Architecture).* There are specific chapters titled *mass, surface* and *plan*, but not *space*. Naturally, space was mentioned, as it was included among the elements of architecture (Le Corbusier 1923/1987, 5). The elements were, specifically: light and shade, walls and space. The last element may have needed defining more than the first three, but definitions were sparse. Le Corbusier wrote of spaces and volumes, implicitly assuming that these concepts were familiar to the reader. Or if not, in his opinion, the illustrations of architecture in the past and present would likely clarify the issue. In Le Corbusier's descriptions, the architect, a plastic artist, created volumes, and great spaces were filled with light (Le Corbusier 1923/1987, 181-183, 186, 218).

The materials of city planning are: sky, space, trees, steel and cement; in that order and that hierarchy.

In his book *Urbanisme,* the scale became vast, the spaces even greater and the light sources more distant. Le Corbusier (1924/1987) called for order and efficiency in city planning, and the tall building was one of the design elements used to achieve this. The urban compositions were axial, with some centripetal possibilities (see Allen 2009, 121). The high-rise building – the skyscraper – he could use as a unit of this urban composition. He wrote about open spaces and referred then to the ground area; there was plenty of unbuilt area left for vegetation in his modern city[7]. His descriptions of space could be from a fast-moving car, from where he could observe the "immensity of space" and note that the "sky is everywhere" (Le Corbusier 1924/1987, 177). Another point of spatial observation was the top of a tall building, where the "spirit is roused to a vital activity", and "optimism fills the mind" (Le Corbusier 1924/1987, 186). He called skyscrapers "'look-outs' dominating an ordered world" (Le Corbusier 1924/1987, 187), and was able to demonstrate this interpretation by compelling text, where the city planning elements of sky and space were given significant roles. The space here seems to be something best experienced from a bird's eye view, with an all-controlling gaze. The most famous of Le Corbusier's drawings of his contemporary city are, indeed, such bird's eye views. We are shown a magnificent orthogonally ordered monumentality. The sky is brought close to the observer, space flows around the towers and over the built landscape, where green vegetation and crisp white modern architecture alternate. We can certainly imagine the steel behind the white façades.

Giedion (1941/1974, 833) saw the high-rise buildings in open space, amidst greenery, proposed by Le Corbusier and colleagues, as an imperative solution for the future of cities. In the green park-like spaces around housing-blocks, he noted a similarity with the tradition of surrounding large houses with pleasure grounds for recreation. This, according to Giedion, reflected "a baroque desire" for greenery. (Giedion 1941/1974, 836-838.) Such desire had been strongly advocated by Le Corbusier, for whom vegetation was one of the sources for human scale in an otherwise monumentally scaled and ordered modern city. A "broad vista" was the aim for a contemporary urban landscape, but in the vast open spaces human beings might feel lost – as Camillo Sitte (1889/2001, 53) had already noted with his writing of agoraphobic condition. Le Corbusier (1924/1987, 237) solved the problem of agoraphobia by using vegetation and introducing low-rise buildings of maximum three stories, which he wound around his high-rises in orthogonally meandering rows. With vegetation, the "cheerful" quality was brought to the urban experience. His main ingredients of city planning – sky and space – were prominently visible in the perspectives depicting this urban landscape.

Le Corbusier drafted drawings of his new urban environment from also slightly above pedestrian eye-level. These drawings abound with green vegetation,

[7] The green areas he saw as "urban landscape" and "cheerful spaces" that offered a "broad vista" – two of the three pictures he showed to illustrate the point were taken from above, indeed offering a wide view (see Le Corbusier 1924/1987, 200, 232, 236-237).

echoing the importance of recreational spaces he had mentioned in *Urbanisme* (Le Corbusier, 1924/1987, 78, 237). In the nature of perspective drawings, these are positioning the stationary viewer at a specific chosen point, to look at an unmoving urban landscape. Movement has to be imagined; the eye must travel beyond the boundaries of the picture. The space these drawings show is immense, freely flowing. The sky is not just an empty background, it is a visualized with clouds and airplanes, giving it an almost material quality. Within this immense space, the details in some of the drawings, for example, a Parisian coffee shop arrangement of tables, chairs, trays and cups, look strangely quaint and even out of place, as if somehow in the wrong scale (figure 1). The modern spatial concept of Le Corbusier's urban drawings seems to require the speed he so exaltedly expressed in his text. The traditional perspective drawings – or any drawings – simply do not do it justice. Contemporary visualizations of flyovers in 3D-models would have suited this urban landscape well.

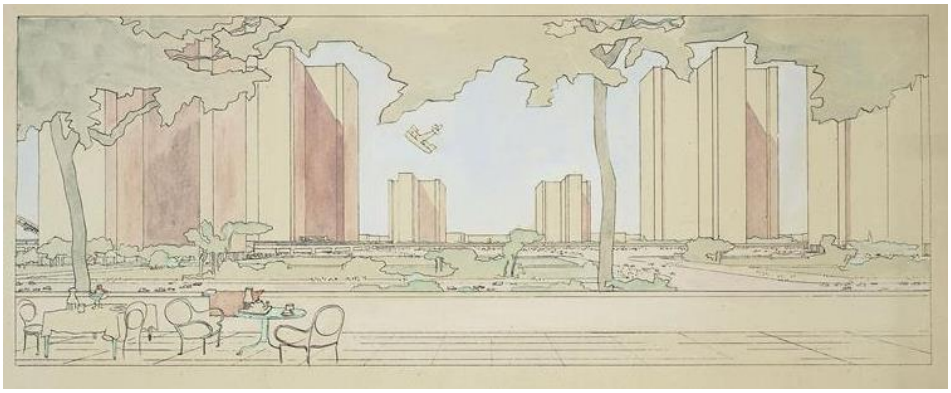

Figure 1. Le Corbusier. A Contemporary City, 1922 (Copyright Fondation Le Corbusier - ADAGP). A view from a terraced café. According to Le Corbusier, the terraces "were much frequented and serve as boulevards". The sky and open space are visible in the drawing.

One may imagine a fly-over of a landscape Le Corbusier himself has described, seen from the top of a high-rise building. Such views allow the viewer a feeling of control, and there is a "pleasure of 'seeing the whole'", as Michel de Certeau (1984/1988, 92) has written of the experience. True to this view, Le Corbusier (1937/1964, 90) offered an elated appreciation of looking down on the urban landscape under the sky[8]. In the description of a night view over Manhattan from a skyscraper, the two elements he first mentioned as important in city planning – sky and space – are very much present.

The open space of Le Corbusier's city has been called hierarchically homogeneous and rationalized (Hight et al. 2009, 21)**.** The rational order is certainly visible in both his text and drawings. In terms of space, the spectator may imagine moving with considerable speed among the field organized around a composition of tall buildings or observing the city from a high-rise lookout. The tall building gives an urban dweller a possibility to experience two of Le Corbusier's main elements of city planning: sky is brought close and space spread over the landscape receding towards the horizon. However, if the space is homogenous, it is that in spite of the high-rises, not because of them.

[8] "*The sky is decked out. It is the Milky Way come down to earth; you are in it. Each window, each person is a light in the sky. […] The stars are part of it also – the real stars – but sparkling quietly in the distance. […] We are charged with feeling, we are intoxicated, legs strengthened, chest expanded, eager for action, we are filled with great confidence."* (Le Corbusier 1937/1964, 90.)

The composition and urban space on the outside: Eliel Saarinen

The two books by Eliel Saarinen were published in 1943 and 1948, two decades after Le Corbusier's influential books. Saarinen had, however, started to write architecture texts with publishing likely in mind already in the 1920s, and a manuscript from 1925 contains much of the material published in his 1948 book *The Search for Form in Art and Architecture* (Saarinen 1925 c.f. Saarinen 1948/1985). In this book space is mentioned several times, although somewhat reluctantly. By the 1940s, modern architecture's focus on space had become so pervasive, that an architect could be critical of its role. Saarinen concentrated on form and seemed almost reluctant to talk about space, writing: "if the word 'space' after all must be mentioned". Nevertheless, he noted that architecture was the art of space in space. (Saarinen 1948/1985, 254.)

When Saarinen mentioned space in a chapter title, he combined it with form. He wrote of rooms as embracing spaces, not just something contained within four walls (Saarinen 1948/1985, 131). There was an underlying organic integrity present, a desired atmosphere that included more than the bare walls – it was a sum of the materials and objects within the space. This may be linked to the concept of a total work of art, *Gesamtkunstwerk*, which had been the prevalent idea in architecture around the time Saarinen started his professional career, designing buildings and their furnishings in a national romanticist version of *Jugendstil* (see Hausen 1990, 9, 41). The idea of embracing space could also be seen to imply a spatial understanding as a bodily experience. This is a space where "human life goes on in one form or another" (Saarinen 1948/1985, 131).

In his other book – *The City, Its Growth, Its Decay, its Future* – Saarinen considered space in the urban dimension. Like Le Corbusier, he saw order as an important factor in city planning. He started with order, adding proportion, rhythm, and material to a list of important considerations, even in the scale of cities. He associated his views with contemporary attitudes to space, noting that "our" modern attitude to space was open, in contrast to the enclosed space of the medieval period. At the same time, however, he was critical of contemporary spatial attitudes, wanting more focus on outside space. This outside space, the space between buildings, was often forgotten, "left outside to vibrate in discordant distress" (Saarinen 1943/1958, 52). Such a space was not simply open, flowing and homogeneous. If this space was not yet a tensioned field of events (see Kuoppamäki 1993, 57), in any case it contained qualities that took it beyond the simple interpretation of homogeneous space.

Moreover, what did the tall building bring to the discussion of qualities of urban space? Although the main goal of Saarinen's book *The City, Its Growth, Its Decay, its Future* was the promotion of decentralization, the issue of urban space was mentioned several times, directly or indirectly, often in connection with tall buildings (see Saarinen 1943/1958, 167-169, 185-187). The functionalist demands for air, light and space would alone have demanded that Saarinen also dealt with spatial issues. For him, the skyscraper was not a necessary urban design unit, but a signal of progress that had possibilities as a focal point in an urban composition (Saarinen 1943/1958, 169, 186). This attitude towards the tall building type had already been apparent in the early 1910s, when Eliel Saarinen had used tall buildings as landmarks in his urban plans (for example: Tallinn Plan, Munkkiniemi-Haaga Plan in Helsinki and Canberra plan for Australia's capital). The tall building's role had been a landmark in the compositions. An accompanying text supports this view, even if Saarinen also allowed for a favorable grouping of tall buildings (Saarinen 1912, 12; cf. Saarinen 1943/1958, 196-197). His attitude towards this building type did not change after his 2nd prize winning entry for the Chicago Tribune Tower competition of 1922, when he designed an actual skyscraper. The same view was expressed again three decades later in his book on decentralization. According to Saarinen, overall planning issues took precedence when tall

buildings were used (Saarinen 1943/1958, 196-197). Thus, the skyscraper was put to best use when it was a focal point in the composition.

As a focal point, the tall building was also a place of observation. Like Le Corbusier, Saarinen (1943/1958, 192-193) described views of Manhattan, having been impressed by the "lofty skyscraper masses" of the vertical city. They seemed to concentrate the very life of the active, restless city. He admired the silhouette and panorama available from the tops of skyscrapers, describing the majestic picture: "when myriads of lights dot the black curtain of night and the stars of man blend into the sparks of heaven". The description is similar to the one written by Le Corbusier six years before, where he compared the city lights sparkling below to "Milky Way come down to earth" (Le Corbusier 1937/1964, 90). In his text for the Chicago Lake Front Plan of 1923, Saarinen had already used the view from the top of a skyscraper. In the text, he follows a traveler from an underground railway to the highest floor of the skyscraper hotel. He then proceeds to describe the panorama of the city. The main plaza, surrounded by flowerbeds and public buildings, expands underneath in monumental tranquility. Plenty of greenery is visible from such an observation point, "high above the city's smoke and dust." (Saarinen 1923b, 487-514.) Noticeable in this description, which stretches across the urban landscape towards the horizon, is the absence of other tall buildings, bar one. A visual line of connection is established between the two pinnacles, accentuating their landmark status. The space is directional, as well as open and continuous.

This description was not complemented by the view from ground up. For this view, we must rely either on Saarinen's later text illustrating the Manhattan streetscape[9] or an earlier response to a newspaper journalist, after the Chicago Tribune Tower competition. When asked about the architecture of skyscrapers, he answered that the verticality of the tall building should be observable from the street, along the façade ("Europe wakes up to the need of U.S. skyscraper", *Chicago Daily Tribune*, 23.1.1923). This would imply that his idea of the skyscraper's role would not be just a landmark. If observable both from afar in the landscape and from the street level next to a plaza, the tall building has a specific role: it marks the situation of a public space in the city. The building forms a boundary to the space, but more importantly, the buildings and the space form a spatial point in the urban landscape. The public space would otherwise not be visible when the city is observed from above or when walking in the maze of its streets. The tall building becomes a grounding element for a space of gathering.

In many of Eliel Saarinen's drawings of high-rises in the urban landscape, the tall buildings were used in a similar fashion as grounding elements (figure 2). Space did not flow freely around them. The tall buildings were connected to other, smaller buildings, and to public plazas, which were at least partially enclosed – all in the manner of traditional urban form and spatial typologies. This was not in opposition to the simplistic homogeneous view of modern urban space, but rather illustrated a more diverse understanding of it.

[9] Saarinen called Manhattan a steel and stone forest. He took the reader to Central Park, describing the colorful silhouette that encloses this urban space, and then to the narrow dark streets, "with sunlight cutting its golden streams through those deep shadows", Saarinen 1943/1958, 192-193.

Figure 2. Eliel Saarinen. Lake Front Plan, Chicago, USA, 1923 (Museum of Finnish Architecture, CCBY 4.0)**.** Sunken traffic artery through Grant Park. The tall building has a landmark role in this drawing, drawn above eye-level with a controlling gaze.

Revisiting modern urban space: homogeneous and heterogeneous

In the current Finnish context, the effects of tall buildings on surrounding microclimate or wind conditions have been noted in several studies for high-rise construction in Finnish cities (for a condensed account, see Chudoba 2019), but actual spatial implications of the construction of tall buildings have not been a focus. The issue is important for an inhabitant experiencing the created spaces, and naturally requires an understanding of space as a design element. As such, a complex view of space gives an opportunity for complex design possibilities – the modern homogeneous space and the added diversity of heterogeneous space need not cancel each other.

Modern architects were not unanimous in their application of spatial theory; the two studied cases illustrate the variety of interpretations of modern space. Both architects embraced the new contemporary concept of open and continuous space, but space was more varied than the adjectives would lead one to believe. Their texts – supported by the visual material – imply an idea of space that is not simply homogeneous, but already more complex in interpretation. As Hight, Hensel, and Menges (2009, 20) have noted, a single definition of space cannot characterize modernity. This was also true inside the architectural profession, where space was used in all its three roles: as a philosophical concept, an architectural quality, and a problem around which architecture is given form (Hight et al. 2009, 20).

The three roles could be used all at once, creating a possibility of constantly shifting spatial viewpoints in the design process. Thus, describing modern space as open and homogeneous is one facet of this important design element and concept, but a simplified general interpretation needs to be complemented with other views. Anthony Vidler (2001, 12) has even coined *warped space,* to gather the many spatial concepts of modern culture under one term. The concept is based on the idea of space-related phobias which are seen as a base of modern man's attitudes to space (Vidler 2001, 2). With warped space, single definitions are cast aside to allow for a spatial understanding that stretches through the decades of the 20th century, finally to end with the techniques of digital images and virtual reality (Vidler 2001, 12). The concept of heterogeneous space, however, is a direct answer to the perceived shortcomings of homogeneous space. It has paved the way for a spatial theory beyond simply homogeneous space, offering necessary complexity to

interpretations of architectural space. This is especially important in the urban scale, where scalar variety and degrees of publicity are considerable. A complex view of space is also needed when studying the role of tall buildings in an urban environment.

The concept of heterogeneous space has been much influenced by Michel Foucault's writing. He has called modern space empty and claimed that we do not live in a homogeneous space. For Foucault, heterogeneous space is a space of shifting qualities – there is no void, but sites defined by different sets of relations. (Foucault 1984, 2-3, citing Bachelard's *Poetics of Space* as argumentation.) Heterogeneous space recognizes differences (Hensel et al. 2009, 7). It seems to be less about form, more about performance; less about physical structures, more about flows around them, through them. If the idea of modern space as simply open and continuous, immaterial, and homogeneous is a simplistic view, then traces of more complex interpretations could be looked for in the work of architects who were labeled *modern* during their careers. While a variety of discovered viewpoints towards space may not indicate that the space concepts were also non-homogeneous, this possibility must be considered.

The two architects studied here had both differences and similarities in their attitudes to space. They certainly saw the possibilities of a vertical city differently. Nevertheless, they shared ideas of a contemporary vision of urban space. The skyscraper had a subordinate role in their cities. Both architects used this building type as an element in the monumental urban composition, even if they had separate views about its role. For Le Corbusier the skyscraper was a multipliable building block, for Eliel Saarinen, an urban focal point. The spatial implications of these different views were naturally dissimilar. Space was openly flowing around the building blocks, each separate in the loosely woven but organized urban fabric. In contrast, with a more tightly woven fabric of both open and enclosed spaces, if a building was to be visible as a helpful point of orientation, it needed noticeable verticality in its context.

In his text illustrating modern space-time feeling, Le Corbusier was speeding across the urban landscape, if not actually behind the steering wheel of a car, at least figuratively (Le Corbusier 1924/1987, xxiii). Saarinen, on the other hand, was concerned about the neglected spaces between the buildings (Saarinen 1943/1958, 52) – this was likely a pedestrian view. Indicative of their attitudes, these sentences on urban issues are fragments of their texts, which included a considerable amount of material on the topic important for this article: the tall building and urban space.

Although Le Corbusier's urban space has been called hierarchically homogeneous, as well as rationalized and interchangeable (Hight et al. 2009, 21) or even ineffable and transparent (Vidler 2001, 54, 62), his descriptions of it differ depending on the context. With these varying viewpoints, space transforms and scales become diversified. With movement, space gets direction and speed affects the way it is experienced. With the master planner attitude, Le Corbusier also took readers to the top of a tall building, to observe the urban landscape in its entirety. Here, his two main elements of city planning – sky and space – were readily observable. From above it was possible to experience the open, extending space. In addition, Le Corbusier could also see space with closed and contracted, even resonating qualities (Le Corbusier 1948 cited in Vidler 2001, 54-55), hinting at non-homogeneity.

Saarinen also used the vantage point from top of the skyscraper in his text. Nevertheless, the most intriguing spatial descriptions in Saarinen's text are not necessarily from above, but observed from the street, or even confined inside a building: the idea of distressed urban space and the embracing space of a room.

The distressed urban space of Saarinen's description could be linked to the urban detritus that Albert Pope (1997/2009, 65-66) has mentioned in *Ladders*. These spaces – the vast unoccupied and neglected residue, the parking lots, carscapes, abandoned lots and buffer zones – could also offer possibilities for urban regeneration, or even reinvention. In this context, Pope brings forth the concept of *tabula rasa.* The blank slate or scraped tablet, in urban terms a cleared piece of land, was an ideal base for modernism's projects. Pope stresses the "unbridled potential" this idea brings to urban planning, implying that at the same time, depth and meaning were given to modern urban space, space released from the shackles of form. (Pope 1997/2009, 65-66.)

The adjective "distressed", used by Saarinen, or similarly, the "resonating" qualities mentioned by Le Corbusier, could very well be attached to the neglected spaces of modern cities, implying a dire need, not only a possibility, for reinvention. In Saarinen's case, the constraints of form were never completely detached from the idea of modern space. Instead, he intertwined them. One could say that he even carried the Sittean ideal of enclosed space to his version of the modern city spaces, fitting interior space, the embraced space, to another scale in the urban context.

The simple interpretation of modern urban space offered by Sigfried Giedion, first in the 1940s, has since been transformed to a spatial field with a variety of qualities. Movement defined space-time, but the open, continuous and free-flowing homogeneous space was somewhat monotonous by nature. Now, in contrast, space may be described by a dichotomy of opposites. It is both homogeneous and heterogeneous, as well as animated and inert, monotonous and varied (Pope 1997/2009, 65), or even social, abstract, smooth or striated (Vidler 2001, 12, with reference to Lefebvre and Deleuze).

Conclusion

The urban landscape in all its scales offers a variety of spatial experiences, to which one particular building type, the high-rise, may contribute in different ways, depending how it is used in the urban composition. It may be a lookout, offering views of infinitely extending space from above, to be appreciated collectively. Or it may be a grounding element, point of orientation, signaling the location of a public space in the city. In the latter role, tall buildings can be visually prominent accents marking the network of public spaces, while individually capable of directing spatial flows. A controlled cluster of high-rises, perhaps resembling a modernist field of towers, may provide a collage of spatial experiences, from enclosed to more openly flowing, from individual to collectively experienced. Tall buildings are, more often than not, connected to public spaces or even providing semi-public spaces, which can be seen as extensions of urban dwellers' homes. In any case, the tall building affects its surroundings spatially, both in the immediate vicinity and in a more distant view. Different qualities are attached to space depending on how the tall building is seen in its context. When it is designed for a particular spot in the city, the architect-planner of today continues to make choices about its role – and the choices are affected by a variety of spatial possibilities.

With spatial attitudes that allow for complexity, the tall building offers possibilities as an urban design element that go beyond questions of skyline and visibility. As more high-rises are being constructed in Finnish cities, the issue of space should be observable in the actual urban experiences, and thus provoke discussion. Space could, after all, resonate either positively or negatively in the urban environment.

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Learning from Precedent

The (ir)reproducibility of home

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Abstract

This paper argues that precedent should play a fundamental role in the development of sustainable homes. It will describe how the design of two energy efficient family homes in Winchester, England, adopt a distinctive approach to environmental precedent.

The modern house is substantially a product of numerical calculation, such as the modelling of performance data and cost-benefit analysis. Construction (materials, u-values) and processes (energy use, assembly, airtightness) are quantified and assessed to ensure they achieve design objectives based on recognised standards of performance (Energy Performance Certificate: A; Code for Sustainable Homes: level 4).

However this technical analysis alone cannot inform the initial creative idea. The design of these houses was informed by intuitive reference to a range of diverse precedents, including the work of Alvar Aalto, Sverre Fehn, Robert Venturi and Roelof Uytenbogaardt.

The asymmetric roofs of Aalto's Housing for ex-service men in Tampere (1941) define thresholds to front and side doors, and a sheltered private space to the back overlooking the garden. Fehn's Villa Norrköping (1964) was designed around circadian rhythms, with day and night-time spaces defined by glazed corners ('eyes') and alcoves, animated by daylight and shadow. Venturi's Mother's House (1964) symbolises in its idiosyncratic form and modest material treatment the pragmatic and egalitarian promise of a home and identity of one's own. House Uytenbogaardt (1993) exploits solar orientation and the topography of its location to the utmost, framing views of the horizon and sunsets over the ocean. The house is part fortified tower house, part bespoke wooden cabinet, responding to the unique atmosphere and light of the Western Cape coastline.

This paper will describe how these two subtly different Winchester houses borrow from each of these examples to reconcile technical requirements with the poetic possibilities inherent in imagining other environments, informed by the specific climate and conditions of the site.

Keywords: precedent, housing design, environment, technics, poetics

PEER-REVIEWED ARTICLE

Introduction

This article seeks to explain the significance of the role of precedent in environmental design, with reference to the author's own designs for two sustainable homes in Winchester, UK. In a previous paper authored with Hawkes, the author argued that precedent in architecture offers a dual role:

a) Reference to previous examples that are known to work well provide a degree of security in the production of new buildings.
b) Precedents embody principles from which development and innovation may proceed.

The paper begins by theorising how the relationship between a building and its climate, or inside and outside, is central to any architectural project, with reference to the work of Kenneth Frampton and Dean Hawkes, amongst others. It goes on to question the manner in which the contemporary discourse of sustainability has prioritised quantitative assessment at the expense of qualitative considerations, and how as a result the role of precedent has been overlooked.

In the following section four precedents of houses are examined to identify the different ways in which their respective architects respond to different aspects of their local climates. The selection of the precedents is subjective – an act of intuition – informed by the author's own background, preferences and architectural knowledge. The houses are located in quite different contexts and climatic regions, and the connections between them can at first glance appear coincidental, or even inconsequential. Despite their geographical separation, however, the four homes share surprising similarities. The personal relationships between their architects is reflected in the individual approaches they have adopted to context and climate. The houses reflect how different bodies of knowledge and experience diffuse geographically and are appropriated and reinvented across time and space – demonstrating how precedent often acts most powerfully at a subliminal level.

Finally the paper describes how these four homes influenced the author's approach to the design of two similar but subtly different homes in Winchester. The influence of the precedents on the design of the Winchester houses is sometimes apparent, sometimes concealed. The paper describes how the author borrowed from these examples to reconcile the technical requirements that underpin 'sustainable design' in the early 21st century in the UK, with the poetic possibilities inherent in imagining other environments, informed by the specific climate and conditions of a particular given site.

Theory

In *Architecture of the Well-Tempered Environment*, Reyner Banham attempted to expand the field of architectural history beyond what he perceived to be the limitations of a focus solely on form and aesthetics. Banham argued that an historical understanding could illuminate the technical problems of the present, and that solutions to architectural problems could not be fashioned purely by the application of analytical processes. His study focused on the historical significance of the role of the environment in architecture, and the phenomenon by which improved lighting, heating, cooling and ventilation led to more demanding expectations on the part of building users. In the final chapter, Banham described the history of the modern movement until that point as either 'the final liberation of architecture from the ballast of structure, or its total subservience to the goads of mechanical service' (Banham 1969, 265).

'Universal bureaucracy reproduces and facilitates the domination of a global technology and the overall telos of this technology tends to be quantitative rather than qualitative in nature.'

Kenneth Frampton

Reviewing the consequences a quarter of a century later, Kenneth Frampton observed that 'universal bureaucracy reproduces and facilitates the domination of a global technology and the overall telos of this technology tends to be quantitative rather than qualitative in nature' (Frampton 1995, 24). In *Studies in Tectonic Culture* Frampton proposed a recovery of the meaning, representation and symbolism of construction, in order to enrich a Modernist discourse that he perceived had for too long prioritised architectural form above all else. Taking the Greek translation of the Vitruvian trinity (*topos*, *typos*, and *tectonic*), Frampton made the case for a rehabilitation specifically of the *tectonic*:

> *I am not alluding to the mere revelation of constructional technique but rather to its expressive potential. Inasmuch as the tectonic amounts to a poetics of construction it is art, but in this respect the artistic dimension is neither figurative nor abstract.*
> (Frampton 1995, 2)

For Frampton, consideration of the tectonic was by definition tactile and corporeal, moving beyond conceptual signification into the physical and messy world of building, shaped by pragmatism and inexactitude (or degrees of tolerance). As 'the body reconstitutes the world through its tactile appropriation of reality' (Frampton 1995, 10), we must always be mindful that our primary understanding of architecture is achieved through sensory experience:

> *The philosophical alienation of the body from the mind has resulted in the absence of embodied experience from almost all contemporary theories of meaning in architecture. The overemphasis on signification and reference in architectural theory has led to a construal of meaning as an entirely conceptual phenomenon. Experience, as it relates to understanding, seems reduced to a matter of the visual registration of coded messages - a function of the eye which might well rely on the printed page and dispense with the physical presence of architecture altogether.*
> (Gartner 1990)

This emphasis on the visual at the expense of other sensory experiences has led to a situation where it is possible, for example, to reduce thermal sensation to a quantified standard, irrespective of time, weather or season. Dean Hawkes has sought to extend Frampton's argument to broader questions about the environment. Just as in Modernist discourse the tectonic was relegated to a purely functional role, Hawkes argues that the environment has come to be understood as a purely practical concern defined by metrics and standards (or technics at the expense of poetics):

> *Mechanical and electrical service systems reached a state of development at which they could replace all of the elements of the natural environment in buildings. At this moment… …the historical*

> *struggle of all buildings to connect inside to outside could be replaced by the flick of a switch.*
> (Hawkes 1995, 15)

'Technics or techniques or technologies alone, however important their role, fail to touch the central point… the significant environmental propositions in architecture rest upon acts of imagination in which technics are brought to bear in the service of poetic ends.'

Dean Hawkes

In *The Environmental Imagination*, Hawkes reflects on this division when he states that '*technics* or *techniques* or *technologies* alone, however important their role, fail to touch the central point… the significant environmental propositions in architecture rest upon acts of *imagination* in which *technics* are brought to bear in the service of *poetic* ends' (Hawkes 2008, vi). Central to this act of imagination is the relationship to the real world, or a given site. Frampton has argued that:

> *The worst enemy of modern architecture is the idea of space considered solely in terms of its economic and technical exigencies indifferent to the ideas of the site…*
> *Through the concept of the site and the principle of settlement, the environment becomes (on the contrary) the essence of architectural production.*
> (Frampton 1995, 8)

This renewed focus on the symbiotic relationship between construction and site underpins Frampton's theory of 'critical regionalism', not as a modern description of the vernacular, but as a reunified response to place that *builds upon* the vernacular, not denying modern materials or technology but applying them authentically, recognising the continuity of regional characteristics and culture:

> *The term critical regionalism is not intended to denote the vernacular, as this was once spontaneously produced by the combined interaction of climate, culture, myth and craft, but rather to identify those recent regional "schools" whose aim has been to represent and serve, in a critical sense, the limited constituencies in which they are grounded.*
> (Frampton 1983, 148)

What Frampton understood as 'regional schools', Colin St. John Wilson took to be a 'resistance'. He traced a lineage of architects who had been working in the modern tradition without abandoning 'association, reference and symbolic form' (Wilson 1995, 30). Quoting Aalto's dictum that 'We cannot create new form where there is no new content', he commented:

> *If there is one working principle that is common to all of the architects of the Resistance, it is this. Purposive form is generated from the inside out. To seek to freeze the forms that develop out of such a mode into a canon is irrational; to impose that canon as a mould into which any content can then be shoe-horned is simply a contradiction in terms.*
> (Wilson 1995, 28)

Proponents of 'the International Style' sought to create universal forms, and a by-product of this was a liberation from the supposed constraints imposed by climate – an environmental turn inwards. These architects adopted what Banham termed an 'exclusive' strategy, divorced from the immediate context, as the conditions of site could not be relied upon across global geographies. In contrast, architects of Wilson's 'Other Tradition' always sought to root their buildings in a specific time and place (Hawkes 2008, 68). Rather than developing a universal manifesto, this approach relied on an intuitive understanding of local culture and context, best demonstrated by architects working in environments with which they were most familiar. This stands in stark contrast to what the historian John Summerson described as Modernism's 'preoccupation with the programme':

> *The conceptions which arise from a preoccupation with the programme have got, at some point, to crystallize into a final form… but there is no common theoretical agreement as to what happens at that point… One may even be speaking of a missing architectural language.*
> (Summerson 1957)

In recent years, a consensus has developed that sustainability is a critical attribute through which all architecture should be assessed. However, contemporary definitions of sustainability often prioritise technical solutions, mirroring the divisive lines of Modernist programmatic discourse. Echoing Summerson, Susannah Hagan has argued that there is:

> *No compelling, immediately identifiable formal language on which to pin the cause. Different architects practising environmental design have different attitudes to technology, nature, materials, and performance.*
> (Hagan 2008, 25)

The argument of this paper is that this search for a formal 'language' misses the central point. A truly responsive architecture must balance technical appraisal with an authentic interpretation of its context. Standards and metrics have to be converted into a built form by a poetic (creative) act – the first mark of pen on paper – an imaginative leap of faith that occurs before any design iteration can be initiated.

This imaginative act cannot be undertaken with confidence without prior knowledge of the subject at hand. How have others attempted to solve the same problem in the past? In architecture this will be undertaken intentionally (or inadvertently) with reference to precedent. How should a building for this purpose be organised? What scale should it be? From what materials and using what methods should it be constructed? What adaptations should be made for comfort in a particular climate? The answers to these questions rely on knowledge of previous examples.

Any definition of sustainability will therefore be incomplete without reference to the role of precedent. This is perhaps best illustrated in the distinction between a house – a generic descriptor for a building that people live in – and a 'home' – belonging to a particular person or family. A truly sustainable home will be specifically adapted to an individual or family's needs, with reference to its context. It is inadequate to simply copy a type-model cookie-cutter style, no matter its technical sufficiency.

Precedents

Housing for ex-service men, 61°N

Alvar Aalto (1941)

Figure 1. Housing for ex-service men, Alvar Aalto, 1941. View from Saviniementie. Author.

Aalto designed the Asevelikylä housing for ex-service men in Nekala, Tampere, following the winter war of 1939–40. Thirteen houses were constructed in total, with prefabricated timber parts manufactured by the A. Ahlström Company in Varkaus (Figure 1). This standardisation reflected the urgent need for reconstruction following the Soviet bombing of the city, though the Tampere Brothers-in-Arms Association, rather than the city government, funded the development and provided volunteer labour for construction (Jetsonen, Jetsonen, and Lahti 2011).

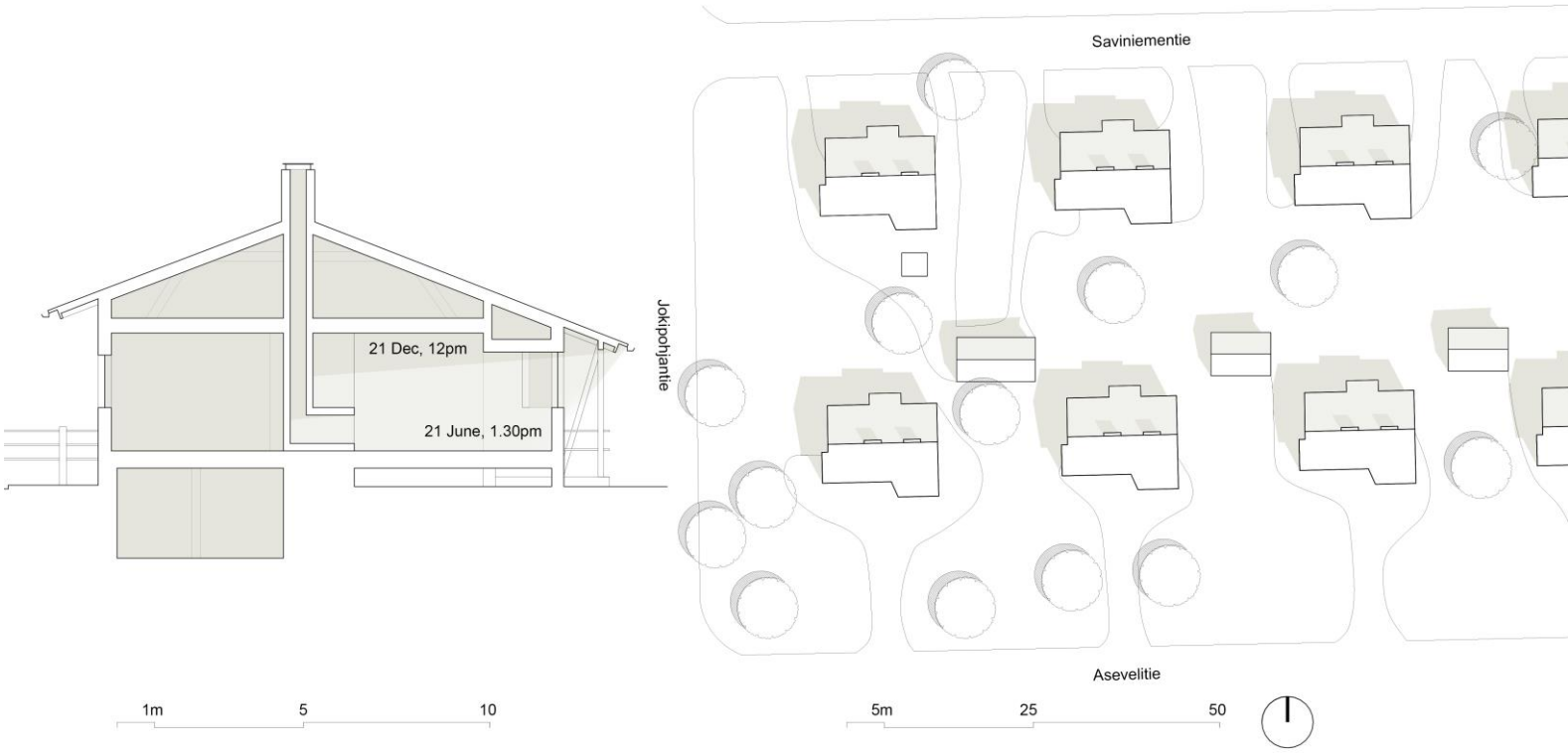

Figure 2. Housing for ex-service men, Alvar Aalto, 1941. Site plan and section. Drawings by Sam Beckwith Flint.

Figure 3. Housing for ex-service men, Alvar Aalto, 1941. The communal garden to the rear. Author.

At this time Aalto held a visiting professorship at MIT, where – conscious of the political sensitivities of the time – he sought to disassociate his work from the modern movement, as the aspirations and international reach of its central protagonists could be perceived by his hosts to be analogous to communism (Pelkonen 2009). Instead Aalto focused on the urgency of the housing shortage in Finland through the planning of new settlements reflecting the needs of established communities, inspired by the pragmatic regionalism of American theorists and urban planners such as Lewis Mumford. Reflecting on the problems of mass housing, Aalto wrote 'the purpose is not to aim at identical types, rather to aim at change and creative richness which in the ideal situation is to be compared with the inexhaustible gift for nuances possessed by nature' (Aalto 1941).

These principles of 'flexible standardisation' were demonstrated in Aalto's design for the 'forest town' at Sunila pulp mill, completed in 1937 (Schildt 1986, 266–67). Splayed terraces face south and follow the topography of the slope lending each residential unit individuality within the language of the whole.

While the Sunila development follows the pre-war Modernist language of white walls and flat terraces, the thirteen 'standard type' houses in Tampere, arranged in two rows with a communal garden in between, appear more rustic, with asymmetric roof pitches stepping in plan and defining thresholds to front and side doors, and sheltering terraces to the rear (Figure 2). The modest construction, reflecting the economic privations of the time, bely the sophistication of the design, with window bays jutting out from the plan to catch the afternoon sun and provide long views into the communal garden (Figure 3). The result is an altogether softer architectural language, rooted in the Finnish psyche, reflecting the importance of nature, and connection to outdoors in response to the uncertainties of a difficult political and economic climate.

Each house is slightly raised off the ground; a product of the timber construction that lends privacy to the bedrooms and living space while also ensuring the sun's warmth can penetrate the depth of the plan in winter. At first glance the houses appear identical, but closer examination reveals differentiation: in the relationship to the neighbouring streets to south and north; the informal landscape of the shared garden; and through each owner's appropriation of their trellised terraces and adjoining outdoor spaces, reflecting the individual personalities and patterns of life of their owners.

Villa Norrköping, 59°N

Sverre Fehn (1964)

In 1920 Alvar Aalto travelled to Stockholm, hoping to gain employment in Asplund's office. While unsuccessful, he struck up a friendship with Apslund, and Aalto often instructed his assistants, including Arne Korsmo, to go and see Asplund's work. Korsmo went on to teach at the architecture school in Oslo, where he tutored Sverre Fehn, who graduated in the second cohort in 1949. Through Korsmo Fehn inherited Asplund and Aalto's sensitivity to the Nordic environment, and the importance of orientation in a land where the sun's role as a source of warmth and life is heightened.

Arne Korsmo was an influential figure in Fehn's work. Fehn later bought and lived for the rest of his life in Villa Damman, built by Korsmo following the Stockholm Exhibition of 1930.[1] Fehn came into contact with CIAM through Jørn Utzon, Aldo Van Eyck and Alison and Peter Smithson, but could not afford to travel to the meetings himself. He was however awarded a scholarship to study in Paris under Jean Prouvé in 1953, where he would go and watch Le

[1] Korsmo also maintained a 40 year friendship with Louis Kahn, who he met by chance on the train to Rome in 1928. Kahn travelled through Sweden and Finland on the way to visit his grandmother in Estonia that year, and it is interesting to speculate which buildings he may have seen on the way (Fjeld and Fjeld 2019, 25, 42).

Corbusier working in his studio when it was opened up to students in the evening. On returning to Oslo he started his own practice in 1954.

Villa Norrköping was designed in 1963–64, following the design of two pavilions in Brussels in 1958 and Venice in 1962, where Fehn demonstrated his environmental intuition experimenting with recreating overcast Nordic skies in other climates. At first glance Villa Norrköping has an ambivalent relationship to its context (Figure 4). It was designed in a competition for a standard house for a family of four, with an area of 150 square metres, but no prescribed site.

Figure 4. Villa Norrköping, Sverre Fehn, 1964. The view from the south.
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The entrance faces north-west. A cruciform plan based on a 2.5 metre grid wraps around a toplit core, housing the kitchen and bathroom (Figure 5). Four glazed corners – the eyes – are recessed and open to the surrounding landscape. Four windowless alcoves form rooms in between the corners that are shrouded in shadow, denied any direct light (Papkovskaia 2011).

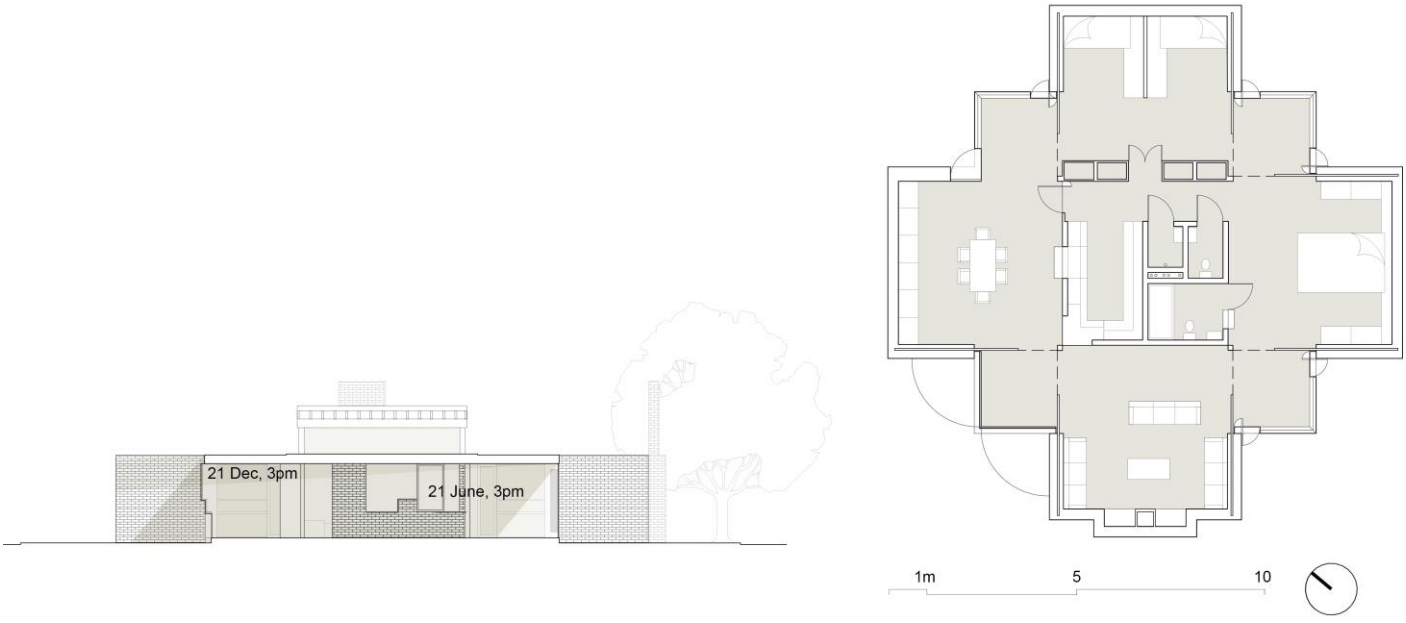

Figure 5. Villa Norrköping, Sverre Fehn, 1964. Plan and section.
Drawings by Sam Beckwith Flint.

The children's bedroom occupies the north-east alcove, and the parent's bedroom the south-east, where they are lit by reflections of morning light from

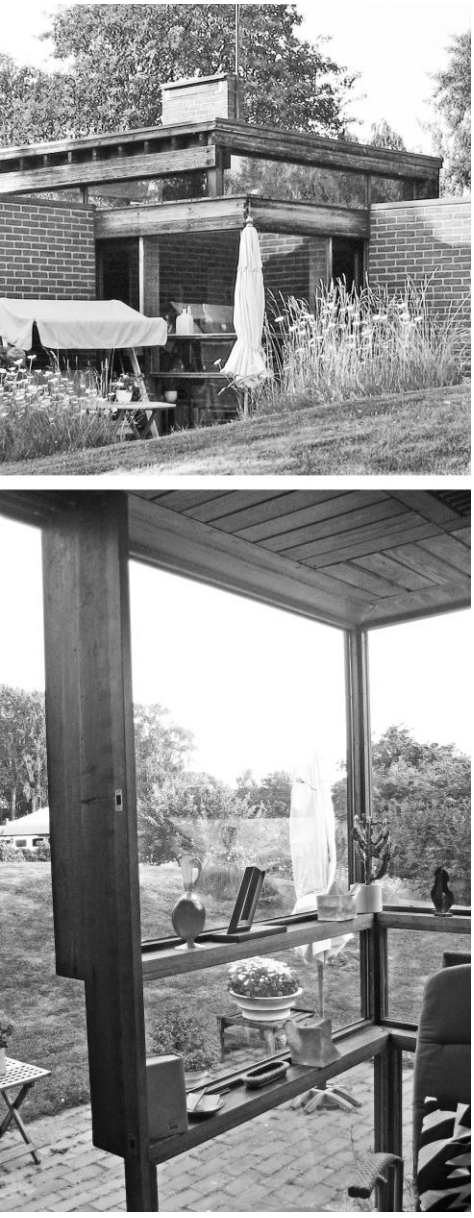

Figure 6. Villa Norrköping, Sverre Fehn, 1964. The 'eyes' of the house. Photography by Sebastian F. Licensed for reuse under creativecommons.org/licenses/by-sa/3.0.

the 'eyes' on the central core. The main living space occupies the south-west alcove, animated by late morning and midday sun, and the dining space the north-west alcove, lit by afternoon and evening light in summer. At 3pm on the winter solstice, the sun penetrates the depth of the dining space to the front door. The kitchen in the centre of the plan receives sun through the roof lantern in the morning and the evening.

The 'eyes' serve as thresholds between these spaces and the outdoors, as well as places for the children to play (Figure 6). The house is designed around circadian rhythms, and the qualities of Nordic light. According to Christian Norberg-Schulz:

> *Here in the North, the sun does not rise to the zenith but grazes things obliquely and dissolves in an interface of light and shadow… In the North, it is only on winter's nights that the sky becomes large, whole. Over the snow-covered earth it vaults, saturated with a peculiar "dark light."*
> (Norberg-Schulz 1997)

In the idea of a house open to the horizon and oriented around the compass points, Fehn references Villa Rotunda as a key precedent. But at the same time he is deeply melancholic about the loss of ontological meaning brought about by the Modernist project. While the enlightenment project and the development of astronomy took away the mystery of the horizon, for Fehn, the architecture of Modernism – opening the corners and dissolving the mass – risks the loss of mankind's place in the world entirely:

> *In this house I met Palladio. He was tired, but all the same he spoke:*
> *'You have put all the utilities, bath, toilet and kitchen in the centre of the house. I made a large room of it, you know, and the dome with the opening was without glass. When I planned the house it was a challenge toward nature – rain, air, heat and cold could fill the room'.*
> *'And the four directions', I replied.*
> *'Oh yes, you know,' and he became smaller. 'At that time we were about to lose the horizon. You have opened the corners,' he stopped a little. 'You are on the way toward losing the globe.'*
> (Fjeld 1983)

Vanna Venturi House, 41°N
Robert Venturi (1964)

Completed the same year as Villa Norrköping, Vanna Venturi House in Philadelphia seems to respond directly to the nostalgia Fehn expresses (Figure 7). Unlike Aalto's 'standard type' houses or Villa Norrköping, here there is no pretence of standardisation. The informality of the asymmetry of the façade, the idiosyncratic form and modest material treatment all seem to speak to a pragmatic and egalitarian promise of a home and identity of one's own.

Venturi is often associated with his one time mentor and Princeton thesis examiner, Louis Kahn. His 1950 thesis, 'Context in Architectural Composition', revealed his interests in deconstructing the dogma of Modern Movement orthodoxy early on (Rodell 2008). Nonetheless his first design for his mother's house owed more to Kahn than Aalto. According to Denise Scott Brown:

> *Around the school it was a big joke, Venturi is designing his mother's house again. He starts in 1958 and the first six houses are Lou Kahn groupie houses.*
> (Brownlee et al. 2019)

Figure 7. Vanna Venturi House, Robert Venturi, 1964. The asymmetry of the façade.

Something changed. Published two years after the completion of the house, in *Complexity and Contradiction in Architecture* Venturi repeatedly refers to Aalto's work to validate his manifesto, highlighting the importance of diversity in architectural form (Hirvonen 2012). Addressing Aalto, he claimed:

> *The best twentieth-century architects have usually rejected simplification – that is, simplicity through reduction – in order to promote complexity within the whole.*
> (Venturi 1966, 15)

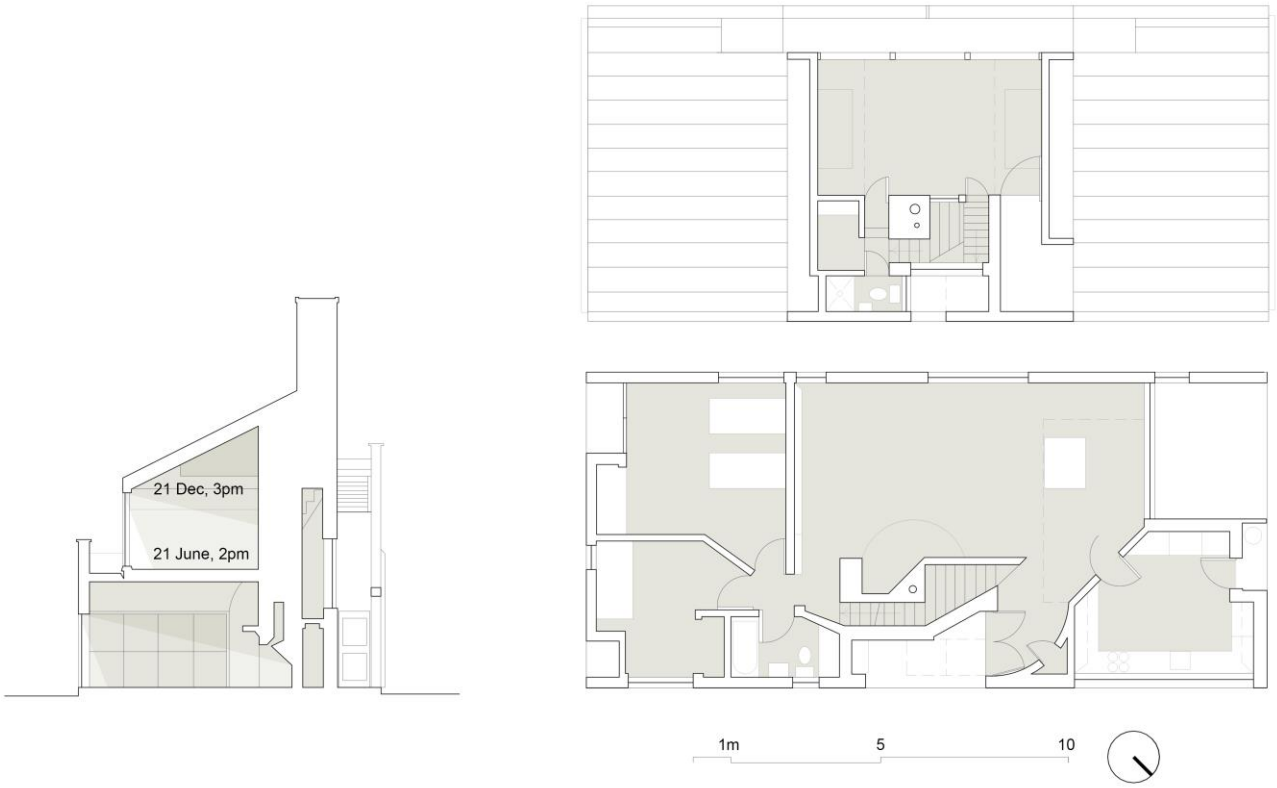

Figure 8. Vanna Venturi House, Robert Venturi, 1964. Plan and section.
Drawings by Sam Beckwith Flint.

Figure 9. Vanna Venturi House, Robert Venturi, 1964. The afternoon sun in the garden.

In a later essay, Venturi wrote:

> *Alvar Aalto's work has meant the most to me of all the work of the Modern masters. It is for me the most moving, the most relevant, the richest source to learn from, in terms of its art and technique. Like all work that lives beyond its time, Aalto's can be interpreted in many ways. Each interpretation is more or less true for its moment because work of such quality has many dimensions and layers of meaning.*
> (Venturi and Brown 1986)

The richness of meaning that Venturi calls upon is evident in the staircase rising behind the fireplace in Vanna Venturi House, letting light down from the master bedroom in the attic, an idiosyncratic move that restores the role of the hearth psychologically as well as functionally in the heart of the home (Figure 8). This is cultural context in its profoundest sense.

The large window in the living space and the arched glazing and balcony in the bedroom above frame the garden to the south-west. Mature trees dapple the afternoon light (Figure 9). The white interior with warm pastel accents creates an atmospheric illusion of a northern latitude, not dissimilar to an English Arts and Crafts house.

With Lewis Mumford, Kahn, Venturi, and Denise Scott Brown all teaching at the University of Pennsylvania, the school became the go-to place in the early 1960s for trainee architects searching for the avant-garde in America. Denise Scott Brown, Venturi's professional partner and later wife, was born in Nkana, Zambia, training as an architect at the University of Witwatersrand, Johannesburg, from 1948 to 1952.

House Uytenbogaardt, 34°S

Roelof Uytenbogaardt (1993)

Figure 10. House Uytenbogaardt, Roelof Uyenbogaardt, 1993. View of the entrance and upstairs living space from the north. Photography by Mallix. Licensed for reuse under creativecommons.org/licenses/by-sa/2.0.

Denise Scott Brown attracted several South African students to Philadelphia, among them Roelof Uytenbogaardt (Murray 2010). Uytenbogaardt trained under Louis Kahn at the University of Pennsylvania, graduating with a Masters of Architecture and City Planning in 1961, and returning to South Africa in 1963. The idealism of Kahn's platonic form finding, which could transcend its immediate time and context, seems to have appealed to Uytenbogaardt,

reflecting the pragmatism which was required to practice in the context of the Apartheid regime in South Africa at the time. Uytenbogaardt reflected that:

> *The fact that most people of any one generation live in, and use, buildings made by past generations and that most buildings today will house future generations is an important realisation. It underscores the fact that the qualities, which make buildings truly enduring, are capable of recognition beyond cultural change. This qualitative, non-programmatic dimension of architecture transcends, but still incorporates, the programme of the immediate client.*
> (Uytenbogaardt 2006)

Recalling Aalto's 'town-making', Kevin Fellingham describes House Uytenbogaardt (Figure 10) as a 'personal village'; 'nestled in the vegetation, but still standing proud on the hill' (Fellingham 2017). The relationship to the immediate landscape recalls the originality of much of Uytenbogaardt's earlier work, where the dialogue with the geological forms and sky of the Western Cape stands in stark contrast to the everyday functionalism of the programme, from the Sports Centre at UCT, to the Stadium at the University of the Western Cape, or Hout Bay Library.

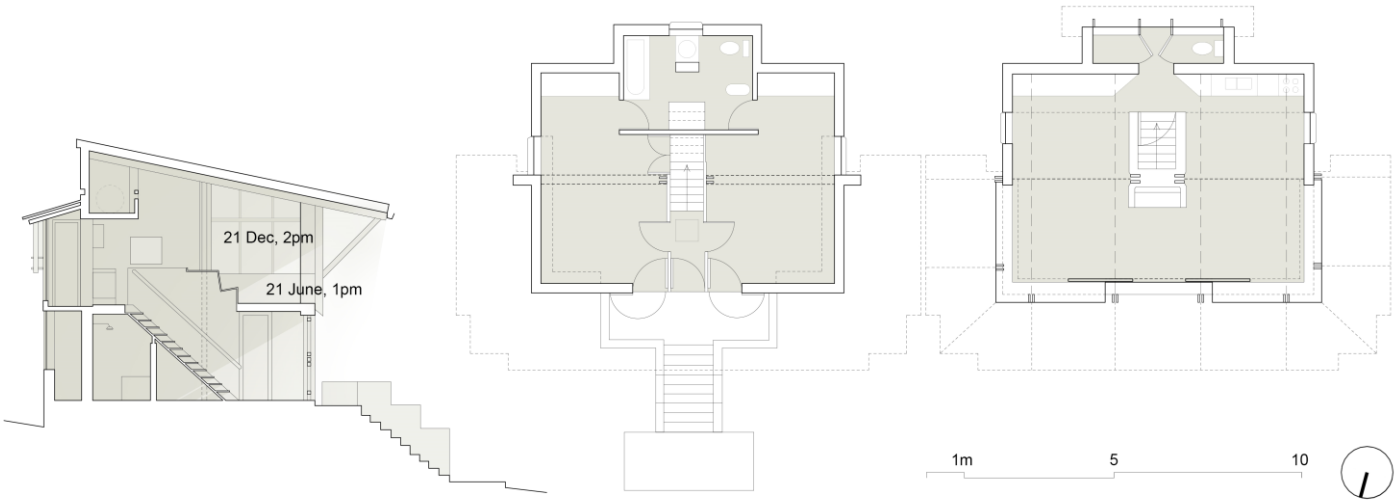

Figure 11. House Uytenbogaardt, Roelof Uyenbogaardt, 1993. Plan and section. Drawings by Sam Beckwith Flint.

Figure 12. House Uytenbogaardt, Roelof Uyenbogaardt, 1993. The corner window. Photography by Mallix. Licensed for reuse under creativecommons.org/licenses/by-sa/2.0.

Uytenbogaardt also referenced Villa Rotunda in the design for his home. Writing shortly after its completion, his professional partner Norbert Rozendal wrote: 'This house refers to the classical tradition of a finely made object sitting in a landscape', and the 'recognition once again of the power of symmetry to organize small spaces and the ability of symmetry to empower a small building with presence' (Rozendal 1993).

The house measures only 6 by 8 metres and faces north and slightly west to the ocean. A brick shell at ground level is nestled into a hillside to the south, supporting a timber roof structure at first floor level, which extends outwards to shade the glass-lined main living space from the north sun (Figure 11). The eaves are cut back slightly in the corners to keep the 'eyes' of the house open to the horizon (Figure 12).

As with Villa Norrköping, the symmetry of the house acts as a timekeeper. The architecture is curated to the topography and the movement of the sun. In plan the house is entered centrally up an external brick stair from the north, giving access to a hallway and another stair leading up to the kitchen at the rear of the living space. The visitor then turns back towards the light and the view.

A bench above the staircase faces the Juliet balcony looking over the ocean. In summer the eaves extend the correct distance to protect the interior from the high-angle midday sun. In winter, the sun will warm the feet of someone sitting on the bench, without producing glare at eye level.

Design

Two houses on Springvale Road, 51°N

Author (2019)

Figure 13. Two houses on Springvale Road, Author, 2019. View from Springvale Road.

Winchester is a small city 60 miles south west of London, with a population of 50,000. Originally the walled Roman town of Venta Belgarum, the first cathedral was completed in 648AD, two centuries after the end of Roman rule. The current cathedral, completed in 1093, has the longest Gothic nave in Europe. Despite its ancient origins Winchester is growing rapidly. Its population has increased by almost 10% in the last decade, and it has also seen the biggest average rise in house prices of any city in the UK over the same period.

The site for these houses is in Headbourne Worthy, a suburb to the north of Winchester. At 51°N the site is equidistant in latitude between Aalto's Housing for ex-service men in Tampere and Vanna Venturi House in Philadelphia. The client inherited a mid-20th century bungalow with no level access and thermally poor construction, on a wedge shaped site facing west and sloping down towards Springvale Road. It was considered unsuitable for upgrade. Many of the neighbouring properties have been replaced in recent years with 'cookie-cutter' neo-vernacular houses.

The original scheme envisaged three houses with roof pitches facing to the south and gables fronting to the street. This form was considered too 'bulky' by the local planning department, who insisted the pitches must face to the street, and only two houses would be permissible on the site (Figure 13). To reduce the massing, the planning department accepted a form composed of a larger brick section and an adjoining cedar shingle 'box'. The division is revealed internally by slot windows to front and rear and pitched soffits to the bedrooms; the material treatment (white plaster) remains consistent throughout however – a 'truthful' illusion reflecting the multi-layered reality of modern airtight, insulated construction.

Figure 14. Two houses on Springvale Road, Author, 2019. Ground and first floor plans.

The shape of the site led to a stepping plan for the houses, inspired by Aalto's protruding windows in Tampere, angled to catch the sun from the south-west (Figure 14). The corner windows are borrowed and adapted from the 'eyes' at Villa Norrköping and House Uytenbogaardt (Figure 15). The steps in plan provided an opportunity to create sheltered thresholds to front and back doorways (also inspired by Aalto's houses in Tampere). Elsewhere the roof form was cut back at the corners to admit afternoon sun.

At 3pm on the winter solstice a shaft of sunlight is cast across the front of each of the principle rooms facing Springvale Road. The ceiling of the first floor is chamfered to admit light into the depth of the plan through south-east facing rooflights, animating the stairwell and upstairs bedroom as the sun tracks around the sky during the day (Figure 16). The apex of the roof also accommodates solar panels at an optimum angle.

At first glance the two houses appear substantially the same. However the wedge shape of the site dictated that the southern most house be shallower in plan, and the houses are mirrored in elevation, so that one is approached from the south side, and the other from the north.

Figure 15. Two houses on Springvale Road, Author, 2019. Corner windows facing south-west.

The sequence from the road, to the door, and eventually the kitchen at the heart of each house is intended to mark the event of returning home on an otherwise constrained plot of land. From the pavement the visitor follows the side gable of either house to the retaining garden wall at the rear. Turning about 180 degrees the front door is sheltered under the projecting roof. On entry the visitor passes the stairs rising up the gable wall to the master bedroom in the pitch of the roof, and proceeds forwards into the living space, with the open kitchen to the side. Views back out to the front garden and street are animated by rays of afternoon sun from the corner windows. The circulation route continues in a pinwheel around the kitchen counter and along a short corridor accessing the remaining bedrooms and bathrooms. In Vanna Venturi House the staircase and fireplace play a key role as the pivot point in the plan; here the kitchen plays the same role, opening onto the living space and the foot of the staircase, central to life inside the house.

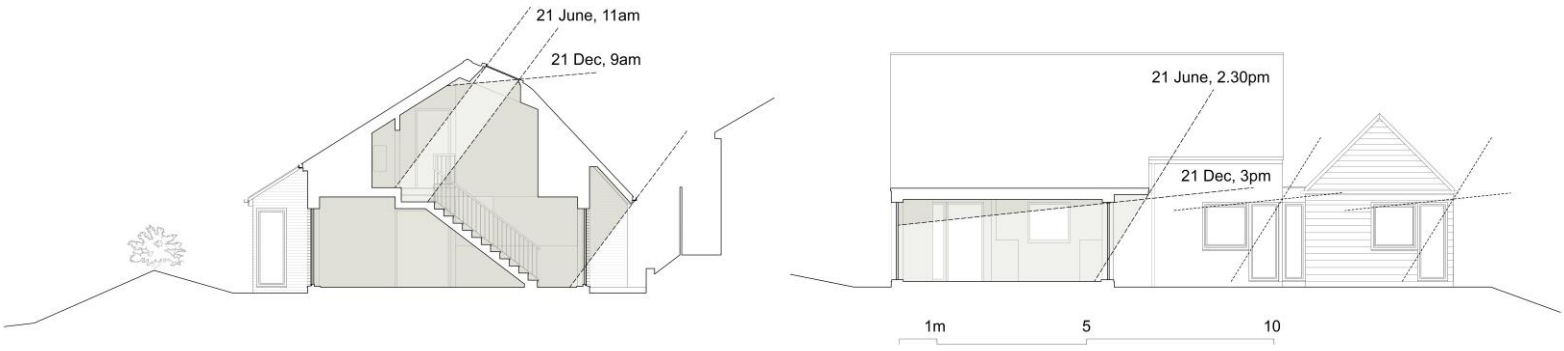

Figure 16. Two houses on Springvale Road, Author, 2019. Sections.

Most houses are intentionally designed today to reduce their energy use. However it is important to ensure that a focus on energy performance is not permitted to compromise the comfort and wellbeing of inhabitants. The 'Circadian House' describes a design philosophy that prioritises the health of occupants, recognising the role of diurnal processes in maintaining physiological and psychological wellbeing (Roy 2014).

In these houses, the orchestration of light is intended to harmonise with circadian rhythms.[2] Daylight is the primary source of light throughout the day, with opportunities for views of the sky and nature in multiple directions.

[2] The body responds to daylight exposure by regulating the release of different hormones: cortisol levels peak in the morning, and melatonin in the late evening. Disrupting this cycle (e.g. through light deprivation, or jet-lag), has a detrimental impact on energy levels and sleep, as well as

Figure 17. Two houses on Springvale Road, Author, 2019. The entrances to the rear (top: northern house; bottom: southern house).

The plan is arranged to connect spaces with the diurnal movement of the sun, increasing light levels in active spaces and allowing residents to experience the natural changes of the sunlight spectrum. The kitchen windows and the skylights over the stairs and ensuite bathroom upstairs receive morning light from the east, admitting sharply defined sun patches on clear days that track round through the morning (especially in winter), while floor-to-ceiling glazing in the 'eyes' of the living and dining spaces receive afternoon sunlight from the south and west. The windows themselves are painted warm yellow, a memory of the old house that stood on the site that also lends the houses their own distinctive identity.

The total area of glazing is greater than standard residential design in the UK, necessitating higher levels of insulation as well as solar panels in order to meet energy performance targets. The fabric of the houses is designed to meet the requirements of the UK Code for Sustainable Homes level 4 and an EPC (Energy Performance Certificate) A-rating, with a floor u-value of 0.1 and wall and roof u-values of 0.15. Fresh air is provided through natural means, with cross ventilation of the main living space and stack ventilation through the stairwell on warm summer days. These technical requirements did not however

inducing stress (Kerkhof 1999). These impacts can be corrected (or the internal body clock reset) through restored exposure to bright light in the morning (Jewett et al. 1997). Reviewing the available research, Rea et al. have proposed that for good circadian health, exposure of the eye to light levels exceeding 1,000 lux is required for a period of at least 1-2 hours, preferably including morning light (Rea, Figueiro, and Bullough 2002). This cannot easily be achieved by artificial lighting alone.

define the orientation, form, or spatial sequences of the design. These derive from the potential of intuitive decisions informed by the environment, and lessons from precedents borrowed and reinterpreted to the specific climatic conditions of the site. This intuitive process is not superficial, but reflects a rational approach to an infinite range of possibilities that often exist in tension with each other.

As an example, the decision to mirror the houses in elevation, taken in order to appease the neighbours to the west, who were concerned about overshadowing, had the unintended consequence of dynamically changing the mood of the entrance of each house (Figure 17). The entrance of the southern house is animated throughout the day by the movement of the sun, augmented by a high window on the landing of the staircase. The entrance of the northernmost house is cast in shadow, and the north light is cooler and more diffuse. It is surprising how two examples of substantially the same architecture in the same place can feel so different (Figure 18).

Figure 18. Two houses on Springvale Road, Author, 2019. The entrance, staircase, and kitchen (top: northern house; bottom: southern house).

Conclusion

The precedents described in this paper were all selected for the influence they had on the author's own designs. As can be seen, this influence is not primarily an aesthetic concern; instead it reveals itself in solutions to specific environmental problems – Fehn's 'eyes', for example, that in combination with the stepped plan admit sunlight into the main living spaces – or broader aspirations – the connection of indoor spaces with the diurnal movement of the sun, as demonstrated by House Uytenbogaardt, or the social role of the front door and circulation spaces in Vanna Venturi House, reflecting the life of its occupants.

At the same time, it is impossible to recreate these inspirations at a different time and place. It is never possible to exactly reproduce another environment, as any reproduction has to exist in another location, and any other location will be different, to some degree. Nonetheless the only way that we can imagine what an environment that does not yet exist will be like is through recalling other environments that may be somewhat similar, whether in climate, scale, volume, material treatment, or spatial quality. A translation then takes place into another context. This translation can be tested and refined by experimentation and modelling, but no simulation can predict the physical world precisely – some things will always be left to chance. The question is what needs to be controlled, and how much can be left to intuition.

Environmentally, a substantial difference exists between an 'exclusive' building, where technology is allowed to permeate to the extent that the environment is controlled as a thermal and luminous constant through the tyranny of the thermostat, daylight sensor and Building Management System, and a 'selective' building, which establishes a relationship with its immediate natural environment.

In a selective building, precedents undergo a process of interpretation, assimilation and adaptation. Even in two houses built side by side, the necessities and constraints of the site dictate that the same influences will result in different outcomes. These divergences should not be viewed as shortcomings; they represent design evolution, contributing to the development of a tradition of environmentally diverse architecture from which more possibilities may emerge in future. A 'selective' characteristic shared by all of the precedents described here, through the attention paid to the size and orientation of openings and windows, is their accommodation of what Lisa Heschong describes as 'thermal delight' in architecture (Heschong 1979); a quality that depends on a dynamic relationship with climate.

Imagining different environments, rather than relying on metrics and standards, opens the door to dynamic environmental diversity, with spaces reflecting not only their immediate context but also diurnal and seasonal changes in the weather. This engagement with the outside world is full of sensorial potential, and the memory of such spaces constitutes a body of knowledge, encompassing precedent, that through practice may constitute its own authentic architectural language.

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Affordable Housing Reimagined

In search of the neighbourly, spacious and rebuildable

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Abstract

This paper explores contemporary affordable housing in Denmark. The aim is to unfold central ideas in some of the most progressive projects that have recently been designed and built. The paper goes into three areas of architecture, namely the social, the formal and the technological. In each area one aspect is analysed and discussed with a point of departure in a specific project: The social in relation to the neighbourly and The Orient by Dorte Mandrup, the formal in relation to the spacious and Dortheavej housing by BIG, and the technological in relation to the rebuildable and Circle House by Fællestegnestuen. The aim is to contribute to the current discourse on affordable housing from a Danish standpoint and in an architectural perspective.

Keywords: Affordable housing, community, neighbourliness, spaciousness, design for disassembly, design for maintenance, circular economy, BIG, Dorte Mandrup, 3XN/GXN, Vandkunsten, Lendager Group

Introduction

It is from a privileged position that affordable housing is currently being developed and built in Denmark. This is not least due to the significant role affordable housing has played in Danish architecture since the 1930s, including projects designed by prominent twentieth century architects like Kay Fisker, C.F. Møller and Steen Eiler Rasmussen (Bendsen, 2012; Bech-Danielsen & Christensen, 2017). There is a strong tradition for sound and functional homes inhabited by people from different social strata and income groups. But there are also conditions that make it hard to continue building affordable housing to the same standards they used to have. Apart from high land value and building costs, which are among the highest in Europe (Andersen, 2007), the strict legislation plays a pivotal role in the development of affordable housing (Meden & Hansen, 2019), and generally it seems difficult to develop new ways of building and living within this sector of housing. Affordable housing is often considered and judged from a political and economic perspective, and in the Danish media it is often discussed in relation to so-called ghettoes, even though they only cover a relatively small part of it (BL 2018, 7–10). There are, of course, multiple ways of considering affordable housing, and this paper aims at approaching affordable housing by considering three contemporary themes from an architectural perspective.

A number of recent Danish projects show new ideas and rediscover old ideas in affordable housing, and many of them can roughly be grouped into three intertwined fields in architecture, namely the social, formal and technological. While they are uniquely expressed in each of the projects, the ideas within each field also have a lot in common. Based on an analysis and discussion of three projects that have recently been built or are in the process of being built by leading Danish architectural offices, how might affordable housing in Denmark

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[…] how might affordable housing in Denmark develop in the coming years with regard to the neighbourly, spacious and rebuildable?

develop in the coming years with regard to the neighbourly, spacious and rebuildable?

The three themes and the selected projects in this paper have derived from an unpublished survey on contemporary affordable housing in Denmark that I carried out. The aim of the survey was to idenitfy current and emerging themes by looking into projects and buildings from the past decade. The themes developed through abductive reasoning and are intended to capture novel tendencies in housing today. This paper is limited to only analysing and discussing three key projects, each relating to a specific field, yet without exhausting it. The projects were selected in conjunction with the development of the themes and are by well-known Danish architectural offices, which differ from most mainstream offices due to their progressive approach. The three projects are The Orient, by Dorte Mandrup, housing on Dortheavej, by BIG, and Circle House, by Fællestegnestuen, which in this context comprises the three offices 3XN/GXN, Vandkunsten and Lendager Group. The critical analysis is based on project documents, such as architectural drawings, renderings and photos, site visits, media coverage, and the architects' own writings. These and other sources are primarily from a Danish context.

The term *affordable housing* is used as a translation of the Danish term "almene boliger", up until 1996 known as "almennyttige boliger" (Vestergaard, 2016). While this is the most common translation today, it has in other contexts been translated into social housing and public housing, however, "almene boliger" cannot be understood entirely as social or public housing in their Anglo-Saxon meanings (BL, 2019).

The neighbourly: The Orient

Central to affordable housing in Denmark is the understanding in society that everyone should be able to have a home of reasonable quality and size, sometimes discussed within the framework of the social contract. Since the mid-1930s, this has been a guideline for changing Danish governments, and the status today is that more than one million Danes live in affordable housing (BL, 2020). Although the quality of affordable housing in Denmark varies, it is of a high standard in an international perspective, with all the amenities that one could expect in a Danish home. However, affordable housing is not only about establishing individual homes, it is as much about the multiple relations that they form a part of. One of these is the relation to the inhabitants in the surrounding urban or suburban fabric. In Denmark it is a political decision that all new neighbourhoods must include a certain amount of affordable housing, which allows for different kinds of ownership in a neighbourhood, and consequently for people with different social and economic backgrounds to live in it. This is arguably one of the reasons for the relatively high social coherence in the Danish society (BL, 2015).

Figure 1. The Orient (own photo)

The relation to other inhabitants in the same housing complex is also important to many. This is a relation that Danish architect Dorte Mandrup discusses in her article "Arkitekt: I Danmark er de almene boliger ikke almene. De er nedprioriterede boliger" (Mandrup, 2018). Prior to the article, she was acknowledged for the design of the exterior in the affordable housing project The Orient, because it did not significantly differ in appearance from the neighbouring buildings with other types of ownership (Mandrup, 2018). This is in itself an achievement, since affordable housing in Denmark usually has lower construction budgets than other housing types. While the exterior appearance might mean something to the inhabitants, it also represents a sense of equality in the neighbourhood, and the acknowledgement can be seen as an expression of that.

Figure 2–3. The Orient (own photos)

Based on this acknowledgement, Mandrup critiques the current state of affordable housing, teasingly asking: “Could one imagine that the good life does not necessarily equal comfort, a combined kitchen and dining room, balconies, and a separate room for each kid in the family?” (Mandrup, 2018). This characterizes almost any conventional, new home built in Denmark and makes one wonder whether these homes reflect our deeper human and societal needs in housing. She further points to the much-debated issue of the widespread loneliness among urban citizens, which exists among all age groups, but is most significant among the elderly (Ældre Sagen, 2019). Her argument is that there is a “national tendency” to design with too much restraint and standardization, which, in her view, increases loneliness. Yet, she also argues that architecture can in fact make a positive difference in reducing loneliness and that architects should take a clear stand on this when designing new housing (Mandrup, 2018). Furthermore, she argues that it is only the upper-class and upper-middleclass that can afford to live in buildings where “the advantages of helping and relating to one another in everyday life outweigh the loss of self-chosen isolation in one’s own home” (Mandrup, 2018). In other words, only the well-to-do can afford to live in intentional communities with strong neighbourhood ties. She believes that the good life is connected to the communal, and that housing architecture can contribute significantly to this. Mandrup’s views on conventional housing, loneliness and neighbourliness is both expressive of her indignation and points to her social vision.

Yet, The Orient appears in several ways rather conventional. It is located in the new Århusgade neighbourhood, a mundane area which has the most expensive apartments in the city (Boliga, 2017). The affordable housing thus changes the social mixture of citizens living there and contributes to the municipality’s aim to develop centrally located neighbourhoods, where people from middle- and lower-income groups can afford to live (BL 2015, 8–15). It consists of 130 housing units for families, the elderly, students, and socially vulnerable citizens and has a number of small common facilities, which are intended to support communal life among the inhabitants, as well as a day care centre and a small commercial area. A result of the exterior blending in is that The Orient has many of the confinements and standards, which characterize the conventional buildings in the neighbourhood. The proportions, detailing and use of materials are not specific to the area, but very similar to those of other neighbourhoods which are being erected at a fast pace these years, such as, for instance, Ørestad Syd and Sluseholmen in Copenhagen (Mortensen 2018, 136–143 & 214–219).

On the matter of loneliness and neighbourliness, the term *almene* is considered to be key by Mandrup. She uses the phrase “the public aspect of affordable housing”, where *public* and *affordable* are both translated from the Danish word *almene* (Mandrup, 2018). She argues that this type of housing will only be for the common good, when aimed at a broad range of citizens, not just for low-income groups and the socially vulnerable who live in the affordable housing ghettos. The apartment plans are rather conventional in The Orient, and the common facilities spread out, so they are close to the inhabitants. The limited size of these facilities makes it difficult to host the activities, such as dining together, which typically make a community thrive. Furthermore, the people who move in might not be motivated to contribute to the community, but may simply have taken the apartment because it is affordable to them and centrally located in the city. Research shows that common spaces as well as motivated inhabitants are key in creating a sense of neighbourliness, and that good social relations among neighbours can reduce the feeling of loneliness (Jensen & Stensgaard 2016, 15–23). The question remains whether there is sufficient common spaces and motivated inhabitants in The Orient to establish this neighbourliness, and the years to come will show what happens.

The spacious: housing on Dortheavej

Danish legislation sets up strict rules for affordable housing, not only when it comes to ownership and financing, but also regarding size and rent (Transport-, Bygnings- og Boligministeriet, 2019). In addition to the economic limits, which are themselves a challenge, it is often the limited size of the apartments that drives the spatial organization in affordable housing. However, there are also less defined conditions in the legislation which make it possible to deviate from the standard.

From reviews in Danish medias, it is evident what is at stake in the affordable housing on Dortheavej in Copenhagen, designed by BIG Bjarke Ingels Group. It is a long building in mostly five stories that faces the street and has a concave shape at the middle, where a passage leads to the courtyard and further on to an open gate in the next block. The building is constructed from prefabricated room-sized concrete units, which are stacked and staggered. On the exterior, the units are covered with vertical and horizontal boards, and the interiors have wood flooring, plaster walls, and raw concrete ceilings.

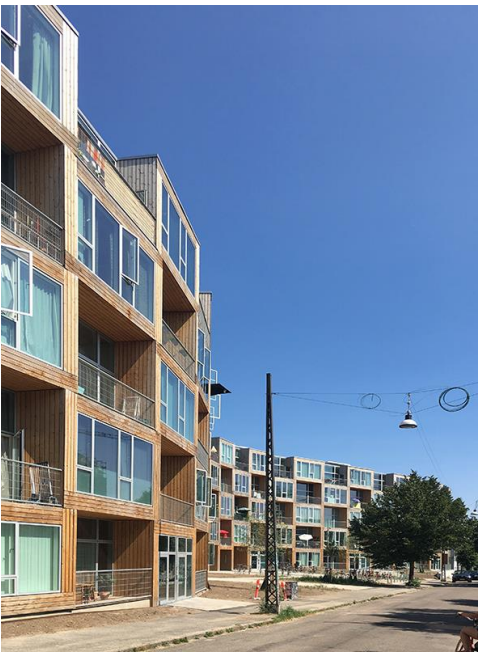

Figure 4–5. Housing on Dortheavej (own photos)

Karsten R.S. Ifversen, a critic writing for *Politiken*, was very excited about the building, announcing in the headline that he would “like to move in” (Ifversen 2018, 4). This was followed up by stating that the apartments are “some of the most attractive urban, affordable housing. There is a great deal of inventiveness and a clear idea, which has been carried entirely through. It is excellent” (Ifversen 2018, 4). Fully aware of the commonly voiced opinion that BIG’s projects are formalistic and driven by a desire to create shocking effects, he believes that in this building, “it is not something external, a simple figure without meaning, it is real qualities” (Ifversen 2018, 5). It was also with excitement that Anne Pind in an almost lyrical prose reviewed the building in the Danish Association of Architects’ magazine *Arkitekten* under the headline “Dortheavej: Højt til Loftet” [Dortheavej: A Building with a High Ceiling] (Pind, 2018). The phrase “a high ceiling” has transferred meanings as it can be understood as “a lot of space and fresh air” and “freedom and openness” (Ordnet, 2019). These are the values that she writes into the built form. Yet, it is a delicate question whether the building promotes “freedom and openness” in a neighbourhood, which is notoriously known for its crime and gang violence. She aims to provide some sort of answer to this question by describing how the building engages in the surroundings by establishing a passage for a shortcut to the next street, but one might wonder if that is a sufficient response to the tough challenges of the place. Torben Weirup, a critic writing for *Berlingske*, in his review compared the building to affordable housing from the 1930s and 40s with the telling headline “En renæssance for socialt boligbyggeri?” [A renaissance for affordable housing] (Weirup, 2018). The compliment is supposed to signal a comeback for affordable housing of high architectural quality. Weirup understands the building as part of a gentrification, which he considers to be positive. While less crime and gang violence clearly are so, gentrification is rarely seen as the right way to achieve this, as it pushes the low-income groups and socially vulnerable further away from the city centre.

Each of the three critics sees the affordable housing on Dortheavej as an architectural success, because BIG has created spacious apartments on a limited budget and for a low rent, within a very restricted field of possibilities (Ifversen, 2018; Pind, 2018; Weirup, 2018). By thoroughly searching for the possibilities in the regulations of affordable housing, BIG has found part of their answer to the design of the building and with that challenged the conventional understanding of this type. What makes it stand out is in part that all apartments have a room with 3.5-meter ceiling height, which was common in large, old bourgeois apartments, but very rare in new apartments. While there are size restrictions on the floor area, there are none on the ceiling height, so even though the apartments are rather small, they appear spacious due to the height of the main

room. As the critics cherish the spaciousness of these rooms and the way the building differentiates itself from others, they seem to overlook some of the implications of this.

In Denmark, as in many other places, urban housing has traditionally had an anonymous exterior, withdrawing attention in its context. Throughout the twentieth century, housing has served as a visual backdrop for institutions and monuments of the city as well as for the life taking place on streets and squares, paying respect to the common. However, in recent decades this has changed as mainstream housing has become more spectacular, drawing further attention. The affordable housing on Dortheavej belongs to this category, as does most of the architecture by BIG. It stands out, rather than blends in, and as such it is very different from Mandrup's The Orient. When standing out becomes the norm in housing, as is the case in the aforementioned places in Copenhagen, a neighbourhood can easily lose not only its architectural coherence, but also its social cohesion (Jensen, Schmidt & Vitus 2019, chapter 3 & 5).

It raises a difficult question with two seemingly incomparable aspects, namely if the resources spent on construction and use outweighs the possible increase in quality of life that the spaciousness provides?

New buildings are so effectively insulated that the greatest impact on Danish housing, when it comes to saving energy and material resources, can be achieved by working with the production and construction phase. The affordable housing on Dortheavej has a compact volume with many shared walls and floors as well as staggered rooms with a 3.5 metre floor-to-ceiling height, which required more material and energy to build than the continuous 2.5 metre standard floors. On an everyday basis in Denmark, an increase in ceiling height will also mean an increase in energy use to heat up the rooms in the winter. No tests or measurements have been made so far in this affordable housing project, and it is outside the scope of my research to do so, but it is likely that the large south-facing glass panels will result in significant overheating in the summer, but reduce heating costs in the winter. From studies of similar buildings (Gutierrez et al., 2019), it is reasonable to assume that the overall use of energy and material resources is higher than the average apartment housing being built in Denmark these years. It raises a difficult question with two seemingly incomparable aspects, namely if the resources spent on construction and use outweighs the possible increase in quality of life that the spaciousness provides? Of course, it is not given that the additional sunlight, air and spaciousness will necessarily improve the inhabitants' quality of life, even if that is the aim, but one might wonder to what extent it can reduce ill-health.

The rebuildable: Circle House

Circular economy has received a lot of attention in Denmark, and among the most significant outcome is a report on Denmark by the Ellen MacArthur Foundation (MacArthur, 2015), an advisory board established by the government (Miljø- og Fødevareministeriet, 2017), and a number of initiatives by Realdania (Kleis, 2013; Sørensen & Oberender, 2018), a large Danish association operating with the built environment.

Apart from the above publication by the Ellen MacArthur Foundation, some of the most influential publications for the development in Denmark have been *Building a Circular Future* by Kasper Guldager Jensen, 3XN/GXN, and John Sommer, MT Højgaard (Jensen & Summer, 2016); *Principles of Design for Deconstruction to Facilitate Reuse and Recycling,* Bill Addis and Jørgen Schouten, (Addis & Schouten, 2004); and *Cradle to Cradle,* Michael Braungarten and William MacDonough, the latter being translated into Danish (Braungarten & MacDonough, 2009). The first in Denmark to comprehensively include some of these concepts in a larger complex was the architectural office of Vandkunsten, who applied them in their project for affordable housing in Lisbjerg Bakke, Aarhus. The complex is mainly built in prefabricated wood elements with a design

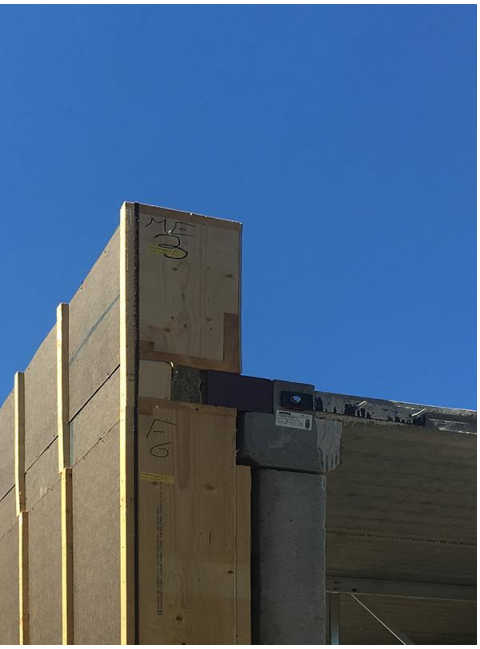

Figure 6–8. Mock-up of Circle House during construction (own photos)

for disassembly strategy (Vandkunsten, 2018), with which they partially succeeded.

The book by Jensen and Sommer was followed by the project *Circle House*. In this project, the "declared objective is that 90% of the project's materials can be reused without losing value" (GXN & Responsible Assets 2018, 9). The idea is to build affordable housing at market price with prefabricated concrete elements, which can be taken apart and upcycled anytime in the future. However, the aim is not only to construct a building complex, but also to develop concepts and gain knowledge that can later be used in the building industry at large (GXN & Responsible Assets, 2018).

The project involves an overwhelming number of firms and institutions. The client is Lejerbo, one of the largest affordable housing organisations in Denmark (Lejerbo, 2019). There are no less than three architectural offices designing it, namely the architectural office of 3XN/GXN, Vandkunsten and Lendager Group, calling themselves Fællestegnestuen, which is also the name of the well-known architectural office of Viggo Møller-Jensen, Tyge Arnfred and others that existed from the early 1960s to the end of the 1980s and was responsible for iconic buildings like Albertslund Syd, Farum Midtpunkt and Solbjerg Have (Møller-Jensen, Arnfred & Sørensen, 1978; Arnfred, 1998). Yet, the most forward-thinking aspect of the organisation of Circle House might be that from the beginning it does not only include clients, architects and engineers, but also contractors, universities, NGOs and a wide range of other stakeholders in the building industry, such as manufactures and even a demolition firm (GXN & Responsible Assets 2018, 123). The intention is that the entire value chain in the building industry should be involved in order to explore as many aspects as possible of circular economy processes. While the complex itself should be built at market price for affordable housing, the initial process of the project has been financially supported by Realdania and the government.

The consortium of firms and institutions has defined three overall themes in the project to be explored, namely what they distinguish as design for disassembly, material passport, and circular economy. For each theme five subthemes have been identified, adding up to a total of 15 subthemes for the project, and within design for disassembly the five subthemes are materials, services, standards, joints and disassembly (GXN & Responsible Assets 2018, 13). From the early developments of the project, a number of questions can be raised about the sustainability of their approach to design for disassembly.

One of the proposals in the early development of the project has been a principle for joining concrete elements. The challenge was to create a joint that could be dismantled without destroying the parts it is made of or the elements it connects. With concrete elements from Spæncom, connecting parts from Peikko and lime mortar from Kalk, a joint was made that could potentially meet structural and legal requirements (GXN & Responsible Assets 2018, 102–103). The parts of the joint are made from metal, and they are connected without welding or other irreversible techniques. Once the elements are connected, the joint is covered by mortar that for a sufficient period of time prevents the metal from melting in a fire, and if, or when, the concrete elements are going to be disassembled, the mortar can be removed with high-pressure jetting of water.

Another proposal in the early development of the project has been the application of reusable foundations. The idea is to drill down concrete point foundations and place concrete beams on top of them (Nielsen, 2018). In conventional building demolition, the foundation is the last piece to be removed and is usually considered as waste. But in this project, so-called waste is seen as a resource that in a circular process can be reused in another project. The intention in the

project is to be able to remove the foundation from the ground, when the building is taken down, and use it in another project.

One question not raised often enough is whether it might be a better solution to design for maintenance?

The questions that these two proposals raise relate to broader aspects of design for disassembly. One question not raised often enough is whether it might be a better solution to design for maintenance? In the book *Circle House*, the question is addressed indirectly in one of the interviews, during which architect Søren Nielsen from Vandkunsten states: "We want the aesthetic appeal and functionality of our structures to ensure that no-one is going to tear them down, but if that does happen, and it does from time to time, then the assets will be dismantlable, and their constituent materials will be reusable or recyclable" (GXN & Responsible Assets 2018, 22). But as recent research into LCC and LCA in Denmark shows (Sørensen et al., 2020; Jensen & Birgisdottir, 2018), the relationship between disassembly and maintenance is far more complex than the book implies. Based on arguments for multifunctional use and a sharing economy (MacArthur 2015, 53–65), one can easily imagine how a building designed for maintenance can last and work well for a long time. This is not just a question of material resources but becomes one of energy resources, as the process of dis- and reassembly requires energy to dismantle, move, prepare and rebuild. In fact, one might read this into Nielsen's statement, when talking about the "functionality of our structures" and pointing to the "aesthetic appeal" as a reason to keep a building rather than dismantling it.

[…] who will be reusing the building elements from today in fifty or a hundred years?

Another question that should also be raised more often is who will be reusing the building elements from today in fifty or a hundred years? If we think of the building technology that was used a century ago, few people would want to upcycle structural elements from that period in largescale projects today. Or think back on the chemicals used in the construction industry half a century ago and imagine how it would be perceived today, reusing building components from those years. Even if it is possible to map for example the structural properties of building elements through a 3D scanning, it does not change the legal and environmental expectations for contemporary components, which are obviously very different from earlier times. There is a good chance that in fifty or a hundred years, the building industry will look back at building elements from today with some concerns.

There are of course exceptions to this, and in Denmark a good example is bricks. In buildings from before 1960, lime mortar was used in the construction industry. When they are disassembled today, the bricks can be cleaned in a mechanical process without the use of chemicals (Gamle Mursten, 2019). Yet, bricks are mainly used today as part of the climate screen and rarely as the main structure, since the demand for insulation and structural properties in connection with fire have changed. There is little, if anything, suggesting that the development of building elements and structural systems will significantly slow down in the coming fifty or hundred years, and if the technological development continues at the same rate, or even faster, it seems unlikely that it would be attractive to upcycle building elements from today.

Nevertheless, with all the good intentions in the project, one might ask to what extent Circle House is scalable? It requires a critical mass to make upcycled building materials more than just a philanthropic enterprise. While the environmental benefits are obvious, there must be enough reusable building elements to have competitive stores and enough buyers to have a reasonable turnover rate in order to gain the commercial benefits. The issue of turnover rate is key, as the expenses for storing building elements can make the business unprofitable. Another issue, which is partially addressed by Jensen & Sommer (Jensen & Sommer, 2016), is the physical distances between the sites of disassembly, storage and reuse. Long distances mean more transport resulting in additional costs and possible pollution. These are not new problems, but are

known today at a smaller scale in a business like genbyg.dk (Genbyg, 2019). Yet, they need to be addressed if design for disassembly is to work at a larger scale, both economically, environmentally and architecturally.

At home in affordable housing

The Orient by Dorte Mandrup, the housing on Dortheavej by BIG, and Circle House by Fællestegnestuen each respond to different challenges in contemporary affordable housing in Denmark. In The Orient, these are related to belonging, loneliness and neighbourliness; in the housing on Dortheavej to context, spaciousness and wellbeing; and in Circle House to reuse and long-term value. The challenges differ and so do the responses, which is among other places visible in the exterior expression. The common spaces in The Orient allow for a visual connection between the inhabitants, courtyard and street. While it exposes the inhabitants using the spaces, it also opens up the building to the neighbourhood and potentially extends a sense of neighbourliness into the surroundings. The large glass panels in the housing on Dortheavej are in every apartment, as it is also known from the office's VM Houses and several of their other housing projects, and they expose the inhabitants in their private settings. This creates a lesser differentiation between private and public, while furthering the sense of spaciousness. The intention in Circle House is to express the reusable character of the materials in an almost explanatory way, which supports the office's fascination with circular economy. Yet, despite the very different architectural expressions, they all three showcase their main intention in the exterior.

Each of the architects addresses a challenge within the realm of affordable housing. For Dorte Mandrup it lies within the social realm, when she explores the shared spaces and interactions between the inhabitants. One could imagine a further exploration of shared spaces, learning not least from the long and rich tradition of Danish cohousing (Vedel-Petersen, Jantzen & Ranten, 1988; McCamant & Durant, 1988), where the inhabitants have developed multiple ways of sharing space, time and stuff (Andersen, 2020). It is an important challenge that Mandrup is addressing, as it has broader relevance for the social problems that Danish society is facing today. These include not just loneliness and the health problems related hereto, but also the increasing inequality with all its societal effects. In continuation of the explorations into modes of sharing, one could also imagine a rethinking of the notions and relations between the individual and the common. Again, Danish cohousing could serve as a model where they are not seen as oppositions to one another, and where notions of semi-individual and semi-common provide a more nuanced mode of understanding.

For BIG the challenge within affordable housing is in the realm of space and form, where they explore new possibilities. The limitations on the size of affordable housing makes the spatial configuration and spaciousness important. At its best, this attention can be a way of reducing the use of resources, as it is seen in compact living (Nelson, 2018). But that is not the case in the housing at Dortheavej. Rather, it seems that the eagerness to design a novel, eye-catching building has been more important. The balance between the spatial qualities of everyday life on one hand and the construction and maintenance costs on the other is by no means simple. As they are difficult to compare and weight up against one another, there is no easy answer to this, and it is exactly this problem that BIG's affordable housing is pointing out.

To point to design for maintenance […] is here suggested as a way to further develop the relations between reusable materials from disassembled buildings and the construction of new ones, however long they stand.

For 3XN/GXN, Lendager Group and Vandkunsten, it is within the technical realm that they explore possible ways of reusing materials to lower the environmental footprint. The problem of resource overuse evidently extends far beyond affordable housing, and it is all the more notable that the challenge is being addressed in this inexpensive housing type. Yet, it could become a problem if design for disassembly is used for the purpose of building affordable housing that only lasts for half a century, not knowing what to do with the materials afterwards. In that case, design for disassembly is used as an excuse to construct in poor quality. To point to design for maintenance is not to suggest a return to how things were or a status quo. On the contrary, it is here suggested as a way to further develop the relations between reusable materials from disassembled buildings and the construction of new ones, however long they stand. Currently, new calculation tools are being developed for LCC and LCA (Birgisdottir et al., 2019; Birgisdottir & Rasmussen, 2019), which will make it possible to better understand and act on the implications of contemporary mainstream construction and design for disassembly. This should allow for a more thorough design methodology when using existing building material and making new ones.

While each of the projects addresses a particular challenge, The Orient takes it even further, as it is expected to be DGNB-certified. This is a significant step in the direction of affordable housing dealing with a range of sustainable aims. Because, however important each of these challenges are, it is important to see them as part of a whole.

The UN's Sustainable Development Goals have many implications, one of them is that we should not optimize one of them without considering the consequences for the others. While shared space, spacious rooms and design for disassembly are fine in their own right, they should also be seen in a larger context. In other words, we need to consider social, formal and technological problems as part of the same challenge, and each housing project as a possible contribution to the overall goals. None of the three projects sufficiently addresses both social, formal and technological challenges in their design, which is not unusual today. Yet, housing, and more generally architecture, has the ability to incorporate all of these and more challenges into the design. This might not only result in more adequate contemporary housing, but also in novel architectural expressions. New and old materials combined as well as new modes of constructing and joining could allow for exciting architectural explorations. This is already visible in other housing projects that aspire to a circular way of thinking, such as the Resource Rows by Lendager Group (Lendager & Vind 2018, 65–71), and one can only dream of what this will do to our experience of living in cities.

The Circle House Lab has been established as a continuation of the Circle House project. The lab includes more than eighty organisations, and the aim is to explore "future standards for circular construction" (Bloxhub, 2019). With so-called laboratory days, green papers and a yearly summit, the purpose is to develop these standards. It is intended to take place within "six central themes for circular economy, such as building passport, waste management, takeback arrangements, design for disassembly and selective dismantling" (Bloxhub, 2019). The initiative shows how the interest in circular economy continues to expand and evolve, but also the need for more academic research in this field. There are similar initiatives in other countries, and even if some of the thoughts seem far from contemporary practices, one can hope that it will affect the building industry at large.

Although one can be critical of various issues in these projects, there is also reason to be appreciative. It is admirable that leading architectural offices take on the challenge to design the most restricted and inexpensive housing in Denmark. The offices have taken a social, formal or technical challenge a step further in their project, which can be of inspiration to others within the field of

affordable housing, either as a direct approach or as an encouragement to be more explorative. It is also remarkable that it is within a field with many restrictions and limited budgets that significant aspects of the development in Denmark is taking place. This shows a broader commitment among the affordable housing organisations to contribute not only with socially sustainable solutions by providing homes for many, but also to the broader sustainable transition in the building industry and, potentially, in our way of living. As such, the three projects can be seen as significant steps on the way to developing sustainable affordable housing. A next step might be to integrate social, formal and technical challenges more in order to obtain a more comprehensive architecture. In this way, affordable housing could be a role model for other kinds of housing and new ways of being at home in the city.

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The Potential Contribution of Wood in Green Building Certifications

Prospects in sustainable residential buildings

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Abstract

The building sector has a significant impact on the environment, accounting for 36% of CO_2 emissions and about half of material consumption in Europe. Residential buildings dominate the European building stock. In Finland, residential buildings account for up to 80% of the existing buildings and the rate of construction is higher compared to other building types. Therefore, residential buildings play an important role in the transition to a sustainable built environment. A number of studies show that increasing the use of wood can lower the life cycle environmental impacts of buildings. In Scandinavia, the use of wood in small houses is well established, used in 90% of cases. Furthermore, the increasing number of high-rise wooden buildings suggests a growing interest in the potential of wood in large-scale buildings. Green building certification provides criteria to assess the sustainability level of buildings and is expected to influence the building sector in the near future, by promoting the use of sustainable technologies. The aim of this study was to investigate how green building certification schemes assess wood materials and how wood materials can help fulfil sustainability criteria for green buildings. We analyse the sustainability criteria adopted by the most common certification schemes in Finland, BREEAM, LEED and the Nordic Swan Ecolabel, as well as the upcoming Level(s) certification promoted by the European Commission. The analysis shows that the contribution of wood materials to the overall score of green building certifications accounts for between 10 and 36%. Wood is advantageous as a renewable and low-carbon material. Furthermore, wood can offer indirect benefits due to its recycling potential and to water saving in the construction stage. However, wood materials have to comply with some requirements, such as sustainable forest management and low volatile organic compound content. The new European certification suggests a comprehensive assessment including circular material life cycles.

Keywords: wood materials, green building certifications, sustainability

PEER-REVIEWED ARTICLE

Introduction

Wood materials can significantly contribute to the sustainability performance of certified residential buildings.

Environmental impact of buildings

The building sector has a significant impact on the environment, accounting for 36% of final energy use and 39% of CO_2 emissions globally (UN Environment and International Energy Agency, 2017), as well as half of material consumption (European Commission, 2004). Residential buildings are the most relevant building type, accounting for up to 80% of the European building stock, with significant variations among countries (European Commission, n.d.). In Finland, the share of existing residential buildings is numerically equal to 85% (Official Statistics of Finland, 2018a) and the rate of new building is higher compared to other building types (Official Statistics of Finland, 2018b). Therefore, residential buildings play a significant role in the transition to a sustainable built environment.

In the last few years, several studies have investigated the life cycle impact of buildings. The use stage of buildings currently accounts for the highest share of energy and carbon impacts, but this is expected to decrease, due to the implementation of energy efficiency measures. This may result in an increase in the relevance of the other life cycle stages of buildings, especially production (Sartori and Hestnes, 2007; Chastas, et al., 2016; Karimpour, et al., 2014). In the production stage, the selection of building materials can significantly affect the energy and carbon impacts. Therefore, a life cycle approach is important to assess the environmental performance of buildings. Studies from several countries have shown that wood materials used in building frames usually use less energy and release less CO_2 than other materials throughout the life cycle (Gustavsson, et al., 2006; Gerilla, et al., 2007; Upton, et al., 2008; Dodoo, et al., 2009; Blengini and Di Carlo, 2010; Bribián, et al., 2011; Nässén, et al., 2012; Tettey, et al., 2014; Peñaloza, et al., 2016; Kovacic, et al., 2018; Pittau, et al., 2018). This is due to the relatively small amount of energy needed to manufacture wood products compared to other materials and the opportunity to replace fossil fuels with wood by-products during the manufacturing process. Furthermore, wood materials temporarily store carbon sequestrated in forest biomass until their combustion or natural decomposition. Some studies have also investigated the potential benefits from the substitution of high-carbon materials with functionally equivalent wood products (i.e. wood substitution). Recently, the European Forest Institute reports an average substitution factor of 1.3 kg C / kg C for structural materials and 1.6 kg C / kg C for non-structural materials (Leskinen, et al., 2018).

Trends in wooden buildings

In the last decade, the demand for wood products has increased globally (Ramage, et al., 2017) and engineered wood products have become increasingly popular. The production volume of Cross Laminated Timber (CLT) increased 14 times between 2000 and 2015 (Brandner, et al., 2016), while the volume of Laminated Veneer Lumber (LVL) almost doubled in the same period (Hakkarainen, et al., 2019). In particular, the use of wood products has grown in residential buildings. In Scandinavia, the use of wood is well established in small houses (Figure 1), with about 90% of single-family houses built of the material (Schauerte, 2010), and has recently been increasing in large-scale buildings. In Finland, the share of residential buildings made of wood is 84%, with an increase of 36% between 1960 and 2017 (Official Statistics of Finland, 2018c). Eighty wooden multi-storey residential buildings were built between 1995 and 2018 (Puuinfo, 2018a), accounting for over 90% of the total wooden multi-storey buildings and about 5% of the total multi-storey residential buildings built in the same period, by floor area. The construction of wooden multi-storey residential buildings has also been encouraged by the National Wood Programme, promoted by the Finnish Ministry of Employment and Economy, setting a target of 10% in the market of mid-rise multi-apartment buildings (Sunabacka, 2015).

The increasing number of large-scale wooden buildings may be attributable to the shift of technical standards (e.g. Eurocode) from a prescription-based design

basis to a performance-based design basis (Ramage, et al., 2017). For example, in Finland, changes in fire regulations have allowed the use of wood in building frames and façades up to four storeys since 1997, and up to eight storeys since 2011 under standardized conditions (Puuinfo, 2018b), while the eight-storey limit does not apply in the case of individual fire performance analysis. Furthermore, the increasing use of wood in buildings may be encouraged by new environmental policies for the built environment. For example, some cities with carbon neutrality objectives (e.g. Copenhagen, Helsinki, Seattle and Vancouver) support the use of wood as a building material or as fuel. Helsinki municipality has recently made the use of wood materials in the new buildings of Honkasuo district mandatory. This decision was legitimized by the Finnish Supreme Court in 2015 based on the Land Use and Building Act 132/1999 of the Ministry of the Environment, which allows municipalities to supervise and approve plans and projects, including the possibility to introduce design constraints (e.g. the use of specific materials) in urban regulations (Franzini, et al., 2018). However, to underpin the role of wood products in sustainable buildings, there is a need to increase debate (amongst stakeholders) so as to inform future practices and policies in the building sector.

Figure 1. Wooden houses in Viikki eco-district in Helsinki (photo by C. Piccardo).

Green building certifications

Although a number of studies shows that wood has higher environmental performance compared to other building materials, the use of wood for environmental purposes is not regulated by current building codes and technical standards. Nonetheless, voluntary standards, such as green building certification schemes, can be used to evaluate the potential of wood in sustainable buildings.

Green building certifications have gained global prominence due to the recent calls for increasing the sustainability performance of the built environment. In Europe in particular, the demand for green building certifications has increased in the last five years (Porumb, et al., 2020), and is expected to increase further in the near future (Dodge Data & Analytics, 2018). Green building certification schemes provide comprehensive assessment methods, including environmental, economic, social, and health aspects. Each green building certification scheme consists of check-list of sustainability criteria. The assessment process is usually based on a rating system that assigns a number of points to each sustainability criterion, depending on the performance level of the building. Green building

certifications usually result in a sustainability label with a final score that enables the performance of the building to be communicated to a large audience.

Green building certifications have received increasing attention from the scientific community over the past ten years (Li, et al., 2020). Several studies have compared different certification schemes to provide an insight into the assessment of green buildings in terms of categories, criteria and indicators (Li, et al., 2017). Säynäjoki, et al. (2012) compared sustainability assessment methods at the district and urban scale to understand how they respond to urban development projects in Finland, using a review of the literature and grounded theory. Saraiva Freitas and Zhang (2018) compared the most commonly used green building certification schemes in Sweden according to the SWOT method, in order to inform the choice of certification schemes based on the project purpose. Suzer (2019) compared LEED and BREEAM certification schemes by assessing different case-study projects, in order to examine the compliance and correlation between the two rating systems. However, the majority of the comparative studies focused on the general assessment methodology and its compliance with different project types. A few studies have analysed the assessment method for building materials in existing green building certification schemes. Zubizarreta, et al. (2019) stated that a few studies consider the sustainability assessment of a specific part of the buildings and reviewed several existing green building certification schemes to develop a new assessment method for timber structures. Cobut, et al. (2013) analysed the potential of well-known environmental labels for wood products to reduce the environmental impact of non-residential buildings, combining grounded theory and life cycle thinking. However, the potential of using wood in certified green buildings needs to be investigated further.

Aim of the study

This study analyses the potential contribution that wood products can make to increase the sustainability performance of certified buildings, taking into account the most commonly used and well-known green building certification schemes in Finland. The study focuses on residential buildings, which represent a relevant building type in the Finnish building stock and within existing wooden buildings. The study also discusses the effectiveness of the certification categories and criteria to assess a sustainable use of wood materials.

Methodology

General approach

Our methodological approach consists of three steps, as described below.

- First, we review green building certification schemes based on publicly available data, such as certification guidelines and standards, in order to define rating systems, categories and criteria. Following an iterative process, we also analyse the categories and criteria of different certification schemes to identify the key sustainability requirements to which wood materials can contribute (Figure 2). Only the categories and criteria concerning the key sustainability requirements will be considered in the following steps.
- Second, we estimate the contribution of wood materials for each key sustainability requirement in terms of potential score achievable in the green building certifications. In order to make the scores comparable between different certification schemes, we calculate the ratio between the potential score achievable with the use of wood and the maximum score of the certification scheme.
- Third, we perform a critical analysis of the green building certification schemes using a life cycle thinking approach, based on Cobut, et al. (2013). The content of the categories and criteria is evaluated according to a life cycle perspective. This allows an evaluation of the effectiveness of green building certification schemes to assess a sustainable use of wood materials in buildings.

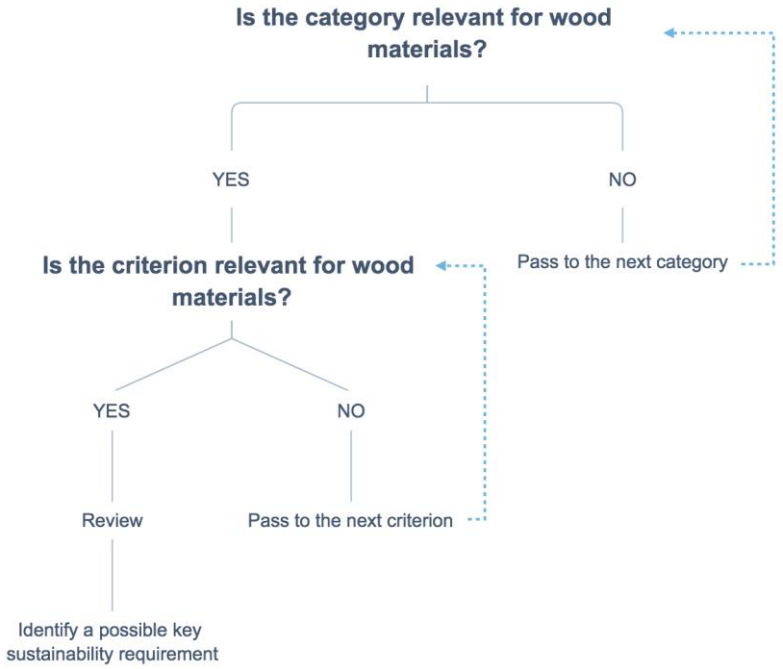

Figure 2. Iterative process for the analysis of assessment categories and criteria

The green building certification schemes analysed

The most commonly used and well-known certification schemes in Finland – BREEAM, LEED and the Nordic Swan Ecolabel – are analysed, as well as the Level(s) certification framework, recently promoted by the European Commission (Table 1). BREEAM (Building Research Establishment's Environmental Assessment Method), launched in 1990, is an international green building certification scheme promoted by the British organization BRE (Building Research Establishment). The BREEAM rating system comprises ten sustainability categories, plus an additional category on innovation, which are assigned a number of points and a weighting factor. Furthermore, for each country, BRE reviews the weighting factors of those categories affected by local conditions in order to provide a more appropriate rating system. BREEAM provides four alternative rating levels declared in the BREEAM certificate. LEED (Leadership in Energy in Environmental Design), launched in 1998, is promoted by the U.S. Green Building Council (USGBC) and is today applied in several countries. The LEED rating system is composed of nine sustainability categories including a final category on regional priorities that gives the opportunity to increase the points of those categories addressing local issues. LEED provides four rating levels identified by different labels. The Nordic Swan Ecolabel is a certification scheme applied in the Nordic countries (i.e. Denmark, Finland, Iceland, Norway and Sweden), covering different product categories, including residential and school buildings. In contrast to BREEAM and LEED, the Nordic Swan rating system for buildings is divided into seven compulsory categories and fourteen point-scoring categories. The Nordic Swan Ecolabel is awarded if the compulsory requirements are fulfilled and a minimum number of points achieved. The common aim of the BREEAM, LEED and Nordic Swan Ecolabel programmes analysed is to increase the environmental performance of residential buildings in terms of land use, water management, energy and resource efficiency. All the programmes also include categories affecting the social and economic sustainability of buildings (e.g. design management, indoor environment, innovation). The Nordic Swan Ecolabel, in particular, pays specific attention to the health of the indoor environment.

Finally, Level(s) is a certification framework promoted by the European Commission in order to encourage a life cycle approach in the environmental assessment of buildings. The objective of Level(s) is to provide a common framework to assess green buildings and to integrate existing standards into a single protocol. The certification protocol has been tested in different European countries, including Finland, and will be officially launched in 2020. Existing green building certification schemes applied in Europe should align to the Level(s) certification framework in order to provide comparable data on the environmental performance of buildings. Compared to the other certification schemes, Level(s) does not provide a rating system but rather methodological guidelines for the assessment process. Furthermore, Level(s) does not provide prescriptive requirements but focuses on six environmental impact indicators through the entire life cycle of the building (i.e. greenhouse gas emissions, resource efficiency, water use, health and comfort, resilience and adaptation to climate change, and cost and value). It also provides tools supporting the assessment of different environmental impacts.

Table 1. General information of the analysed green building certifications.

	BREEAM	LEED	Nordic Swan Ecolabel	Level(s)
Scheme name	BREEAM International New Construction 2016	LEED v4 for Homes Design and Construction	Nordic Ecolabelling for Small houses, apartment buildings and buildings for schools and pre-schools	Level(s)
Institution	BRE Global	Green Building Council	Nordic Council of Ministers	European Commission
Geographical scope	International	International	Nordic countries	Europe
Last update	2016	2014	2016	2018
References	BREEAM, 2016	LEED, 2013	Nordic Swan Ecolabel, 2016	European Commission, 2017a and 2017b

Results and discussion

Review of certification schemes analysed

Table 2 shows the sustainability categories of the certification schemes analysed that contain relevant criteria for the use of wood materials. The review of these categories and criteria has shown that wood materials in green building certifications can mainly contribute to four key sustainability requirements: material supply sustainability, indoor air quality, waste management efficiency, and resource-oriented design.

Table 2. Categories of the certification schemes analysed relevant for wood materials.

BREEAM	LEED	Nordic Swan Ecolabel	Level(s)
-Health and wellbeing -Materials -Waste	-Materials and resources -Indoor environmental quality	-Timber structures -Ecolabelled construction products -Wooden mouldings from certified forestry -Recycled or reused materials in [...] products -Recycling of [...] waste	-Greenhouse gas emissions along a buildings' life cycle -Resource efficient and circular material life cycles -Healthy and comfortable spaces -Optimised life cycle cost and value

The only categories relevant for wood materials are listed. In BREEAM, LEED and Nordic Swan Ecolabel, the only point-score categories are mentioned.

Material supply sustainability

This key sustainability requirement includes criteria rewarding the sustainable supply of building materials, including their manufacturing process (Table 3a).

According to BREEAM, LEED and Nordic Swan Ecolabel, wood from sustainable forest management is a required attribute. This criterion specifically encourages the procurement of responsibly sourced wood materials, preventing related environmental and social burdens from illegal forest management. Wood materials should be certified by internationally recognised forest management certification schemes, such as FSC (Forest Stewardship Council) or PEFC (Programme for the Endorsement of Forest Certification), or other third party approved certification schemes. LEED and Nordic Swan Ecolabel also prohibit specific wood species, especially from tropical regions. Additionally, some certification schemes give extra points based on the amount of certified wood. BREEAM gives points if the design stage includes a detailed sustainable procurement plan, and if at least 10% of building materials by volume or mass can be proven to be responsibly sourced. In the second case, wood materials can contribute to the scoring as much as the use of wood is increased (for example, if wood materials are used in structural elements). Nordic Swan Ecolabel gives points if at least 50% of the wood materials used in decorative elements are certified. However, all the certification schemes propose the use of reused or recycled wood materials, without any restriction about the origin, instead of new wood materials with sustainable forest management certification. This condition might encourage the use of reused or recycled wood products. LEED gives points if the building materials are extracted, processed, and manufactured locally, assuming a minimum haul distance of 160 km and prescribing specific building elements (i.e. framing, aggregate for concrete and foundation, drywall or interior sheathing). Wood materials contribute to the scoring depending on their origin and supply chain. Finally, since Level(s) is based on life cycle environmental indicators, the sustainability of forest management for wood materials is not explicitly assessed. However, Level(s) invites consideration of the limitations of life cycle analysis (LCA) as a tool.

Table 3a. Summary of the criteria concerning the material supply sustainability.

	BREEAM	LEED	Nordic Swan Ecolabel	Level(s)
Sustainable forest management	✓	✓	✓	
Avoidance of tropical wood		✓	✓	
Local production		✓		
Environmentally certified products	✓		✓	
Use of local wood		✓	✓	
Use of bio-based materials		✓		
Extended producer responsibility		✓		
Calculation of the GWP indicator				✓

The only criteria relevant for wood materials are listed.

Other relevant criteria for the sustainability of material supply concern the life cycle environmental impact of building materials. BREEAM, LEED and Nordic Swan Ecolabel recognise a number of points when a sufficient quantity of materials used in the building shows low environmental impact. However, the criteria used to reward the use of such materials vary significantly between different certification schemes. BREEAM and the Nordic Swan Ecolabel criteria suggest the use of materials certified with Environmental Product Declarations (EPDs) and the Nordic Swan/EU Ecolabel, respectively. LEED provides alternative requirements (e.g. content of reused/recycled materials; the use of

bio-based materials from sustainable agriculture; subscription to an extended responsibility program), increasing the minimum quantity of materials needed to fulfil the criterion. The Nordic Swan Ecolabel is the only certification scheme rewarding the use of renewable materials, specifically in the structure and/or façade (if at least 50% by area is maintenance-free). Finally, Level(s) recommends using the Global Warming Potential (GWP) indicator (kg $CO_{2\text{-}eq}/m^2$/year) to calculate the life cycle environmental impact of building materials. The GWP should be calculated for each life cycle stage of the building, including the production stage, which is highly relevant for building materials. Potential trade-offs between the production and use stages should be also considered in order to minimise the total greenhouse gas emissions. However, as well as the other certification schemes, Level(s) does not provide any benchmark for a low environmental impact of building materials.

Indoor air quality

This key sustainability requirement includes criteria rewarding the use of non-hazardous materials, or the reduction of chemical substances potentially harmful for people, in the indoor environment (Table 3b).

BREEAM, LEED and Nordic Swan Ecolabel criteria encourage the improvement of indoor air quality from the design stage. All the certification schemes require limits to volatile organic compounds (VOCs) emissions from resins, adhesive and coatings in wood products used in the indoor environment (e.g. wood particleboard, wood flooring and fittings). However, the emission limits vary between the certification schemes. BREEAM gives points if an indoor air quality plan is produced and implemented, as well as if the formaldehyde emission from a number of products, including wood-based products, does not exceed 0.06 mg/m^3. Furthermore, an additional point is given if the post-construction formaldehyde and total VOCs concentrations in indoor air does not exceed 100 mg/m^3 and 300 mg/m^3 on average, respectively. LEED gives points if at least 90% of the wood-based materials by building element (e.g. flooring and insulation) complies with the California Air Resources Board (CARB) requirements for ultra-low-emitting formaldehyde (ULEF) resins, which are 0.05 ppm for particleboards and 0.06 ppm for medium density fibreboard (MDF). The Nordic Swan Ecolabel provides a compulsory category, setting an average formaldehyde emission of a maximum of 0.124 mg/m^3 air for MDF panels and 0.07 mg/m^3 air for all other types of panel or, alternatively, an internationally recognised certification. Furthermore, the Nordic Swan Ecolabel also prescribes the avoidance of chemical substances that are carcinogenic, mutagenic or toxic for reproduction, as well as other potentially hazardous substances included in the European Chemicals Agency (ECHA)'s Candidate List.

Level(s) provides an indicator on indoor air quality, including the effects of pollutants from building materials, such as carcinogenic VOCs, formaldehyde and mould. The determination of emissions from building materials should comply with CEN/TS 16516 standard and should be performed on the as-finished product. This recommendation is important because, although the standard EN 13986+A1 (2015) harmonizes the performance characteristics of wood-based panels, including a maximum level of formaldehyde emissions (0.124 mg/m^3 in the air of a test chamber used under the conditions prescribed in the European Standard EN 717-1), and in the last few years European manufacturers have taken appropriate measures to comply with this standard, meeting this performance level is not compulsory. The determination of mould has no specific standards, but Level(s) provides guidance on testing and inspection. Here, wood particleboard and floor coverings are mentioned as target materials.

Table 3b. Summary of the criteria concerning the indoor air quality.

	BREEAM	LEED	Nordic Swan Ecolabel	Level(s)
Indoor air quality plan	✓			
Limited VOCs emissions from wood products	✓	✓	✓	✓
Avoidance of recognised/potentially hazardous chemical substances			✓	✓

The only criteria relevant for wood materials are listed.

Waste management efficiency

This key sustainability requirement includes criteria rewarding an efficient management of construction waste, including sorting, reuse and recycling of building materials (Table 3c).

BREEAM gives points if at least 60% (or the national target share, increased by 10%) of construction waste, including wood waste, is diverted from landfill. LEED provides a similar requirement but the reduction of landfilled waste is calculated based on the floor area of the building and excludes incinerated waste. Finally, the Nordic Swan Ecolabel gives points if at least 25% of construction waste from the building envelope is recycled or reused (excluding wooden fibre products or other wood products made of recycled materials). Furthermore, additional points are given if at least 50% of the overall construction waste is recycled or reused (incineration is not mentioned). However, all the certification schemes only take into account construction waste, and not demolition waste.

The Level(s) certification framework complies with the Europe Directive 2008/98/EC, which sets a target of 70% by weight for the recovery of construction and demolition waste by 2020, and only considers the reduction of waste through material recovery (i.e. reuse, recycling and backfilling), excluding energy recovery. Furthermore, Level(s) suggests a life cycle assessment through two environmental indicators, GWP and construction and demolition (C&D) waste. As mentioned, the GWP indicator focuses on greenhouse gas emissions from each life cycle stage of building materials, including the end-of-life stage and the potential benefits and loads beyond the end-of-life. Hence, the assumed end-of-life options of building materials could affect this indicator. The construction and demolition waste indicator (kg waste/m^2) focuses on the quantity of waste generated throughout the life cycle of the building, as well as on the type of waste fractions. Compared to the other certification schemes, this indicator introduces a new approach, not only based on the construction stage, but also including the maintenance and end-of-life stages of the building, based on the definition of future scenarios for the building (e.g. expected service life and maintenance measures). The construction and demolition waste indicator takes into account both construction and demolition waste, distinguishing between waste disposed to landfill and by incineration, and waste recovered for reuse, recycling or other material recovery operations (e.g. backfilling).

Although the certification schemes reviewed do not set any specific requirement for wood waste, this environmental issue concerns wood materials significantly. In Finland, wood waste accounts for 41% of construction and demolition waste (DG ENV European Commission, 2013). This fraction is almost completely delivered to energy plants (Salmenperä, et al., 2015), but could significantly increase the overall rate of recycled and recovered waste (Dahlbo, et al., 2015). Furthermore, as wood is, and will continue to be, a common building material in Finland, the high-grade recycling of wood materials should be encouraged (Laaksonen, et al., 2017). The reuse of some wood elements, such as wood beams, might also become more relevant in the future (Laaksonen, et al., 2017).

Table 3c. Summary of the criteria concerning the waste management efficiency.

	BREEAM	LEED	Nordic Swan Ecolabel	Level(s)
Reduced construction waste to landfill	✓	✓		
Recycled/reused construction waste			✓	
Calculation of GWP				✓
Calculation of C&D waste				✓

The only criteria relevant for wood materials are listed.

Resource-oriented design

This key sustainability requirement includes criteria rewarding the development of design strategies to facilitate the durability and deconstruction of building parts, as well as the adaptability of the overall building, in order to reduce maintenance operations and waste generation (Table 3d). Therefore, in contrast to the other strategic categories, this category does not concern the wood material itself but rather the approach used to design wooden building parts efficiently. For example, this category might advantage construction systems that do not use cement or adhesive for connections but rather metal connections or other joints with good reversibility, such as some types of wooden construction systems.

Most of the criteria reviewed aim at prolonging the service life of exposed building parts, as well as optimizing the efficient use of materials. BREEAM gives a point if the relevant parts of the building are designed to avoid or limit material degradation due to environmental factors. Furthermore, an additional point is given if resource efficiency measures are undertaken over the life cycle of the building. For instance, this includes using fewer materials, reusing materials from existing buildings, facilitating the replacement of worn-out materials, procuring materials with higher levels of recycled content, and adopting off-site manufacture. LEED gives a point if measures are adopted to increase the durability of the building according to the ENERGY STAR checklist for residential buildings. This includes measures to avoid water and moisture issues during the construction and the use stages of the building. Furthermore, LEED recognises a resource-efficient design applied to at least 90% of each category of structural elements. This includes simplifying the structural framework, installing structural insulated panels for walls, and using a minimum space of 400 mm for wall studs, floor joists and roof rafters. The Nordic Swan Ecolabel forbids the use of wood materials impregnated with heavy metals and/or biocides in the outdoor environment, with the exception of elements in direct contact with the ground and in load bearing structures. This should encourage appropriate design of exposed wooden elements to improve durability against weather cycles and biological attack. Finally, the Level(s) framework provides tools and guidance for describing and assessing the design optimization of a building for greater resource efficiency, including potential adaptability and deconstruction of the building. Furthermore, Level(s) also suggests estimating the efficiency of these measures through an indicator on life cycle costs (€/m^2/year).

This strategic category is strictly related to the previous category, waste management efficiency, and is important to improve the sustainable use of wood materials. The certification schemes mainly provide recommendations to increase the durability of building materials, especially for outdoor use. However, a material investigation by Gorgolewski (2018) showed that wood has the most reuse potential compared to other traditional materials, such as concrete, brick and glass. Furthermore, coupling bio-based materials (bio-economy) and circular economy principles appears to be an effective strategy to lower the environmental impacts of the built environment (Corrado and Sala, 2018). According to bio- and circular economy principles, keeping bio-based materials within the technosphere could answer to both climate change mitigation and resource efficiency, for example prolonging the carbon storage in the biomass

and offsetting the increasing demand of bio-based products and forest resources. Finally, the design improvement of wooden building parts is important to avoid outdoor weathering or other physical and chemical degradations, as well as to reduce the use of chemicals that could be disadvantageous according to environmental certification schemes (e.g. Nordic Swan Ecolabel for both residential buildings and products).

Table 3d. Summary of the criteria concerning the resource-oriented design.

	BREEAM	LEED	Nordic Swan Ecolabel	Level(s)
Improved durability of the building/building parts	✓	✓		
Reduced use of materials	✓	✓	✓	
Use of durable wood without impregnation			✓	
Calculation of life cycle costs indicator				✓

The only criteria relevant for wood materials are listed.

An estimation of the potential contribution of wood

The objective of this estimation is not to calculate a realistic score but rather to weight the contribution of wood materials to the overall score of the certification schemes analysed, in terms of percentage value. For each green building certification, we calculated the ratio between the potential score due to the use of wood materials, theoretically, and the maximum score of the certification scheme. To facilitate the comparison between different certification schemes, the contribution of wood materials was calculated based on the four key sustainability requirements: material supply sustainability, indoor air quality, waste management efficiency, and resource-oriented design. Level(s) is not considered because it does not provide a rating system and does not assign points to the environmental indicators. Estimating the potential contribution of wood materials in different certification schemes has shown that wood products can provide:

- direct contributions, linked to the environmental characteristics of wood as a material (e.g. renewable resource);
- indirect contributions, linked to the design and technical characteristics of wooden construction systems rather than the material itself (e.g. possibility to prefabricate building elements, and use of reversible joints).

Furthermore, wood materials can be required to satisfy compulsory sustainability criteria or to comply with specific standards (e.g. sustainable forest management and low emissions of VOCs).

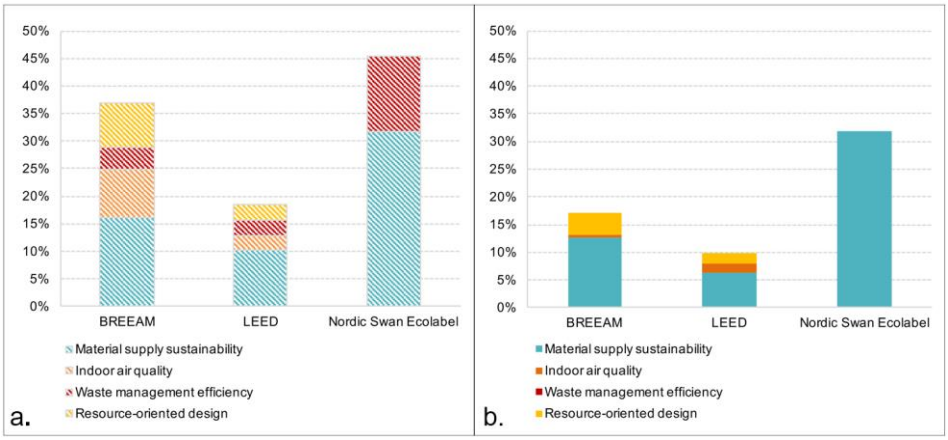

Figure 3. a) Total contribution of the point-score criteria relevant for wood materials to the maximum score achievable with the certification schemes analysed, ordered by key sustainability requirement. b) Potential contribution of wood materials in the relevant point-score criteria to the maximum score achievable with the certification schemes analysed.

Figure 3a shows that the criteria relevant for wood materials account for between 18 and 45% of the maximum score achievable with the certification schemes analysed. In the Nordic Swan Ecolabel, two key sustainability requirements, indoor air quality and resource-oriented design, are not shown because they only include compulsory criteria, which must be fulfilled to obtain the certification and do not contribute to the final score of the certification scheme. Figure 3b shows that the potential contribution of wood materials to the maximum score achievable with the certification schemes analysed accounts for between 10 and 32%. The material supply sustainability represents a key sustainability requirement for wood materials in all the green building certification schemes. Wood is especially advantageous as a renewable and low energy and low carbon material. The indoor air quality is strategic in BREEAM and LEED, accounting for 2 and 18%, respectively, of the total contribution from wood materials. In the waste management efficiency, wood materials could also contribute to the final score depending on the quantity of wood waste from construction activities. However, the certification schemes analysed provide only general criteria on construction waste, without any specific recommendation on wood waste. Hence, the present study cannot estimate the contribution of wood materials to this key sustainability requirement, and a case-by-case estimation should be performed.

Critical analysis through life cycle thinking

The aim of Life Cycle Thinking (LCT) is to avoid shifting the environmental burden from one stage of the life cycle to another (Pajula, et al., 2017). This is possible if the environmental impacts in the earlier stage of the life cycle are minimized and do not cause additional impacts elsewhere. Indeed, the impacts of a specific value chain can have an effect on a larger scale. Furthermore, LCT is strongly promoted by the new Level(s) certification, which should provide a reference framework for all the other green building certification schemes in Europe in the coming years. Therefore, it is important to apply a life cycle perspective to analyse the effectiveness of green building certification schemes for wood materials.

The life cycle of buildings consists of four main stages: production, construction, use, and end of life (EN 15978, 2011). An additional stage concerning the benefits and loads beyond the end-of-life stage (e.g. energy recovery, recycling or reuse of construction and demolition waste) can be included. This section aims at identifying which stages are included in the reviewed certification schemes, considering strategic categories for wood products.

Production and construction stage

In the production stage, the key sustainability requirement ‘Material supply sustainability’ covers most of the environmental issues. The certification schemes analysed show great interest in the sustainable supply of wood materials, especially the harvesting phase of the raw materials. Only LEED considers the haul distance between the manufacturing and construction sites, rewarding locally supplied materials. LEED also recognises the optimization of resource use in structural elements by ensuring the same structural performance with a lower quantity of materials. Furthermore, the certification schemes analysed take into account the use of building materials with low environmental impact, mainly recommending the use of products certified with EPDs or the Nordic Swan/EU Ecolabel. Level(s) mainly covers this life cycle stage through the GWP indicator. However, some issues are highlighted. First, environmental certifications of products are based on different standard and different methodological approach. For example, EPDs are based on the LCA approach, while the EU and Nordic Swan ecolabels are based on a multi-criteria assessment approach. Therefore, the environmental data provided are not comparable. Second, environmental certification of products may not provide all the necessary environmental information. For example, EPDs certify environmental data but do not necessarily prove the good environmental performance of building materials. Multi-criteria environmental certifications for wood products, including the EU and Nordic Swan ecolabels, focus only on specific environmental indicators (e.g. energy use during

the manufacturing stage) and life cycle stages (e.g. production stage). Third, the EU and Nordic Ecolabel only certify a limited number of product categories, hence only a few wood products (i.e. wood flooring, cladding and windows) are included. This could disadvantage the use of wood materials in those product categories not covered by ecolabels.

In the construction stage, the certification schemes do not give specific requirements, but off-site manufacture is mentioned by BREEAM in order to optimize the resource use. As for the production stage, Level(s) mainly covers this stage through the life cycle GWP indicator.

Use stage

The use stage is mainly covered by the 'Indoor air quality' strategic category. The certification schemes analysed provide requirements for wood products including resins, adhesives and coatings in wood particleboard, which might affect the air quality of the living spaces. The emission of volatile organic compounds (VOCs), including formaldehyde, are limited according to different standards. Additionally, BREEAM and LEED provide criteria aimed at increasing the durability of building parts. Furthermore, LEED and Nordic Swan specifically mention wooden building parts. This could have effects on the maintenance stage, included in the use stage of the building. The Level(s) indicator on indoor air quality is consistent with the certification schemes mentioned.

End-of-life stage

In the end-of-life stage, the certification schemes mainly provide criteria encouraging good practices for waste management, such as sorting and, if possible, the recycling and reuse of construction waste. Wood waste is not specifically mentioned by the criteria, but it can contribute significantly to achieving the overall targets for the reuse and recycling of construction waste. The energy recovery of construction waste is included in good practices by BREEAM, excluded by LEED and Level(s), and not clearly stated by Nordic Swan. Design for Disassembly, or any other design strategy facilitating the reuse or recycling of building materials in future, is not mentioned, perhaps due to difficulties in assessing its long-term effectiveness. Only Level(s) suggests the definition of future scenarios to estimate the waste generated in the end-of-life stage of the building, as well as to assess the design optimization for adaptability and deconstruction of building parts.

Conclusions

The aim of this paper was to review the assessment method for wood materials in existing green building certifications, as well as to evaluate the efficiency of sustainability criteria to increase the sustainable use of wood materials in residential buildings. Through a comparative method, we have identified four key sustainability requirements - material supply sustainability, indoor air quality, waste management efficiency, and resource-oriented design. Then, we undertook qualitative and quantitative analysis to understand the potential of wood materials and the efficiency of environmental criteria, respectively.

The review of certification schemes, as well as the estimation of the potential contribution of wood materials, shows that the use of wood can significantly contribute to the environmental performance of certified residential buildings, by up to 36% of the total score, theoretically. This is mainly due to the high environmental performance level achievable by wood products, as recognised by the literature, and to the rewards for sustainable forest management and the processing of wood resources. However, consistent with Cobut, et al. (2013), we observe that green building certifications tends to lag behind research findings. According to the literature, wood materials show low energy and carbon impacts throughout their life cycle, compared to other functionally equivalent building materials. However, the potential energy and carbon benefits from the use of wood materials can only marginally influence the total score of certification

schemes. Takano, et al. (2014) show that the environmental performance of buildings is influenced by the material choice, especially regarding building structures. However, only the Nordic Swan Ecolabel rewards the use of wood materials in relevant building parts, such as structures and façades. Furthermore, the existing certification schemes do not show appropriate criteria to analyse the carbon impacts of building materials, although the potential carbon benefits of wood materials are already recognised by the literature (e.g. IPCC report in 2007). The analysis of the overall environmental impact of materials is almost completely based on the use of environmentally-certified products. Therefore, it is difficult to compare the actual environmental performance level of materials used in green buildings certified with different certification schemes. Finally, certification schemes do not recommend specific indicators or benchmarks to assess the environmental performance of materials. In this case, the LCA approach suggested by the Level(s) framework might encourage a more comprehensive analysis of the environmental impacts of building materials, as well as of wood materials, by green building certification schemes.

Although the waste management in construction and demolition operations requires a comprehensive approach, the wood fraction can play an important role in achieving high levels of material recovery, especially in Finland and other countries where wood products have been used intensively in buildings. Therefore, the development of specific criteria to take into account the local characteristics of the waste chain should be considered.

The study considers the most commonly used certification schemes in Finland for residential buildings, which are the most representative building types in the Finnish building stock and within existing wooden buildings. However, a broader analysis of certification schemes, including non-residential buildings, could provide a more comprehensive framework on the assessment of wood materials.

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Timescapes beyond the Metropolises

Culture-led urban regeneration in Myllytulli, Oulu

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Abstract

The past decades have witnessed a rise of culture-led urban regeneration. The successful cultural models have travelled throughout the world, and applied to cities and urban areas regardless of their size and location. Culture, ranging between high culture and contemporary creative economies, acquires potential to contribute to physical, social and economic aspects of urban regeneration. Successful examples of culture-led urban regeneration have tempted small cities to invest in traveling global cultural policies. Academic community has criticized these travelling policies for over-simplifying the abstract notion of culture, overrating the benefits of culture-led urban regeneration and ignoring local temporal specifics. This paper argues that a temporal analysis framework would enable a holistic approach to culture-led urban regeneration, and embrace the temporal uniqueness of urban contexts. This article discusses the temporal characteristics of culture-led regeneration in a provincial city context within an empirical case study analysis of Myllytulli in Oulu, Northern Finland. Myllytulli represents a district of regional cultural relevance where cultural amenities range from museums and educational facilities to creative bottom-up initiatives. This study reframes Myllytulli's urban regeneration process using temporal conceptions of recent interdisciplinary academic discourse. The empirical data set consists of expert interviews, observation material and municipal planning documents. The results analyse the urban regeneration process within the linear temporal ideals of rational-comprehensive planning, reactive experiential urbanism and relational dimensions of time. The paper suggests time-sensitive approaches for future research and practice of urban regeneration.

Keywords: Culture-led urban regeneration, temporal analysis framework, temporal context, temporal uniqueness, provincial cities

PEER-REVIEWED ARTICLE

Introduction

For the last 30 years, culture has acquired a fundamental role in dealing with globally relevant urban problems, which range from economic decay to social issues (Bianchini 1993, Garcia 2004, Miles & Paddison 2005). The transition from industrial production to knowledge economy has placed culture in the very centre of urban development (Garnham 2005). Urban agglomerations have become centres of creative knowledge and cultural innovation, instead of their previous role as places of industry and manufacture (Garcia 2004). Culture-led urban regeneration as a concept originates in world metropolises and global cultural capitals (Evans 2002) but successful culture-led urban regeneration projects of smaller cities like Glasgow or Bilbao (Garcia 2004, Miles 2005) have encouraged small and intermediate cities to use culture for urban regeneration (Bell & Jayne 2006).

Urban agglomerations have become centers of creative knowledge and cultural innovation, instead of their previous role as places of industry and manufacture

Despite the cultural successes of temporally unique cases, the traveling culture-led models for urban regeneration have posed problems. The global examples for culture-led urban regeneration are applied to cities irrespective of their size, location and demographics (Evans & Foord, 2006), failing to respect the local values and characteristics (Evans 2009). This study addresses the local temporal uniqueness of a provincial city through a temporal framework analysis. The paper indicates the potential of temporal dimension for culture-led urban regeneration research and practice. This paper argues that a temporal dimension would help suitability application in unique urban contexts. The results evaluate culture-led urban regeneration process in a provincial city. The focus is on temporal effects, objectives and outcomes of culture-led urban regeneration of Myllytulli district in Oulu, Northern Finland. Myllytulli is an area of regional cultural importance, with its existing cultural and educational facilities, recreational green areas and architectural heritage. Oulu is currently bidding for the shared title of European Capital of Culture 2026, and culture comprehends urban policy from district regeneration to city-level strategies.

Urban regeneration is a comprehensive action of physical, social, economic and cultural enhancement of an area (Robert & Sykes 2000). Culture emerged in municipal urban regeneration in the 1980s, represented via contemporary cultural elements such as media, design and tourism (Bianchini 1993, Evans 2002). Currently, culture-led regeneration encompasses not only cultural economies but also creative industries (Garnham 2005). This article discusses culture as Myllytulli's cultural amenities, ranging from municipal high culture and architectural heritage to local everyday cultures. Culture-led urban regeneration models represent globally traveling policies, and thus, this paper places them in the global context, discussing Oulu as a provincial city, as it represents a city of regional importance in northern Finland with about 200.000 inhabitants.

After a brief introduction in recent culture-led urban regeneration discourse, this article presents an empirical case study, illustrating the temporal perspective of a provincial city. The research question of this paper inquires 'How do the different temporal approaches in the culture-led urban urban regeneration affect the neighbourhood Myllytulli?' The study follows the conceptual triad of linear, experiential and relational to elaborate the temporal characteristics of Myllytulli's regeneration process. This article focuses on the key timeframe 2008–2018. The municipal culture-led urban regeneration project focused on Lasaretinväylä but the cultural clustering reaches around the district. The study includes urban regeneration initiatives in Myllytulli within the timeframe but excludes any projects or processes without reference to arts or culture. The case study is structured through three theoretical categories and their relative grounded theory founded empirical sub-categories. The concluding remarks discuss theoretical and practical implications, highlighting the key findings of this paper.

PEER-REVIEWED ARTICLE

Culture-led urban regeneration in provincial cities

Due to the considerable economic risks, municipalities search safe and sterile solutions for urban regeneration. A copy-and-paste of cultural ideas from elsewhere has become popular as an urban strategy (Richards & Wilson 2006). Through visible successes and encouraging examples, municipalities of any location and size have applied culture-led policies and strategies as direct models in different contexts. These traveling models neglect the temporal uniqueness of successful cases (Miles 2005). Culture-led urban regeneration seems an easy alternative (Miles 2006), making it appealing for small cities to think big and pursue global visibility. When entering the competition with large cultural metropolises, smaller cities' chances of success are quite restricted (Evans & Foord 2006, Lysgård 2012). This article addresses the criticism by offering a temporal analysis framework for culture-led urban regeneration. Despite the criticism towards the traveling strategies (Zukin 1995, Peck 2005, Evans & Foord, 2006, Lysgård 2012, 2016), a contextual application of culture-led urban regeneration has potential to improve the social and economic aspects, and to increase local empowerment (Bell & Jayne 2006).

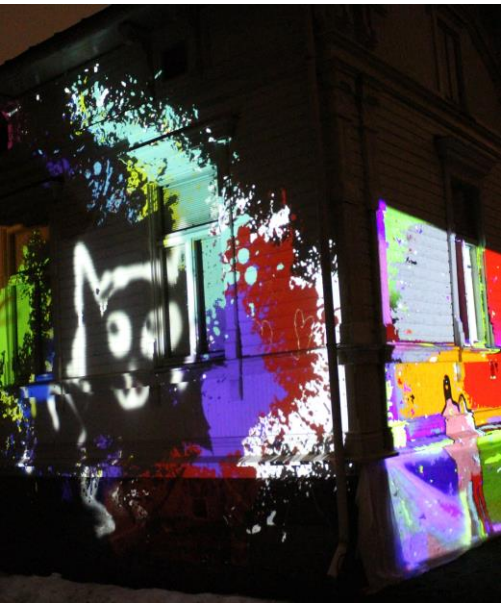

Image 1. Lumo Light Festival 2019 coloured up facades in Myllytulli. Photo source: author.

Metropolitan areas dominate culture-led urban regeneration research (Evans 2002) and create a bias in the academic discourse. Not only are small cities numerically the most common urban form globally (Bell & Jayne 2009) but also recent studies have indicated that smaller or remote municipalities present a better environment for cultural and creative industries, when compared to world metropolises (Cho et al. 2018). In addition, distant location and smaller size protect municipalities against gentrification, providing long-term support to cultural actors (Andres 2013, Lehtovuori & Ruoppila 2017).

Temporal perspective in culture-led urban regeneration

Temporality is present in culture-led urban regeneration processes for instance via distances (Henckel 2007), temporal features of the urban morphology (Herkommer 2007) and the usage patterns of cultural amenities (Montgomery 2003). The recent discourse has exposed the relevance of temporary uses (Lehtovuori & Ruoppila 2017, Madanipour 2017) but otherwise the temporal aspect remains overlooked in urban regeneration research (Raco et al 2008, Henckel 2007) and even more so in culture-led urban regeneration (Deffner 2005). Provincial cities display a temporally and spatially specific environment. The concepts of temporal intensification and 24-hour-cities describe the temporality of metropolitan areas but scarcely populated environments require different theories and problem statements.

In order to inspect culture-led urban regeneration as the integrative action it is, this study includes temporal aspects outside the common permanent versus ephemeral dichotomy, as discussed between temporary uses and cultural heritage. The following chapter discusses a theoretical framework, which founds on interdisciplinary discourse on urban temporalities. Ali Madanipour's (2017) temporary urbanism and Monica Degen's (2018) temporalities of urban regeneration borrow the key time concepts for the temporal triad. Appointed neighbourhood elements of cultural quarters (Montgomery 2003, Lidegaard et al. 2018) demonstrate the appearance of temporal approaches in the empirical case study.

Temporal analysis framework

This chapter elaborates the theoretical triad of linear, experiential and relational approaches to culture-led urban regeneration (see table 1 for an overview). Linear temporality dominates spatial disciplines. This slow physical transformation leaves visible traces to the built environment, which reflects the

size and history of the city. Permanent structures create a backbone for cultural activity: cultural buildings, such as libraries or museums, represent trademarks and express stability in the fast fluctuating societies (Lynch 1972). In order to plan the urban environment with blueprint drawings and linear schedules (Graham & Healey 1999), linear temporality diminishes time to an instrument (Madanipour 2017). This rational and abstract thought represents the temporality of rational-comprehensive urban planning. Urban morphology, public spaces and built heritage (Montgomery 2003, Rahbarianyazd & Doratli 2017) represent the neighbourhood elements of built form and linear temporality. Culture flourishes in a diverse environment with buildings differing in function, size and age (Jacobs 1961), embracing the time layers of past decades. Heritage buildings improve the quality of public space by illustrating local history (Gehl 2011).

The acceleration of world-time, however, emphasises ephemerality rather than permanence, and attaches value to momentary experiences (Madanipour 2017). The 'experience economy' (Pine & Gilmore 1998) represents this major shift from selling tangible goods to the current market for personal memories. Panu Lehtovuori (2010) claims a new urban planning paradigm, 'experiential approach to production of urban public space' within this temporal concept. 'Experiential time' embraces the present situation (Dodgshon 2008), the first-person perspective and the individual experience (Madanipour 2017). The role of environment is smaller than in linear regeneration processes. On one hand, the virtual technologies enable global experiences despite the location, where participants share their experiences via social media. On the other hand, strong individual experiences require personal presence in the specific time and place. Temporary uses and urban events, however short-term, may result in longer-term activities or initiate physical urban transformations. Temporary urbanism challenges traditional urban development modes and time concepts. Compared with new constructions, a re-use of existing structures releases potential capital for financing cultural activities. Temporary urbanism as an overarching debate ranges from bottom-up experiments and squatting to global mega events. This paper includes temporary uses and cultural events (Richards & Palmer 2010) in the neighbourhood elements.

Table 1. The three temporal concepts in relation to the neighbourhood elements. Source: author.

Temporal concept	*Neighbourhood elements*	*Theoretical contributors*
Linear	architectural heritage urban morphology public space	Montgomery 2003, Gehl 2011, Rahbarianyazd & Doratli 2017
Experiential	temporary uses cultural events	Madanipour 2017, Lehtovuori 2010
Relational	evening economy minor cultural activities consumption possibilities third places cultural production education providers	Montgomery 1994, 2003; Madanipour 2017, Chargoo & Mareggi 2018, Lidegaard et al. 2018

The third concept, relational temporality in culture-led urban regeneration, illustrates local social time of traditions and activities. This concept reflects everyday life with work and leisure patterns. Relational temporality illustrates the urban via daily and weekly usage patterns. Urban rhythms, whether natural, cultural or spatial (Charbgoo & Mareggi 2018), describe the local temporal context. Social and historical relationships affect local relational temporalities,

making time a social phenomenon (Madanipour 2017). The mundane and ordinary establishes the values of relational time. While flagship buildings and big events stress visibility, in relational temporality, everyday life builds a basis for urban transformations. Relational culture-led urban regeneration encompasses leisure time via acknowledged elements such as evening economy, third places and consumption possibilities (Montgomery 1994, 2003; Charbgoo & Mareggi 2018, Lidegaard et al. 2018) and weekday work-life patterns through minor cultural activities, education providers and cultural production (Montgomery 2003, Gainza 2017, Rahbarianyazd & Doratli 2017). The activity of cultural quarters comprises the patterns in opening hours and existing local amenities, public space and land uses, variety of uses and temporal reach as well as festivals and events (Montgomery 2003). Table 1 demonstrates the qualities of the three temporal concepts and places them in relation with the concerned neighbourhood elements.

Materials and methods

The article constructs an empirical case study (Bryman 2015, Yin 2009). The main data for this study consists of eighteen individual, semi-structured long interviews with seventeen experts. I identified key stakeholders with chain referral sampling, where interviewees proposed further contacts during the process. The interview partners' affiliation ranged from municipal organisations, including urban planning department, event management, BusinessOulu (city-owned enterprise), local government, department of culture and museums, to private companies, real estate development, cultural organisations and other NGOs.

The selection of interviewees followed their central role in the study area. The questions focused on the regeneration process of the area and the role of culture within it. The sample pursues a balance between top-down and bottom-up urban development, as well as the interviewees' expertise on built environment, cultural realm, community initiatives, local politics and real estate. The citations provide anonymity to the interviewees, and the data excerpts in this paper refer to interviewees' expertise. Except for one pilot interview in 2014, the interviews were conducted in 2015–2017, and were accordingly tape-recorded, transcribed verbatim, coded and analysed.

In addition to the interviews, the empirical data set and background information includes public space and local event observation material from different seasons and daytimes, photographs from on-site visits, municipal plans and maps, strategic policy documents, architecture competition materials, public discourse in regional newspapers (2007–2017) and advertisement material. All translations from Finnish language by the author. The analysis of all data follows a four-phase-method: establishing categories, coding the interviews according to this classification, conducting an in-depth case analysis and exchanging between the data and prior theoretical knowledge (Schmidt 2004). The analysis builds upon three theory-driven temporal categories, iteratively reflecting the themes emerged from empirical data.

Culture-led urban regeneration in Myllytulli

Oulu, with its 200.000 inhabitants, locates on northern Ostrobothnia coast. The city district Myllytulli, an old industrial area, borders central Oulu in south and Oulujoki River Delta in north and west. Hupisaaret Islands Park covers half the neighborhood. Several cultural amenities, including Oulu Museum of Arts, Tietomaa Science Center and Oulu summertime theatre, as well as vocational school campuses, international elementary school and other educational facilities situate in Myllytulli. Lasaretinväylä waterway crosses the district at the interface between the park and built environment, where the key cultural amenities as well as the former Åström factory buildings are located. The southern part of Myllytulli

is mostly residential. The young stakeholders, schoolchildren and students, characterise Myllytulli but also Oulu, which is Finland's youngest city by median age. Myllytulli's central location, preserved architectural heritage, cultural amenities and large recreational area Hupisaaret make the district important for travel and tourism.

The fast-flowing Oulujoki river delta with its mills shared their name with the district Myllytulli ('mylly' is the Finnish word for mill). In the 1800s, the delta area was turned into a park, 'Hupisaaret', following contemporary ideals for recreation. In late 1800s, brothers Åström established a leather factory in delta area, which soon became the largest in Finland, transforming Myllytulli area into a contemporary industrial milieu. The municipality of Oulu constructed the first hydropower plant in early 1900s in Lasaretinväylä, serving both the community and the factory. By 1960s, the leather factory and hydropower plant closed down. The key industrial buildings have remained in Myllytulli, currently housing museums and offices. Lasaretinväylä's 'Old Factory', the former hydropower plant from 1903, and its adjoined buildings represent architectural heritage of regional importance (Salmela & Eskelinen 1993). The 'Old Factory' served long as arts classroom for the nearby school. As the school left, the abandoned Lasaretinväylä factory milieu became a stage for underground culture scene and graffiti art (personal interview, community initiator, 2015).

Image 2. Myllytulli district illustrated in an urban plan and an aerial picture. Oulujoki river delta characterizes the location and creates a northern border to the district. Base map © City of Oulu 2020, edited by the author.

In 2006, a big fire damaged 'Old Factory'. Shortly thereafter, municipality of Oulu started mapping urban regeneration of Lasaretinväylä in 2008 through an architectural competition. In 2013, BusinessOulu requested an endeavour to generate a 'local actor network of creatives' and an 'innovation environment' in Myllytulli (personal interview, community initiator, 2015). The municipal urban planning department visualised the future urban regeneration ideals in the overarching strategy for physical urban development 'Myllytullivisio' (2017). Both the municipality and BusinessOulu regarded Myllytulli as a pilot for culture-led urban regeneration: "*This process has combined tourism and culture with urban*

development as one of the first (in Oulu)." (Personal interview, cultural administration, 2017).

In Myllytulli, "*there is the usual commercial urban development scheme, rezoning plots into residential area. --- Further, the strong cultural institutions under development --- Science Centre, Oulu Art Museum and Northern Ostrobothnia Museum. --- It is comparable to, conceptually, MuseumsQuartier Wien, a district for art and culture. Only less dense. There are collaborating cultural facilities. There is Ainola Park (Hupisaaret) with non-governmental initiatives and urban activism. And yet, there is Lasaretinväylä competition site, --- where (municipality) pursued trading permission to build apartment buildings against investment in common good*." (Personal interview, cultural administration, 2017)

This article focuses on the culture-led urban regeneration process in Myllytulli 2008–2018. The municipal project focused on Lasaretinväylä, but the cultural clustering reaches around the district. The study includes urban regeneration initiatives in Myllytulli within the timeframe, but excludes any projects or processes without clear reference to arts or culture. The paper questions the temporal compatibility of suggested cultural amenities within the temporal context of the district. The following chapters illuminate Myllytulli culture-led urban regeneration process via the three key categories of linear, experiential and relational development. Table 2 collects the discourse on Myllytulli culture-led urban regeneration process within the three temporal concepts, illustrating the relevance of different development modes.

Table 2. The key interventions of Myllytulli culture-led urban regeneration process, illustrated within the temporal triad. Source: author.

Temporal category	*Executed interventions within the culture-led urban regeneration process 2008–2018*	*The role and effects of culture in the urban regeneration process*
Linear	Architectural competition and rezoning plan for Lasaretinväylä; Prunnitori event plaza; Renovating the 'Old Factory' buildings; Constructing a student housing building and apartments; Myllytullivisio overarching strategy for physical urban development; building a children's playground	Representation as cultural district: highlighting the architectural heritage; attracting new residents; enabling social gatherings in public spaces; enabling cultural events through rezoning to event venues and public spaces
Experiential	Summertime temporary gardens and 'Rapumaja' culture cottage from Dodo environmental organisation; Established events including annual EloJazz music festival, Flea Market Days, annual Oulu Night of the Arts and Lumo light festival	Contents for the events; visibility; media publicity; attractiveness, sense of belonging, image building; indicating places for culture, activity and events; bundling events to gain visitors
Relational	BusinessOulu project 'local actor network of creatives' and an 'innovation environment' in Myllytulli; initial municipal funding for cultural cluster in Lasaretinväylä; three established restaurants	Attracting certain user groups (the young and creative); evening activities; building networks, enforcing local economies

Linear culture-led urban regeneration process

The municipal urban planning department dominated the linear culture-led urban regeneration process with following key phases: Lasaretinväylä competition call (2008), proposals for the call and announcement of the winning bid (2008), rezoning plan for Lasaretinväylä (2011) and execution (from 2011 onwards, still ongoing in 2019). This linear regeneration represents a top-down process with a limited amount of actors, the most important being municipal departments of urban planning and culture, while local cultural actors in Myllytulli were secondary in this process, developer company Hartela included with varying proportions.

Municipality of Oulu had three main goals for the project: first, generating a physical cultural cluster with synergies to Myllytulli's existing cultural amenities; second, preserving and regenerating local architectural heritage; and third, establishing public spaces and opening the area physically to the locals. Both municipal cultural administration and non-governmental cultural actors pursues improving the prerequisites for cultural activity, whereas the winning developer wished to gain profits with construction business. This chapter elaborates the key objectives: physical cultural clustering, renovating architectural heritage and creating public space.

The competition area for the composite culture-led urban regeneration competition of Lasaretinväylä (2008) followed the waterway from Åström Park until Oulu Art Museum. The call sought composite ideas of construction schemes with architectural design and collaboration with cultural actors, resulting in seven proposals. The winning bid comprised of an 'Art Hall' in renovated 'Old Factory', central public space 'Event Plaza', an artisanal cluster in Sahasaari Island; three new, private residential buildings, student housing, and an elderly-care facility. Development company Hartela offered financial security, making their proposal the most attractive for the municipality, who wished no financial responsibility in the process. The physical closeness to municipal museums and key buildings, such as Oulu Art Museum, influenced the competition call (2008) and rezoning plan (2011), both of which included a mixture of cultural amenities, evening venues, galleries and artist residents. Lasaretinväylä area "*should affiliate with the surrounding chain of culture, art and tourism*" (rezoning plan, 2011). The physical closeness should lead synergy benefits. "*This location, next to the Hupisaaret recreational area, close to the city center. There are cultural actors and others. I would wonder if it did not work*." (Personal interview, urban planner, 2015) However, the cultural clustering was mostly unsuccessful. Involved cultural actors withdraw the project when municipal financing ended, and Hartela found few substitute producers. The stakeholders were frustrated. "*The competition proved unsuitable for this case. The conditions were too loose. --- There was no support*" (personal interview, community initiator, 2015). Of all the cultural facilities proposed, by 2019, only two restaurants and one small event venue have succeeded. "*The competition was hastily organised, without control on the process --- no-one seemed responsible*" (personal interview, cultural actor, 2015).

Image 3. A children's playground in Hupisaaret Park. In the back, new residential development of Lasaretinväylä competition site. Photo source: author.

The existing cultural heritage offered advantageous prerequisites for urban regeneration. The former leather factory buildings create a recognisable unity. Through culture, municipality pursued visibility. "*Everything is already there,*

someone should just say it aloud" (personal interview, cultural actor, 2015). Generally, historical structures strengthen collective memories and quality of places (Gehl 2011). Places with memorable narratives have stronger place identities, local knowledgeability and senses of history (Montgomery 2003). In culture-led urban regeneration, architectural heritage is expected to boost tourism (Evans 2009) and create a recognizable place brand (Bell & Jayne 2004). The municipal planning department included the existing heritage buildings in main reasons for choosing culture as lead for the urban regeneration process. The existing buildings were in bad shape after fire damage in 'Old Factory' 2006. "*The buildings were valuable, and the whole area (of Lasaretinväylä) was in state of abasement. Sahasaari had served as a parking lot for ages. And yet, the location was central*" (personal interview, urban planner, 2015). The regeneration process maintained the valuable buildings, but they never became open to public, even 'Old Factory' turned private offices.

The municipal urban planning department pursued opening the area physically to public, including all the ground floors of heritage buildings. "*There were interesting places --- but they were closed. People could not reach them*" (personal interview, urban planner, 2015). The public spaces were designed within the planned cultural amenities. Public space enables social gatherings for everybody (Gehl 2011). Prior to the competition call, Lasaretinväylä "*area was blocked. That (bad) condition --- made our objectives clearer: we wanted public spaces, open access. Our consultant would argue that fences are necessary around apartments but we remained strict on our opinion: only security-related fences, otherwise the area should be open to citizens*" (personal interview, urban planner, 2015). By 2019, Sahasaari Island remains empty and 'Old Factory' is closed from public. Although new residents represent potential customers for the cultural amenities, the location of car parking and 'Prunnitori' event plaza creates confrontation, as "*the residents wish no party on their own parking lot. Here, the values diverge*" (personal interview, cultural administration, 2017), underground parking ramp dominates the new public space, 'Prunnitori' event plaza in front of the 'Old Factory'.

Image 4. Lasaretinväylä waterway with new high-end apartments. At the end of the waterway, 'Old Factory' from 1903. Oulu city centre with Dome Church on the background. Photo source: author.

The northern climate implies context-specific functions for the public space. "*In the Nordic environment, with the varying weather conditions, more (activities) take place indoors*" (personal interview, cultural administration, 2017). The harsh

climate makes organisation of outdoor events challenging. Thus, municipality of Oulu regards new construction as dominating tool for culture-led urban regeneration. "*Municipal units passed their responsibilities to others: the department for culture and education, in my opinion, appealed to the department of urban planning, that they should, that there should be a building*" (personal interview, community initiator, 2015). Both units ensured the importance of one another. "*Urban planning, if we talk about attractive urban environments in general, is one of the key partners (of culture and education). The (cultural) contents intertwine with spaces and with areas*" (personal interview, cultural administration, 2017).

Experiential culture-led urban regeneration process

Due to the dominating role of urban planning department, the importance of temporary uses (Madanipour 2017, Lehtovuori et al. 2003) or cultural events (Richards & Palmer 2010) has remained rather small scale in Myllytulli's culture-led urban regeneration process. There are numerous small initiatives but the local stakeholder awareness of them is insufficient. "*There is so much going on here and the residents are completely unaware of it --- but currently, it is standing still --- which is alarming*" (personal interview, cultural actor, 2015). The actor constellation for experiential temporality is varied and diverse by nature. In experiential urbanism, the momentary and the weak influence the space production (Lehtovuori 2010). Prior to the urban regeneration project, Lasaretinväylä included Oulu's most interesting graffiti art, and after the 'Old Factory' fire, the site turned into 'trash galleries' reusing local resources for visuals arts. However, "*underground is too underground*" (personal interview, cultural administration, 2017) to become urban culture in Oulu. In Myllytulli, even the creative network tended to seek a top-down development mode for image building: "*The task was to generate a brand for the local actors, which we found an outdated idea: having an extern consultant give the locals a new face*" (personal interview, community initiator, 2015).

Image 5. Lumo Light festival 2019 in Hupisaaret park and elsewhere in Myllytulli district. Photo source: author.

In the city of Oulu, event-led regeneration has slowly gained ground, adding events and 'eventfulness' (Richards & Palmer 2010) in municipal cultural politics, urban development and urban regeneration. "*The idea of an eventful city has gained interest and excitement here*" (personal interview, cultural administration, 2017). For instance, the current 'program for architectural politics' (arkkitehtuuripoliittinen ohjelma, 2017) emphasises the relevance of events and culture for urban regeneration. Further, 'program for urban culture' (kaupunkikulttuurin toimenpideohjelma, 2013, 2018) and 'spatial plan for experiences' (elämysten kaava, 2015) discuss the contribution of culture to urban regeneration in Oulu. "*In the big picture, urban culture relates to attractiveness, sense of belonging, and image*" (personal interview, cultural administration, 2017). The established events in Myllytulli include EloJazz music festival, Flea

Market Days, Oulu Night of the Arts and Lumo light festival. Hupisaaret has become a popular picnic stop for summers. Events are crucial for Myllytulli, located aside from city centre. For instance, Oulu Art Museum received the usual of three months visitors during only two days of the 2019 Lumo light festival.

Several cultural actors, especially the BusinessOulu 'creative networks' project attempted to create temporary uses in Myllytulli, but there was a lack of interest from the municipal site. "*There are no empty industrial halls where culture would be allowed, due to their bad condition --- (A re-use) would require public subvention*" (personal interview, cultural administration, 2017). Regarding new initiatives, "*there is a lack of know-how and resilience (in Oulu)*" (personal interview, cultural administration, 2017), from both the municipal and the stakeholder side. For the private sector, economic profit lies within security rather than allowing pop-up uses (personal interview, local politician, 2017). Dodo environmental organisation managed to find their spot in Myllytulli. Dodos 'Rapumaja' comprises a small cottage and surrounding summertime gardens for temporary use.

The temporal context in Oulu constructs the framework of possibilities to the event scene. Not only that "*Oulu is rather small, so compared with Helsinki or Tampere, it is challenging to organise big concerts*" (personal interview, cultural administration, 2017), but also, the smaller-scale, every-week event scene faces challenges. Social media has influenced on-site behaviour and partly desolated the public space: "*If nothing happens, it is no more fatal. You can be social in the internet*" (Personal interview, cultural administration, 2017). This context requires cultural event organisers to create temporal densification, in order to gain a sufficient amount of visitors. "*The actors start to bundle their events --- The openings are organised on the same day, so people will go out. Go around, take place. It causes densifications. In the lived, in the event scene*" (Personal interview, cultural actor, 2017). Culture creates visibility: "*I prefer events to pinpoint the places, rather than having fixed places, where events should appear*" (Personal interview, cultural actor, 2017).

Image 6. Hupisaaret in winter. The popular path for pedestrians and cyclists follows Lasaretinväylä waterway. Sahasaari on the right. Photo source: author.

Relational culture-led urban regeneration process

Relational culture-led urban regeneration concerns leisure time on the one hand, and weekday time patterns on the other hand. Academic discourse recognises several elements that relate to leisure time, such as evening economy, third places and consumption possibilities (Montgomery 1994, 2003; Charbgoo & Mareggi 2018, Lidegaard et al. 2018); whereas minor activities, education providers and cultural production (Montgomery 2003, Gainza 2017, Rahbarianyazd & Doratli 2017) relate to weekday work-life patterns. The actor networks of relational urban regeneration are heterogenous and varying, depending on the time of the day and year. Here, environmental temporalities (Degen 2018), such as natural rhythms (Charbgoo & Mareggi 2018), play a significant role.

Myllytulli differs from neighbouring districts through its relational time use patterns. Where central Oulu depicts a mixed-use environment with commerce and apartments, offices and administrative uses, Myllytulli accommodates significant public buildings, educational facilities and municipal museums. The public and educational buildings in Myllytulli indicate rigid opening hours but also long evening and summertime vacancies. The office hours 8-to-16 are busy in the district, but evenings involve few activities. The numerous education providers affect the rhythms of Myllytulli. In central Oulu, the businesses and shops have long opening hours, and night-life flourishes, but the educational district closes its curtains, when schoolchildren go home, or at latest, when the sun goes down. "*The ancient cycles of agrarian society still rhythm our contemporary society. Compared with the rest of Europe, our summer season is relatively long (in Finland), and part of our city is stagnated, and empty*" (Personal interview, local politician, 2017). The existing municipal museums close at 18, also on weekends. Involved cultural actors expressed their frustration. "*Is this supposed to be a cultural district – there is a municipal art museum, but is there anything else?*" (Personal interview, community initiator, 2015)

Image 7. Elojazz festival guests in Åström Park. Rauhala restaurant on the background. Photo source: author.

Leisure area Hupisaaret Park and enclosing Oulujoki River delta, which follow natural rhythms, cover half of Myllytulli. The northern location of Oulu translates to scarce winter daylight and long bright summer nights. The children's playground and Hupisaaret Park is most popular in daylight time. The huge difference in sunlight and temperature within seasons restricts the use of Hupisaaret Park throughout the year. Especially vulnerable groups, children and elderly, suffer from lack of light and extreme winter temperatures, which might

drop as low as -30C in Oulu. There are few consumption possibilities in the district. Here, restaurant Tuba succeeded well in integrating locals and tourists. They cooperate with other events in Myllytulli, including daytime occasions, such as 'Restaurant Day' and 'Flea Market Day', or Elojazz, on long summer nights of Oulu. The popularity of Tuba demonstrates how crucial it is to embrace the local time use patterns, like the hungry families from playground. The idea of the municipality to create a 'cultural cluster' is valuable but possibly the type of cluster was inappropriate. The 'high arts' of Oulu Art Museum remain distant from the routine, every weekday or weekend leisure uses. The very everyday of Myllytulli consists of the schoolchildren, teenagers and students learning; people working and travelling home, moving on foot and by bike; families and students relaxing at Hupisaaret Park. The project neglected the existing user groups and there was no activity provided for the cyclist community.

The municipal culture-led urban regeneration project concentrated on cultural economies, largely incompatible with Myllytulli. The culture and leisure amenities should relate to the everyday life of the locality. The regeneration project neglected the families and young parents active in Myllytulli. "*Our feedback states that, parents wish activities for the time where their children have their hobbies. There is an existing demand*" (Personal interview, community initiator, 2015). Within the city of Oulu, children's culture is gaining interest and respect, but they were missing within Myllytulli's culture-led urban regeneration process. There is a need for both will for cooperation and new tools for coping with social time. "*Generally, the urban planning department would only mind their main tasks --- Our (networking) project should not intervene with the rezoning process*" (Personal interview, community initiator, 2015). The municipal urban regeneration project failed to appreciate the existing social assets, such as children and families, mundane and everyday uses, or the cycle traffic through the recreational area.

Relational time in urban regeneration necessitates all stakeholders to accept the complexity of the process

Social time is most important temporal category for sustainable and continuous cultural activities in regenerated areas. "*I would not worry about individual showcase projects in Oulu, but rather the everyday urban culture, it is much more important*" (personal interview, cultural administration, 2017). Even if there is a permanent cultural facility, it only "*offers the walls, but the program will decide, what will happen*" (personal interview, cultural administration, 2017). "*It depends on the uses (rather than the physical building), if it will work*" (Personal interview, community initiator, 2015).

Relational time in urban regeneration necessitates all stakeholders to accept the complexity of the process. "*The discourse is still missing (here). If we really want to navigate the different (opinions). We write urban strategies, where there is hustle and bustle. But: how to do it? It is still missing. The only way to do it is, to offer prospects for the different stakeholders. To find --- compromises and solutions. --- The current discourse seems to avoid all conflict. If anyone has anything against anything, the discussion comes to an end*" (personal interview, cultural actor, 2017).

Relational temporality is key to culture-led urban regeneration, but it is also difficult to implement due to its complexity. There are no existing tools for municipal officials to combine with social time and urban regeneration. "*The urban planning processes are have a certain form and solidity, so it takes time for the 'soft' and 'hard' aspects, as I call them, to integrate*" (personal interview, cultural administration, 2017). Relational temporality signifies the process of moving from ephemeral to continuity, repeating activities enable the required social networks.

Discussion

This study identified all three temporalities with varying emphasis in Myllytulli's culture-led urban regeneration process. The municipal viewpoint follows the linear ideals; the local community depicts relational temporality, whereas individual experiences remain personal and various. The temporal analysis revealed certain conflicts between these three approaches. The municipality yet dominates and controls the times of Myllytulli urban regeneration, while the role of experiences is growing of importance. However, relational time remains challenging for urban planners due to its complexity (see also Lehtovuori 2010). Cultural actors of Myllytulli acknowledged all three temporalities as present in district arts-led regeneration processes: '*the systematics between temporary street art, permanent public art, and art happening on the streets create a trinity'* (personal interview, cultural administration, 2017).

This study demonstrated how the different temporal approaches affected Myllytulli's culture-led urban regeneration process. This analysis separates the activity within the three modes, but a successful cultural district indicates a balance between activity and built form (Lynch 1981). Thus, such a categorization offers potential for a theoretical endeavor, whereas practical applications for urban planning and local development require a more holistic approach. Furthermore, a single case study remains yet limited in its potential to draw general conclusions even for similar contexts. A further exploration of provincial cities and other small city contexts could enable suitable theoretical concepts. Oulu is remotely located in northern Finland and its natural-temporal context poses restrictions to cultural activity in Myllytulli, restraining outdoor activities to certain seasons or daytimes. Distant regions as cultural locations require further research (see also Salone et al. 2017).

Image 8. Despite the efforts of municipal planning department to generate public space in Lasaretinväylä, in the heart of Myllytulli, the location of new residential buildings between Oulu Museum of Arts and 'Old Factory' and 'Prunnitori' event plaza expose conflicting interests. The sign states: "PRIVATE PROPERTY. No trespassing." Photo source: author.

As small cities borrow their culture-led policies from contexts of cultural metropolises, they tend to obtain the metropolitan definition of 'culture' as well, even though there is much more to culture in smaller localities than the usual 'creative industries'. The BusinessOulu networking project pursued supporting local creative enterprises even though those were few in the district. The global

culture-led models come from metropolises, accordingly the target group for planned cultural amenities: 'creative class'. However, Myllytulli's temporal context consists of community of children, families, cyclists instead of metropolitan creatives. The case Myllytulli demonstrates how important it is to consider the local temporal context within culture-led urban regeneration. While culture has become a global buzzword to create visibility and interest, its key potential lies within locality. In order to support long-lasting and resilient culture-led urban regeneration, culture should derive from and develop in accordance with local everyday life.

As small cities borrow their culture-led policies from contexts of cultural metropolises, they tend to obtain the metropolitan definition of 'culture' as well, even though there is much more to culture in smaller localities than the usual 'creative industries'

Evening economy's relevance for culture-led urban regeneration is smaller in provincial or smaller cities, where young families and children's culture compose the urban cultural landscape. Local stakeholders' timetables support the everyday community cultures. Targeting existing stakeholders instead of tourists not only strengthens the local economy, culture and community, but also, enables successful events and activities altogether by keeping the visitor count stable. The certain underestimation of children's culture in Myllytulli possibly complicated the process altogether. The recently constructed children's playground in Hupisaaret Park is located separately from Myllytulli's urban public spaces, municipal museums and the architectural competition site of Lasaretinväylä. Even the competition program for culture-led urban regeneration sought a cluster with municipal museums, and excluded Hupisaaret and Myllytulli's educational facilities from 'cultural amenities'.

Thus, the endeavour to establish a vivid evening economy represents a culture-led urban regeneration objective borrowed from global metropolises. Provincial cities need to find individual ways to regenerate cultural districts without existing models. The local cultural actors found Oulu's temporal context problematic. "*The scale of this city poses challenges (to urban regeneration)"* (personal interview, community initiator, 2015). Even the local actors wished for easy examples and convenient models for culture-led urban regeneration, although culture is place-specific and fragile, especially when borrowed. "*There is so much potential in these (culture-led urban regeneration) models. But for cities intermediate in size, I would say Oulu lies in this category, the tools should be so different. I don't know --- what those tools are*." (Personal interview, community initiator, 2015).

In provincial cities, the timing of events and activities is of crucial importance. Cultural actors in Myllytulli bundled their events in order to encourage enough visitors on-site. In smaller cities, where the cultural attendance is scarce and visitor counts remain low, finding correct time slots for social gatherings becomes vital for cultural activity. This also relates to the long distances of peripheral contexts and long commutes. Therefore, it is important to revise cultural timetables.

Conclusions

The future studies of culture-led urban regeneration should include the notion of temporality to their research settings, as temporality reveals underlying issues of local social and spatial aspects. Time facilitates a tool of analysis for the planners, planning instruments to complement the spatially oriented blueprint plan but also a way of exploring and experimenting the urban space in a flexible and affordable way. Temporal experiments with small initial investments would allow a wider comprehension on the local usage patterns. Inclusion as key, not economy, to concentrate on the everyday of the locals rather than initiating cultural destinations for the tourists. Coordinating time in the society would bring further benefits than to the cultural scene – for instance, harmonizing the urban life would ease the flows of people and traffic.

This study illustrates the hitherto uncharted temporal specifics of smaller cities, demonstrating how their urban cultures and temporalities differ from metropolitan contexts. This study represents yet an initial exploration in this topic, which would require further theoretical exploration and empirical research. Major cities dominate academic discourse, and further studies should aim at revising the bias of metropolitan areas and culture-led urban regeneration. Temporal intensification (Palva 2017) and 24-hour cities (Montgomery 1994) are phenomena connected to metropolitan contexts. It is crucial to explore time planning (Moccia 2000) in the context of smaller cities and create new theoretical concepts.

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Osallistava suunnittelu supistuvien kuntien taajamien kehittämisessä

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Tiivistelmä

Suomen väestönkasvu on viime vuosikymmenten aikana keskittynyt yhä enemmän muutamille suurille kaupunkiseuduille. Samaan aikaan valtaosa maamme kunnista on menettänyt väestöään. Vuonna 2019 asukasluku pieneni 256 kunnassa ja kasvoi vain 54 kunnassa. Kehityskulun ennustetaan jatkuvan ja voimistuvan tulevaisuudessa. Kuntien asukasluvun väheneminen ilmenee muutoksena taajamarakenteessa. Palveluita katoaa, rakennuksia tyhjenee ja infrastruktuurin ylläpito heikentyy kuntien taloudellisen tilanteen kiristyessä. Kehityksellä on myös vaikutus paikallisten asukkaiden arkeen ja sosiaalisiin kontakteihin.

Kuntien väestökadon jatkuessa tarvitaan lisää tietoa siitä, miten yhdyskunta- ja rakennussuunnittelun keinoin nykyistä taajamarakennetta voidaan kehittää vastaamaan muuttuneita tarpeita. Tutkimuksen tarkoituksena on kuvata vakituisten ja vapaa-ajan asukkaiden näkemyksiä väestöltään supistuvien kuntien taajamien nykytilasta ja kehittämismahdollisuuksista. Tapaustutkimuksen taajamat ovat alle 10 000 asukkaan taajamia. Laadullisessa tutkimuksessa etsitään vastauksia seuraaviin kysymyksiin: Mitä palveluita asukkaat pitävät tärkeinä omassa taajamassaan? Mitä palveluita he käyttävät naapurikunnissa? Mikä on parasta omassa kunnassa ja mitä asioita tulisi kehittää? Miten asukkaat haluaisivat osallistua oman taajamansa kehittämiseen? Aineisto hankittiin kolmen eri kunnan asukkaille suunnatulla kyselytutkimuksella. Kyselyyn oli mahdollista vastata verkossa tai paperilomakkeella. Vastauksia saatiin yhteensä 1052 kappaletta.

Kyselyn tuloksista kävi ilmi oman taajaman palveluiden merkitys asukkaille sekä pitkien asiointimatkojen vaikutus asukkaiden arkeen. Vastaajat toivat myös esille huollettujen ja viihtyisien sisä- ja ulkotilojen tärkeyden. Tilojen ja palveluiden käyttö on väestöltään vähenevissä kunnissa usein kausiluonteista. Monipaikkainen asuminen on sekä mahdollisuus että haaste kunnille. Vakituisten ja vapaa-ajan asukkaiden osallistumista taajaman kehittämistoimiin tulisi tukea ja kannustaa. Kyselytutkimuksesta ilmenee, että osallistuminen ja myös halu osallistua on yksilöllistä. Asukkaat ja heidän omaehtoinen työnsä asuinympäristön kehittämisessä on väestöltään vähenevien kuntien resurssi, jota tulisi hyödyntää vahvemmin.

Avainsanat: väestönmuutokset, taajamat, yhdyskuntasuunnittelu, osallisuus

PEER-REVIEWED ARTICLE

Abstract

Participative approach for developing population centres of shrinking municipalities

Over the last decades, Finland´s population growth is centred on a few urban areas. At the same time most of the Finnish municipalities are losing population. In the year 2019 population diminished in 256 and grew in 54 municipalities. Based on population forecast, the same development is expected to continue in the future. Population decline has an impact on the urban structure of the population centres. Services disappear, buildings are abandoned and maintenance of infrastructure becomes insufficient due to the weak financial resources of the municipality. The development has also an impact on the local inhabitants and their everyday life and social contacts.

Since the population decline will continue in future, there is a need for more information about urban planning and building design methods to respond to the changing demands of population centres. The objective of the research is to describe the residents and second home owners' perception of the current situation and the development possibilities of shrinking municipalities. The case study focuses on population centres with less than 10 000 inhabitants. The qualitative research seeks answers to the following questions: What services are important for the residents in their own population centre? What services do the residents use in the neighbourhood municipalities? What do the residents value most in the municipality and what needs to be developed? How would the residents like to be involved in the development of their own population centre? The material was compiled through a questionnaire survey to inhabitants and second home owners of three municipalities. It was possible to fill the survey out by paper or online. A total of 1052 responses were received.

The results of the survey show how meaningful the services of the own population centre are for the residents and how long distances to services affect the everyday life of the inhabitants. The respondents emphasized as well the importance of well-maintained and cosy indoor and outdoor spaces. The use of spaces and services is often seasonal in shrinking municipalities. Multilocality is both an opportunity and a challenge to the small municipalities. It is important to encourage residents and second home owners to participate in the development activities of their population centre. Nevertheless, the participation and the willingness to participate has proven to be individual. The residents and their spontaneous work for the development of the neighbourhood is a resource that could be utilised more in the shrinking municipalities.

Keywords: demographic changes, population centres, urban planning, participation

PEER-REVIEWED ARTICLE

Johdanto

Suomessa on 19 maakuntaa ja 310 kuntaa. Asukasluku kasvoi vuonna 2019 vain viidessä maakunnassa ja 54 kunnassa. (SVT, Väestörakenne 2019) Tuoreen väestöennusteen mukaan alueiden eriytyminen kasvaviin ja supistuviin alueisiin tulee jatkumaan. Vuonna 2040 asukasluvun ennustetaan kasvavan enää Uudenmaan ja Ahvenanmaan maakunnissa. (SVT, Väestöennuste 2019) Kunnat menettävät väestöään nopeammin ja voimakkaammin, kuin mitä edellisessä väestöennusteessa osattiin odottaa (SVT, Väestöennuste 2015).

Syynä väestön vähenemiseen on syntyvyyden lasku. Jo nyt Suomessa kuolee vuosittain enemmän ihmisiä kuin syntyy (SVT, Väestöennuste 2019). Samanaikaisesti väestö ikääntyy. Yli 74-vuotiaiden määrän ennustetaan kasvavan nykyisestä 524 000 henkilöstä 910 443 henkilöön vuonna 2040. Väestöllinen huoltosuhde heikkenee kaikissa kunnissa. Kehitys vaikuttaa erityisesti väestöltään pieniin, alle 5 000 asukkaan kuntiin, joissa väestökato on voimakkain ja huoltosuhde jo valmiiksi korkea. (SVT, Väestöennuste 2019) Suuntaus on sama kuin kansainvälisesti (Martinez-Fernandez 2016).

Alueelliseen väestökehitykseen vaikuttaa maan sisäinen muuttoliike. Väestö siirtyy pienistä taajamista suurempiin taajamiin, joissa kehitysedellytykset näyttävät paremmilta. (Nurmio ym. 2017) Muuttajat ovat enimmäkseen työikäisiä, jotka vaihtavat asuinpaikkaansa opiskelun tai työn takia. Tämä muuttoliike voimistaa taajamien välisiä eroa ja väestörakenteen vinoutumista supistuvilla alueilla. (Myrskylä, 2012)

Väestön väheneminen ja ikääntyminen ovat heikentäneet palvelutarjontaa ja palveluiden saavutettavuutta kasvualueiden ulkopuolelle jäävissä taajamissa. Ostos- ja asiointimatkat ovat maaseutumaisissa kunnissa yli puolet pidempiä kuin kaupunkimaisissa kunnissa (Liikenneministeriö 1999; Rehunen ym. 2012). Vuosien 1980–2010 välisenä aikana maaseudun joukkoliikenne on supistunut merkittävästi (Rönkkö 2010). Julkisia koulutus-, sosiaali- ja terveyspalveluita on jouduttu keskittämään ja pankkeja, posteja sekä erikoisliikkeitä sulkemaan. Syitä palveluverkon muutoksiin ovat julkisiin palveluihin kohdistuvat säästöt, kysynnän pieneneminen väestöään menettävissä kunnissa ja kuluttajien hakeutuminen laajojen valikoimien luokse. (Rehunen ym. 2012)

Kuntien asukasluvun väheneminen vaikuttaa taajamarakenteeseen Rakennuksia, erityisesti asuntoja, tyhjenee ja tästä seuraa ylitarjontaa, mikä laskee asuntojen hintaa (Beeck 2011; Martinez-Fernandez ym. 2012). Taloudellisen tilanteen kiristyessä kunnalla ei lopulta ole enää resursseja ylläpitää omaa rakennuskantaansa ja infrastruktuuriaan kunnossa (Ročak 2016). Kehityksellä on väistämättä myös vaikutus paikallisiin asukkaisiin, heidän hyvinvointiinsa ja elämänlaatuunsa (Visvizi ja Lytras 2018).

Suomessa väestöltään vähenevien kuntien taajamia on tarkasteltu yhdyskuntasuunnittelun kontekstissa (Mäntysalo 2006; Mönkkönen 2006, Aarrevaara 2015). Asukkaiden osallistumista oman asuin- ja elinympäristönsä kehittämiseen on puolestaan käsitelty laajasti aluekehittämiseen liittyvässä tutkimuksessa (Komulainen 1998; Mononen ym. 2013; Kopomaa ja Salin 2018). Pienten taajamien kehittämistoimet ja niitä tukevat kehittämisen ohjelmat, esimerkiksi Leader-toiminta, nostavat esille asukkaiden osallistamisen ja yhteissuunnittelun merkityksen. Yhdyskuntasuunnittelun perinteessä asukkaiden osallistuminen on kuitenkin nähty lähinnä mielipiteiden esittämisenä ilman omaa aktiivista osallistumista kehittämistyöhön (Staffans 2004). Tämän artikkelin pohjana olevan kyselytutkimuksen kautta pyritään laajentamaan tulokulmaa myös syihin, miksi omaehtoista kehittämistyötä asukkaiden keskuudessa ei juuri esiinny.

Kuntien väestökadon jatkuessa tulevina vuosikymmeninä tarvitaan lisää tietoa siitä, miten nykyistä taajamarakennetta voidaan yhdyskunta- ja rakennussuunnittelun keinoin kehittää vastaamaan muuttuneita tarpeita. Tarvitaan kehitysehdotuksia, jotka keskittyvät taajaman eheyttämisen kannalta oleellisiin toimenpiteisiin. Toisaalta taajaman kehittämistä ei tulisi rajata liian tiukasti kuntarajojen sisäpuolelle, vaan tarkastelualueen tulisi ulottua myös kuntarajojen ulkopuolelle. Lisäksi tulisi arvioida, miten vapaa-ajan asumisen muuttuminen ympärivuotisemmaksi vaikuttaa väestöään menettävien kuntien palveluihin, tiloihin ja yhteisöön.

Alueiden supistumisen syyt ja seuraamukset ovat moniulotteisia. Eheän ja toimivan taajamarakenteen sekä elinympäristön laadun kehittämiseksi tarvitaan moninaista tietoa. Osallistamalla asukkaat mukaan suunnitteluprosessiin saadaan tietoa siitä, miten he suhtautuvat väestön vähenemiseen ja miten muutokset taajamassa ovat vaikuttaneet heidän elämäänsä. Tutkimuksen tarkoituksena on kuvata vakituisten ja vapaa-ajan asukkaiden näkemyksiä väestöltään supistuvien taajamien nykytilasta ja kehittämismahdollisuuksista. Tutkimuskysymykset ovat:

1) Mitä palveluita asukkaat pitävät tärkeinä omassa taajamassaan?
2) Mitä palveluita asukkaat käyttävät naapurikuntien taajamissa?
3) Mikä on parasta omassa kunnassa ja mitä asioita tulisi kehittää?
4) Miten asukkaat haluaisivat osallistua oman taajamansa kehittämiseen?

Tutkimus on toteutettu kolmen väestöltään vähenevän kunnan tapaustutkimuksena. Tutkimus on pohjatietoa tuottava osatutkimus. Se on osa laajempaa kokonaisuutta, jossa sovelletaan osallistavaa suunnittelua prosessina väestöltään supistuvien alueiden kehittämisessä.

Teoreettinen tausta

Kuntien tehtävänä suomalaisessa yhteiskunnassa on tuottaa palveluita, kehittää elinvoimaa, toteuttaa paikallista itsehallintoa ja luoda identiteettiä (Kuntalaki 2015). Supistuva kunta (engl. shrinking city, shrinking municipality, shrinking rural area) käsitteenä tarkoittaa aluetta, jossa väestö vähenee yhtäjaksoisesti useamman vuoden ajan, ja jossa väestön väheneminen vaikuttaa samalla myös alueen väestörakenteeseen ja talouteen (Wiechmann 2007; Hollander ym. 2009). Ei ole kuitenkaan olemassa yhtä tiettyä arkkityyppiä supistuvasta kunnasta, vaan jokainen kunta on sosiaalisten, kulttuuristen, poliittisten ja taloudellisten tekijöiden sekä historian muovaama uniikki kokonaisuus (Haase ym. 2017). Supistuvan kunnan sisällä väestökato ei aina jakaudu tasaisesti, vaan väestöltään pienenevän taajaman vieressä voi sijaita väestöltään kasvava taajama (Bontje ja Musterd 2012). Taajamalla tarkoitetaan Tilastokeskuksen määritelmän mukaan yhtenäistä rakennustihentymää, jossa on vähintään 200 asukasta.

Historia on osoittanut, että mitä tahansa kuntaa voi kohdata väestön menettäminen (Lampen ja Ozwar 2008; Grossmann ym. 2013). Teoksessa Atlas of Shrinking Cities Oswalt ja Rieniets (2006) määrittelevät kuntien supistumiselle kolme eri syytä: luonnonolosuhteista tai sodista johtuva tuho, raaka-aineiden tai työpaikkojen loppuminen sekä muuttoliike ja siitä johtuva väestörakenteellinen tai taloudellinen muutos. Euroopassa asukasluvun väheneminen tapahtuu usein maaseutualueilla nuorten muuttaessa pois suurempiin kaupunkeihin (Haase ym. 2012). Supistuville kunnille muodostuu monesti samankaltainen identiteetti (Lampen ja Ozwar 2008). Erityisesti kunnan koosta riippumattomat ongelmat, kuten palveluiden väheneminen ja asiointimatkojen pidentyminen, muistuttavat toisiaan (Rehunen 2012). Kaupungistuminen lisää kasvavien ja supistuvien

kuntien välistä eroa (Hollander ym. 2009). Kuntien väestökato on moniulotteinen ilmiö, johon vaikuttavat sosiaaliset, taloudelliset, maantieteelliset ja tilalliset ulottuvuudet ja seuraukset (Martinez-Fernandez ym. 2012). Supistumista voidaan kuvata hallitsemattomaksi kehitykseksi, jossa kerran alkanut negatiivinen kierre voimistuu ja johtaa kumulatiiviseen prosessiin (Myrdal 1957; Tietjen ja Jørgensen 2016).

Yhdyskuntasuunnittelulla tarkoitetaan alueiden käytön ja rakentamisen järjestämistä niin, että se luo edellytykset hyvälle ja kestävälle elinympäristölle (Maankäyttö- ja rakennuslaki 1999). Maankäytön suunnittelulla ja kaavoituksella voidaan ohjata alueiden kasvukehitystä ja asettaa reunaehtoja tulevien asuin-, palvelu-, liike-, toimisto- ja teollisuusrakennusten sijoittumiselle. Supistuvien kuntien kehittämisen lähtökohdat ovat joiltain osin toisenlaiset kuin kasvualueiden. (Mäntysalo 2006; Herrmann ym. 2016) Supistuvien kuntien taajamarakenne muuttuu ylimitoitetuksi väestön, työpaikkojen ja palveluiden vähenemisen myötä. Rakennuksia ja tiloja tyhjenee. (Herrmann ym. 2016) Kuntien taloudellinen tilanne kiristyy verotulojen pienetessä asukkaiden ja yritysten poismuuton myötä. Ikääntyvän väestön määrä kasvaa ja lisää sosiaali- ja terveyspalveluiden tarvetta. Toisaalta muiden palveluiden, kuten päivähoito- ja koulutus, käyttäjämäärä vähenee. (Raatikainen 2004)

Kuntien virkamiesten reaktio supistumiskehitykseen vaihtelee. Osa virkamiehistä vähättelee tai vastustaa kehitystä, osa taas hyväksyy sen ja pyrkii kääntämään tilanteen voitoksi (Haase ym. 2012). Väestömäärän pieneneminen vaikuttaa taajaman rakennettuun ja koettuun ympäristöön, paikallisiin asukkaisiin ja alueen imagoon (Sulzer 2007). Väestön vähenemistä ei tule kuitenkaan tarkastella pelkästään ongelmana, vaan se avaa myös uusia mahdollisuuksia alueiden kehittämiselle ja yhteisöllisyyden vahvistamiselle (Hollander 2009). Supistuvat kunnat voivat hyötyä niistä ominaispiirteistä, joita niillä on jo valmiiksi enemmän verrattuna kasvaviin kaupunkialueisiin: asunnot ovat edullisia, vapaita toimitiloja löytyy, ei ole liikenneruuhkia ja luonto on lähellä (Bontje ja Musterd 2012). Maaseutuidylliä ja luontoa onkin pidetty syynä vastakkaiseen suuntaan tapahtuvalle muuttoliikkeelle (Hersund 2012). Vahva yhteisöllisyyden tunne, parempi elämänlaatu, luonnonläheisyys ja rikas kulttuurihistoria houkuttavat ihmisiä muuttamaan maaseututaajamiin (McGranahan ym. 2011).

Monipaikkaisen asumisen käsite on yleistynyt viime vuosikymmeniä (Roca 2013; Müller 2014; Antikainen ym. 2017). Suomalaiset viettävät yhä enemmän aikaa kaupunkialueiden ulkopuolella sijaitsevalla vapaa-ajan asunnollaan. Kesämökin varustelutasoa on nostettu ja käyttö muuttunut ympärivuotisemmaksi (Pitkänen ja Vepsäläinen 2008). Suomessa on 509 800 kesämökkiä ja yli puolet suomalaisista käyttää vapaa-ajan asuntoa vähintään satunnaisesti. Järvi-Suomen ja rannikkoseudun supistuvissa taajamissa asukasmäärä saattaakin nousta kesällä moninkertaiseksi, jos vapaa-ajan asukkaat otetaan huomioon. (SVT, Rakennukset ja kesämökit 2018)

Supistuvissa kunnissa toiminta tukeutuu vahvasti paikallisiin palveluihin. Hallinnon ja palveluiden järjestäminen on usein limittäisempää rajallisten resurssien takia. Väestöään menettävien kuntien on usein myös mahdollista toimia spontaanimmin ja kehittää toimintaansa ympäristössä tapahtuvien muutosten pohjalta. (Allen ym. 2016) Ympäristön muuttuessa paikallisen elinvoiman keskiössä on kyky uudistua, joustaa, tunnistaa tapahtuvat muutokset ja kehittää toimintaa muutosten pohjalta (Sallinen ym. 2011).

Taajaman eheyttäminen ja sopeuttaminen uuteen tilanteeseen on usein luontevampi vaihtoehto kuin pyrkiä takaisin kasvun polulle. Viisaan supistumisen lähtökohtana on tutkia, mitä taajama tarjoaa asukkailleen, mitkä asiat tekevät taajamasta ainutlaatuisen. (Popper ja Popper 2002) Keskeistä on myös tunnistaa todelliset resurssit ja mahdollisuudet eikä pohjata suunnitelmia toiveisiin tai

epärealistisiin olettamuksiin. Supistuvien kuntien taajamien kehittämisen tavoitteena on turvata nykyisten asukkaiden hyvinvointi ja nykyisen rakennuskannan ja infrastruktuurin ylläpito ja sopeuttaminen sekä säilyttäminen. (Mönkkönen 2006) Laaja osallistuminen, avoimuus, yhteistyö, kokonaisvaltainen lähestymistapa sekä tulevaisuusorientaatio ovat kestävän suunnittelun tunnuspiirteitä (Meadowcroft 1999).

Pehmeät arvot, kuten arkiviihtyvyys ja asuinympäristöjen laatu, nousevat yhä vahvemmin esille supistuvien alueiden kehittämisessä (Karjalainen 2004). Asukkaiden väliset sosiaaliset verkostot ja yhteisöllisyys tukevat taajamien toimintaa muuttuvassa ympäristössä (Coleman 1988; Hyrkäs 2009; Haase ym. 2012; Koizumi 2016). Sosiaalinen pääoma ja osallisuus voidaankin nähdä väestöltään supistuvien alueiden voimavarana (Aldrich ja Meyer 2015).

Osallisuudesta on säädetty useissa laeissa, kuten hallintolaissa ja kuntalaissa. Maankäyttö- ja rakennuslaki (2000) velvoittaa kuntia kuulemaan asukkaita osana suunnitteluprosessia. Lain tavoitteena on turvata jokaisen osallistumismahdollisuus asioiden valmisteluun. Lisäksi lain tarkoituksena on varmistaa suunnittelun laatu, vuorovaikutteisuus, asiantuntemuksen monipuolisuus ja avoin tiedottaminen käsiteltävinä olevista asioista.

Osallisuus on käsitteenä vaikea, koska sitä käytetään monessa eri tilanteessa ja merkityksessä (Isola ym. 2017). Usein osallistumista (engl. participation) ja osallisuutta (engl. involvement) käytetään synonyymeina, vaikka ne sisällöllisesti poikkeavat toisistaan. Osallistuminen voi tarkoittaa kapeimmillaan vain mukana olemista (Nivala ja Ryynänen 2013). Osallisuus puolestaan syntyy osallistumisen, toiminnan ja vaikuttamisen kautta (Kettunen ja Kivinen, 2012). Osallistuminen voi siis olla tavoite ja toiminnan muoto, jolloin sillä pyritään edistämään osallisuutta. Osallisuuden kokemus on kuitenkin aina subjektiivinen, vahvasti tunneperäinen ja tilannesidonnainen.

Osallisuuden mahdollisuuksia on kuvattu eri mallien kautta, joista yleisimpiä ovat hierarkkiset mallit (esim. Arnstein 1969; Horelli 1994) ja ulottuvuusmallit (esim. Kohonen ja Tiala 2002; Sihvo ym. 2018). Tunnetuin näistä on Arnsteinin (1969) kehittämä tikapuumalli, jossa yksilön valta kasvaa tikapuun askelmia ylöspäin mentäessä. Alimmilla askelmilla (manipulaatio ja terapia) ei ilmene osallisuutta. Seuraavilla kolmella askelmalla (tiedonsaanti, konsultaatio, yhteissuunnittelu) yksilön mielipiteitä kuullaan, mutta hänellä ei ole päätösvaltaa. Kolmella ylimmällä portaalla (kumppanuus, delegoitu toimivalta ja kansalaisvalvonta) yksilöllä on päätös- ja toimintavaltaa. Hierarkkisia malleja on kritisoitu siitä, että ne keskittyvät kuvaamaan yksilön valtaa päätöksenteossa eivätkä huomioi osallisuutta vuorovaikutteisena prosessina (Nivala ja Ryynänen 2013). Esimerkiksi ministeriöiden ja Kuntaliiton yhteisesti toteuttamassa osallisuushankkeessa osallisuutta jäsennettiin ulottuvuuksina. Kuntalaisten osallisuus kunnallisessa päätöksenteossa ja palveluiden käytössä jaettiin neljään ulottuvuuteen: 1) tieto-osallisuus, 2) suunnitteluosallisuus, 3) päätösosallisuus ja 4) toimintaosallisuus (Kohonen ja Tiala 2002; myös Sihvo ym. 2018).

Asiantuntijakeskeisen suunnittelun rinnalla tarvitaan laajaa vuorovaikutukseen perustuvaa suunnittelua (Taylor 1998). Aluekehittämisessä on siirrytty viime aikoina kohti kommunikatiivisempia menetelmiä, kuten asukasfoorumeja, sähköisiä kyselyjä ja mobiilisovelluksia, joiden kautta mahdollistetaan väestön laajempi osallisuus (Bäcklund ym. 2002). Osallistava suunnittelu etenee syklisesti, tarkentuen asteittain (Victor ja Boynton 1998). Suunnittelu tapahtuu yksilö-, ryhmä- ja organisaatiotasolla. Monitoimijuus ja eri näkökulmat edistävät uuden tiedon muodostamista, kun myös toimijoiden hiljainen tieto saadaan näkyväksi (Nonaka ja Takeuchi 1995). Näin vuorovaikutteinen suunnitteluprosessi mahdollistaa uusien ratkaisujen syntymisen (Faludi 2000).

Asukkaiden osallistamisen uskotaan tuottavan kestävämpiä ratkaisuja taajamien kehittämiseen, koska ne perustuvat asukkaiden paikalliseen tietoon (Foster-Fishman ym. 2007; Wagenaar 2007; Boonstra ja Boelens 2011). Osallistavan suunnittelun vahvuutena voidaankin pitää sitä, että asukkailla on välitön kokemus alueen ongelmista; he näkevät ongelmien kokonaisuuden, niiden väliset kytkennät ja ajallisen kehityskaaren (Wagenaar 2007). Staffansin (2004) mukaan paikallinen tieto on kulttuurista ymmärtämistä, joka on sidoksissa fyysisiin paikkoihin. Asukkaat hahmottavat taajaman toiminnallisena, sosiaalisena ja symbolisena tilana (Bäcklund 2002).

Kehittäjien tietopohja perustuu tekniseen ja prosessoituun tietoon, kun taas asukkaiden paikalliseen ja kokemukselliseen tietoon (Lund ja Juujärvi 2016; Wagernaar 2007). Asukkaiden osallistumismahdollisuuksia saatetaan kuitenkin rajoittaa ja heidän tekemiään kehittämisehdotuksia sivuuttaa, koska asukkaat eivät osaa asiantuntijakieltä. Heitä pidetään usein liian tavallisina, oman reviirinsä suojelijoina tai loputtomien toivelistojen esittäjinä (Staffans 2004; Häikiö 2007). Tärkeää on kuitenkin luoda avoimuuden ja luottamuksen ilmapiiri asukkaiden ja kehittäjien välille. Moniammatillinen kehittämistyö edistää sosiaalisesti kestävää innovointia. (Parjanen ym. 2016)

Osallistava suunnittelu kasvattaa yhteistyökykyä sekä tukee yksilöiden ja yhteisöjen kapasiteettia ratkaista muuttuvan asuinympäristönsä asettamia haasteita. Paikallistuntemus avaa hyvät mahdollisuudet löytää keinoja ongelma-ratkaisujen löytymiseksi ja niiden toteuttamiseksi. Supistuvien kuntien kohdalla kyse voi olla jo olemassa olevien resurssien luovasta ja uudenlaisesta yhdistelystä. (Manzini 2015)

Aineisto ja menetelmä

Aineisto hankittiin kesällä 2019 kyselyllä kolmesta *Elinvoimainen taajama* -hankkeeseen osallistuneesta kunnasta. Tavoitteena hankkeessa on kehittää menettelytapoja ja ratkaisuja väestöltään ja palveluiltaan supistuvien kuntien taajamien elinvoimaisuuden tukemiseen yhdyskunta- ja rakennussuunnittelun keinoin. Tässä artikkelissa käsiteltävään kyselytutkimukseen valitut kunnat ovat Harjavalta, Kurikka ja Pertunmaa, jotka poikkeavat toisistaan niin maantieteelliseltä sijainniltaan kuin myös väestömäärältään ja -rakenteeltaan.

Taustatiedot kunnista

Harjavalta on Satakunnan maakunnassa sijaitseva ja Porin seutukuntaan kuuluva 6 942 asukkaan (SVT, Väestön ennakkotilasto 2019) kaupunki. Harjavaltaan on hyvät liikenneyhteydet niin henkilöautolla, junalla kuin myös linja-autolla. Harjavallan keskusta on kasvanut merkittävästi 1900-luvun alussa etenkin pienteollisuuden johdosta. Harjavaltaan rakennettiin 1920-luvulla keuhkotautiparantola Satalinna ja 1930-luvulla Kokemäenjoessa sijaitseva vesivoimalaitos. Harjavalta on tunnettu suurteollisuuspuistostaan, jossa toimii mm. kuparisulatto ja nikkelinjalostamo. Harjavallassa merkittävä virkistys- ja vapaa-ajan alue on Hiittenharjun urheilukeskus.

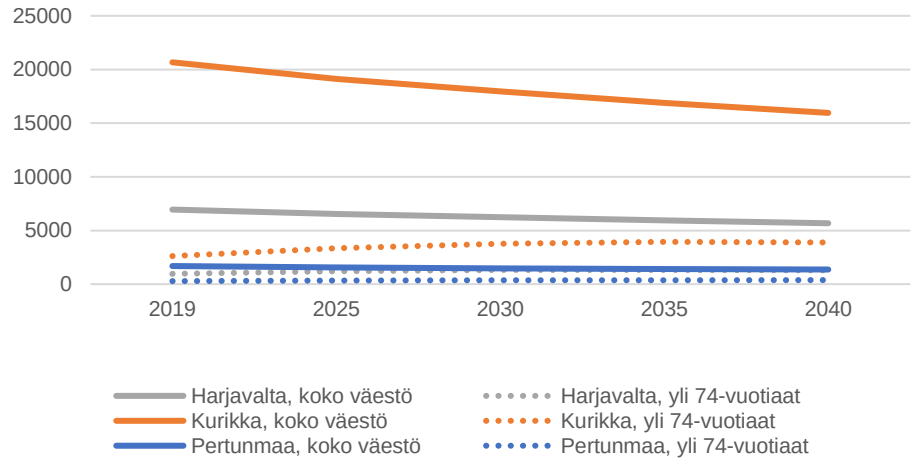
Kurikka on Etelä-Pohjanmaan maakunnassa sijaitseva ja Seinäjoen seutukuntaan kuuluva 20 707 asukkaan (SVT, Väestön ennakkotilasto 2019) kaupunki. Kurikasta on tullut kuntaliitosten, Jurva vuonna 2009 ja Jalasjärvi vuonna 2016, seurauksena pinta-alaltaan maakunnan suurin ja väkiluvultaan toiseksi suurin kaupunki. Kurikka on yksi Suomen merkittävimmistä maatalous-kunnista. Kurikkaan on hyvät yhteydet henkilöautolla ja kohtalaisen hyvät linja-autolla. Kurikassa on ollut rautatieasema, mutta henkilöliikenne rataosuudella Seinäjoki-Kaskinen lopetettiin 1960-luvulla. Noin 800 lukio- ja ammatti-kouluopiskelijalle suunnattu Kurikan Kampus avasi ovensa syksyllä 2018.

Pertunmaa on Etelä-Savon maakunnassa sijaitseva ja Mikkelin seutukuntaan kuuluva 1 698 asukkaan (SVT, Väestön ennakkotilasto 2019) kunta. Pertunmaan kaksi päätaajamaa ovat kirkonkylä ja Kuortti, jotka sijaitsevat noin kymmenen kilometrin etäisyydellä toisistaan. Kuortti on helposti saavutettavissa henkilöautolla ja linja-autolla. Kirkonkylään puolestaan ei ole julkista liikennettä. Kunnan julkiset palvelut sijoittuvat kirkonkylään, kun taas yritykset Kuorttiin. Kuortin ABC-huoltoasema on myös suosittu pysähdyspaikka ohikulkijoille. Pertunmaalla on noin 1 700 vapaa-ajan asuntoa, mikä moninkertaistaa kunnan väestömäärän kesäisin.

Yhteistä kaikille kolmelle kunnalle on väestön ikääntyminen ja väheneminen. Kehitys on kaikista voimakkain Kurikassa, jossa väestömäärän ennustetaan laskevan 23 prosenttia ja yli 74-vuotiaiden määrän kasvavan 49 prosenttia vuoteen 2040 mennessä (Kuvio 1.). Kunnat eroavat toisistaan taajama-asteen (Kuntien avainluvut 2018) ja väestötiheyden (Elinympäristön tietopalvelu Liiteri 2018) suhteen. Harjavalta on kompakti, väestötiheyden ollessa 57 as/km2. Kurikan sisäiset etäisyydet ovat pisimmillään 100 km. Pinta-alaltaan isossa kunnassa väestöntiheys on 12 as/km2. Pertunmaa on harvaan asuttu, jos tarkastellaan pelkästään vakituisia asuintaloja. Kunnan väestötiheys on 5 as/km2.

Pitkät etäisyydet ja heikot julkisen liikenteen yhteydet vaikuttavat myös henkilöautojen määrään. Pertunmaalla henkilöautoja on eniten, Harjavallassa taas vähiten (Elinympäristön tietopalvelu Liiteri 2018). Asuinkunnassa työssäkäyvien osuus on kaikissa kolmessa kunnassa noin 58–68 %. Tämä tarkoittaa, että merkittävä määrä työikäisiä käy töissä naapurikunnissa. Harjavallan työpaikkaomavaraisuus on 147 %, mikä tarkoittaa, että Harjavallassa käydään töissä, mutta asutaan muualla. (Kuntien avainluvut 2018)

Väestörakennetta tarkasteltaessa Kurikassa on suhteessa eniten alle 15-vuotiaita (Kuntien avainluvut 2018). Pertunmaalla on puolestaan suhteessa eniten yli 74-vuotiaita (SVT, Väestön ennakkotilasto 2019). Väestörakenteen erot näkyvät myös ruokakuntien koossa. Kurikassa yhden henkilön (37 %), kahden henkilön (35 %) ja yli kahden henkilön (28 %) ruokakunnat jakautuvat tasaisemmin kuin Harjavallassa tai Pertunmaalla, joissa on eniten (vajaa 50 %) alle yhden henkilön ruokakuntia. (Kuntien avainluvut 2018)



Kuvio 1. Alueellinen väestöennuste 2019–2040 (Tilastokeskus, 2019).

Aineiston hankinta ja analyysi

Kyselylomake laadittiin *Elinvoimainen taajama* -hankkeessa. Lomakkeen laatimisessa hyödynnettiin aikaisempien tutkimusten kyselylomakkeita (Strandell 1999; 2005; 2011; 2017). Kyselylomakkeen kehittämiseen osallistuivat Aalto-

yliopiston Sotera tutkimusryhmän lisäksi Harjavaltaan, Kurikkaan ja Pertunmaalle maisterivaiheen lopputyötään tekevät arkkitehtiopiskelijat ja kyseisten kuntien kaupungin- ja kunnanjohtajat. Neljä kuntien edustajaa esitestasi kysely-lomakkeen, jonka perusteella monivalintakysymyksiin lisättiin puuttuvia vaihto-ehtoja. Kurikan kyselyyn yhdistettiin jokirannan kehittämistä koskevia kysymyksiä, jolloin kyselylomakkeen kokonaispituus piteni viidellä kysymyksellä.

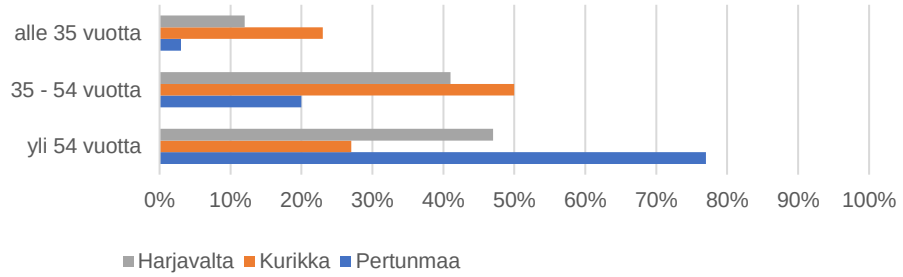
Kyselylomake sisälsi monivalintakysymyksiä dikotomisin vastausvaihtoehdoin, likert-vastausasteikollisia ja avoimia kysymyksiä. Kysymykset koskivat vastaajien taustatietoja, palveluiden tärkeyttä ja käyttöä sekä taajamien kehittämistä. Lisäksi kysyttiin, mikä on asukkaiden mielestä nykyisin parasta kunnassa ja miten he haluaisivat vaikuttaa taajamansa kehittämiseen.

Kyselystä tiedotettiin paikallislehdessä, kunnan kotisivuilla ja sosiaalisessa mediassa. Kysely kohdistettiin kunnan vakituisille asukkaille ja Pertunmaan osalta myös vapaa-ajan asukkaille. Kyselyn toteutustapa vaihteli kunnittain. Sähköinen tiedonkeruu toteutettiin Webropol-palvelimen kautta. Lisäksi kyselyyn oli mahdollista vastata paperilomakkeella, joita jaettiin Harjavallan ja Kurikan kirjastoissa sekä Harjavallan Markkinoilla ja Kurikan Asu&Elä-messuilla. Pertunmaalla paperilomakkeet lähetettiin kirjepostilla vakituisten ja vapaa-ajan asukkaiden koteihin (2174 kotitaloutta). Vastauksia saatiin yhteensä 1052, joista 110 oli Harjavallasta, 366 Kurikasta ja 576 Pertunmaalta. Määrällinen aineisto analysoitiin käyttäen Excel-taulukkolaskentaohjelmaa ja tulokset esitetään frekvenssi- ja prosenttijakaumina. Avointen kysymysten vastaukset on luokiteltu aineistolähtöisellä sisällön analyysillä (Tuomi ja Sarajärvi 2002).

Tulokset

Kyselyyn vastanneiden taustatiedot

Kyselyyn vastanneista suuri osa (84 %) oli asunut kunnassa yli 5 vuotta. Pääsääntöinen asuintalon talotyyppi oli omakotitalo. Vastanneista kunnan keskustassa asui Harjavallassa 27 %, Kurikassa 35 % ja Pertunmaalla 42 %. Kurikan vastaajista 8 % asui Jurvan taajamassa ja 19 % Jalasjärven taajamassa. Pertunmaalla vapaa-ajan asukkaiden osuus vastanneista oli 61 %. Ruokakuntien koko jakautui Harjavallassa tasaisesti yhden, kahden ja yli kahden hengen ruokakuntiin. Kurikassa yli puolet vastaajista (53 %) asui yli kahden hengen ruokakunnassa, kun Pertunmaalla vastaava luku oli 17 %. Vastanneiden ikäjakauma painottui Pertunmaalla yli 54-vuotiaisiin, kun taas Kurikassa ja Harjavallassa vastanneiden ikäjakauma oli tasaisempi (Kuvio 2).

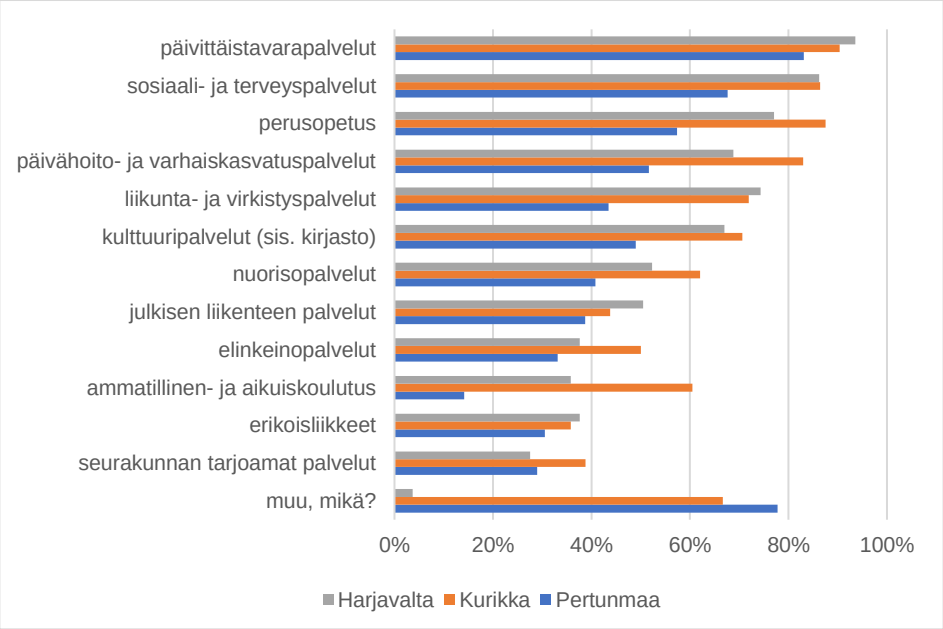


Kuvio 2. Vastaajien ikäjakauma kunnittain (N=1052).

Palvelut taajamassa

Asukkaiden näkemykset omassa taajamassa olevista tärkeistä palveluista on esitetty kuviossa 3. Vastaajista 89 % piti taajaman tärkeimpinä palveluina päivittäistavarapalveluita. Sosiaali- ja terveyspalveluja pidettiin lähes yhtä tärkeinä (80 %). Perusopetus, päivähoito ja varhaiskasvatus nousivat esille kaikissa kolmessa kunnassa, mutta erityisesti Kurikassa korostui lapsiin ja nuoriin

sekä koulutukseen liittyvien palveluiden merkitys. Vastaajista 63 % piti tärkeinä myös vapaa-aikaan liittyviä liikunta- ja virkistyspalveluja sekä kulttuuripalveluja. Kurikassa elinkeinopalvelut oli mainittu muita kuntia useammin. Vähemmän tärkeinä palveluina taajamassa pidettiin erikoisliikkeitä ja seurakunnan tarjoamia palveluita. Valikosta puuttuvina muina palveluina mainittiin Kurikan osalta ravintolapalvelut ja tapahtumat. Pertunmaalla vastaavasti nostettiin esille tori, tapahtumat sekä pankki- ja jätehuoltopalvelut.



Kuvio 3. Vastaajien tärkeinä pitämät palvelut taajaman keskustassa (n=1034).

Palvelut naapurikunnissa

Asukkaiden käyttämät naapurikuntien palvelut sijoittuivat 12–58 km säteelle oman kunnan keskustasta. Harjavallassa asuvat (n=79) asioivat eniten Porissa, joka sijaitsee noin 30 km etäisyydellä Harjavallasta. Vähemmän asioitiin Kokemäellä ja Nakkilassa, vaikka etäisyys on molempiin puolta lyhyempi kuin Poriin.

Porin palveluista eniten käytettiin erikoisliikkeitä sekä terveydenhuolto-, päivittäistavara-, kulttuuri- ja ravintolapalveluita. Erikoisliikkeet olivat vaate-, urheilu-, kenkä-, rauta- ja lemmikkieläinkauppoja. Kulttuuripalveluista mainittiin elokuvateatteri, kirjasto ja konsertit. Kokemäellä ja Nakkilassa asioitiin erikois-liikkeiden, kirpputorien, liikuntapalveluiden, päivittäistavarapalveluiden ja ravintolapalveluiden takia. Asiointitiheys Harjavallan ulkopuolella sijaitsevissa palveluissa oli keskimäärin joitakin kertoja kuukaudessa.

Kurikassa asuvat (n=269) asioivat eniten Seinäjoella, joka sijaitsee noin 34 km etäisyydellä Kurikan keskustasta. Toiseksi eniten kurikkalaiset käyttivät Kauhajoen ja kolmanneksi eniten Ilmajoen palveluita. Väkiluvultaan Seinäjoki on näistä kolmesta kunnasta suurin (63 610 as), kun taas Kauhajoki (13 250 as) ja Ilmajoki (12 240 as) eivät eroa väkiluvultaan kovinkaan paljon toisistaan (SVT, Väestön ennakkotilasto 2019). Kauhajoki sijaitsee kuitenkin vastakkaisessa suunnassa kuin Seinäjoki, ja on näin ehkä vetovoimaisempi kuin Ilmajoki, joka sijaitsee Kurikan ja Seinäjoen välissä.

Kurikkalaiset käyttivät naapurikuntien liikunta- ja vapaa-ajan palveluita, kuten uinti, jalkapallo ja tanssi, lähes viikoittain. Päivittäistavarapalveluita, erikois-liikkeitä, ravintolapalveluita ja kulttuuripalveluita käytettiin kerran tai useammin kuukaudessa. Vielä harvemmin käytettyjä palveluita olivat erikoissairaanhoito, poliisi, verotoimisto, pankki, autohuolto, teatteri, ooppera ja Hoplop. Seinäjoen

merkitys korostui myös rautatieaseman osalta, joka mahdollistaa liikkumisen laajemmin.

Pertunmaan osalta (n=199) naapurikunnista suosituimpia olivat Heinola ja Mäntyharju. Kolmannella sijalla oli Mikkeli, jonne on matkaa 58 km. Mäntyharjussa ja Heinolassa käytettiin päivittäistavarapalveluita, terveyspalveluita, erikoisliikkeitä sekä kulttuuri- ja vapaa-ajanpalveluita, joita on Pertunmaan kirkonkylässä vain rajallisesti. Mikkelissä asioitiin edellä mainittujen palveluiden lisäksi erikoissairaanhoidon ja ravintolapalveluiden takia. Pertunmaalla asuvat käyttivät naapurikuntien palveluita viikoittain tai useita kertoja kuukaudessa.

Pertunmaan vapaa-ajan asukkaiden vastauksissa korostui sen naapurikunnan merkitys, joka oli mökkimatkan varrella. Palveluista yleisimpiä olivat päivittäistavarat ja erikoisliikkeet, jotka liittyivät rakentamiseen tai sisustamiseen. Vapaa-ajan asukkaille tärkeitä olivat myös erilaiset kulttuuripalvelut, kuten kesäteatterit, konsertit, taidenäyttelyt ja lavatanssit. Palveluiden käyttö painottui vapaa-ajan asukkailla pääsääntöisesti kesäkuukausille.

Parasta omassa kunnassa

Asukkailta kysyttiin myös, mikä on parasta heidän kunnassaan (taulukko 1). Kaikissa vastauksissa korostui luonto ja luonnon merkitys. Tämän lisäksi palveluiden merkitys nousi sekä Harjavallassa että Kurikassa esille: ”sopivan kokoinen, kaikki tarvittavat palvelut lähellä, eskarista lukioon polku omalla paikkakunnalla” (Harjavalta). Monipuoliset liikunta- ja harrastusmadollisuudet olivat erikseen lueteltu Harjavallan tärkeimpinä ominaisuuksina. Pertunmaan ja Kurikan asukkaat korostivat asuinympäristön hyvinä puolina sitä, että ”on tilaa, ei ruuhkia, lyhyet välimatkat – rauhallista ja turvallista” (Kurikka). Yhteisöllisyyden merkitys näkyi erityisesti Pertunmaan kohdalla, jossa ”ihmiset ovat luotettavia ja tuttuja”. Pertunmaan vapaa-ajan asukkaille ”oma mökki järven rannalla, puhtaassa luonnossa” oli tärkeä.

Taulukko 1. Vastaajien parhaiksi esittämät asiat kunnassaan (n=840).

Harjavalta	Kurikka	Pertunmaa (vakituinen as.)	Pertunmaa (vapaa-ajan as.)
1. luonto	1. palvelut	1. luonto	1. luonto
2. palvelut	2. luonto	2. rauhallisuus	2. rauhallisuus
3. liikunta	3. rauhallisuus	3. ihmiset	3. ihmiset
4. joki	4. turvallisuus	4. turvallisuus	4. mökki
5. harrastukset	5. ihmiset	5. yhteisöllisyys	5. järvet

Kehittämiskohteet

Kun asukkailta kysyttiin, mitä asioita kunnassa tulisi kehittää viihtyvyyden parantamiseksi, olivat vastaajien kokemukset asuinkuntansa viihtyvyydestä erilaisia (taulukko 2). Harjavallassa (n=67) asukkaat nostivat esiin, että taajaman ulkoalueita tulisi pitää huollettuina ja siisteinä ja tyhjiä rakennuksia tulisi korjata tai purkaa. Asukkaat toivoivat myös, että poliisi näkyisi enemmän katukuvassa. Julkista liikennettä tulisi kehittää lisäämällä ilta- ja viikonloppuvuoroja ja säilyttämällä linja-autoreitit joen pohjoispuolella. Joki koettiin tärkeänä elementtinä, joka ”pitäisi saada näkyväksi ja käyttöön jotenkin. Jokiristeilyt, vene- ja kajakki/sup-vuokraus, kahvila rantaan, tanssilava ja jokitanssit”. Joen pohjoispuolelle voisi sijoittaa päivittäistavarakaupan ja keskustaan lisää erikoisliikkeitä. Myös toritoimintaa voisi kehittää: ”iltatori näin kesäaikaan olisi kiva, myös työssäkävijät pääsisivät torille ja ehkä keskustassa liikkuisi joku klo 18 jälkeen”.

Kurikassa vastaajista 82 (n=269) koki Kurikan keskustan kohtalaisen viihtyisänä paikkana, kun taas 65 (n=269) kommentoi, ettei keskusta ole kovin viihtyisä.

Yleisesti asukkaat näkivät, että keskustaa voisi kehittää lisäämällä puita ja istutuksia sekä kohdevalaisemalla tärkeitä rakennuksia talvella. Myös patsaita ja taidetta toivottiin enemmän keskustaan. Asukkaat kommentoivat myös vuonna 2014 puretun kaupungintalon tonttia, jota ”voisi myös hyödyntää paremmin, koska tällä hetkellä se tuntuu hiukan keskeneräiseltä, ja tunnelma on pitkään ollut odottava sen suhteen, tuleeko siihen mitään tilalle”. Keskustaan ehdotettiin uusia rakennusprojekteja ja vanhojen rakennusten kunnostamista. Lisäksi toivottiin lisää liikkeitä ja kahviloita keskustaan. Liikennejärjestelyt, uusi kiertoliittymä ja jatkuvat tietyöt saivat kritiikkiä. Jalasjärvellä ja Jurvassa asuvat kritisoivat sitä, ettei näitä taajamia ”ole kehitetty yhtään mitenkään, puistot yms. löytyvät Kurikan keskustasta”.

Pertunmaan vakituiset ja vapaa-ajan asukkaat (n=318) toivat esille, että heidän kirkonkylänsä tyhjiin rakennuksiin tulisi saada toimintaa. Tärkeänä pidettiin myös vesistöjen puhtaanapitoa ja kunnostamista. Lisäksi toivottiin jätteiden lajittelun parantamista, keräyspisteiden lisäämistä ja selviä merkintöjä jäteastioihin. Vapaa-ajan asukkaille tärkeää oli lisäksi puhelin-, netti- ja sähköyhteyksien toimivuus ja teiden kunnostaminen. Julkista liikennettä sekä pyörätietä toivottiin Kuortin ja kirkonkylän päätaajamien välille. Palveluiden osalta vastaajat pitivät tärkeänä, että nykyiset palvelut säilyvät ja niiden aukioloaikoja pidennettäisiin iltaisin ja viikonloppuisin. Myös paikallistarjontaa ehdotettiin kehitettävän: ”tuottajien tori voisi olla kesäviikonloppuisin, voisi ostaa tuotteita suoraan tuottajilta”. Vastaajat toivat esille, että yhteistyötä naapurikuntien kanssa voisi kehittää samoin kuin myös Pertunmaan sisällä vakituisten ja vapaa-ajan asukkaiden välistä yhteisöllisyyttä. Kokonaisuudessaan vastaajista moni koki viihtyvänsä jo nyt hyvin Pertunmaalla.

Taulukko 2. Vastaajien keskeiset ehdotukset viihtyvyyden parantamiseksi ryhmitelty viiden eri aihepiirin mukaan (n=709).

Aihepiirit	Harjavalta	Kurikka	Pertunmaa
1. RAKENNUKSET	1. tyhjien tilojen korjaus	1. keskustan eheytys	1. tyhjiin tiloihin toimintaa
2. ULKOTILAT	2. ulkotilojen siisteys	2. kauniita istutuksia	2. ulkovesistöjen kunto
3. LIIKENNE	3. lisää vuoroja	3. liikennejärjestelyt	3. julkinen liikenne
4. PALVELUT	4. lisää tapahtumia	4. lisää erikoisliikkeitä	4. palveluiden säilyminen
5. SOSIAALISUUS	5. turvallisuus	5. Jurva ja Jalasjärvi	5. yhteistyö

Osallistuminen

Harjavallan ja Pertunmaan kyselyssä kysyttiin lopuksi, miten asukkaat haluaisivat vaikuttaa oman taajamansa kehittämiseen. Harjavallassa 74 % vastaajista (n=54) ilmoitti jo osallistuvansa tai haluavansa osallistua taajaman kehittämiseen. Vastanneet mainitsivat mahdollisina osallistumismuotoina kyselyihin vastaamisen, asukasiltoihin ja työpajoihin osallistumisen sekä luottamusmies-, vapaaehtois- ja yhdistystoiminnan. Lisäksi he ehdottivat voivansa olla mukana siivoustalkoissa, vanhustenhuollon asioissa tai lasten toiminnassa, kun ”omatkin lapset ovat pieniä”. Vastaajat toivat esille, että asukkaille voisi esimerkiksi myös järjestää vaikutusfoorumikeskustelun päättäjien kanssa. Vastaajista 9 % (n=54) toi esille, ettei halua osallistua tai ettei osallistumismahdollisuuksia ole: ”poliittiset päättäjät kuuntelevat, mutta eivät saa kuntalaisten toiveita toteutetuksi”.

Pertunmaan kyselyssä vakituisista asukkaista (n=108) noin kolmasosa koki, ettei halua osallistua tai pysty osallistumaan päätaajamien kehittämiseen. Usein syynä oli korkea ikä: ”osallistukaa ja vaikuttakaa nuoremmat, minä osallistuin aikanani”. Toisinaan syynä oli turhautuminen: ”olen huomannut, ettei osallistuminen vaikuttaisi mitään. Kunnan luottamushenkilöt luovuttaneet päätösvallan pois, esim. seurakunta ja Essote”. Kuitenkin kaksi kolmasosaa vakituisista asukkaista näki, että vaikuttaminen on mahdollista esimerkiksi vapaaehtoistyön kautta tai käyttämällä paikallisia palveluita. He olisivat valmiit

osallistumaan myös yhteisiin talkoisiin, torin kehittämiseen, liikunta- ja kulttuuri-tapahtumien järjestämäiseen tai lasten ja nuorten kerhotoiminnan vetämiseen.

Pertunmaan vapaa-ajan asukkaista (n=119) vajaa puolet totesi, ettei ole kiinnostunut osallistumaan päätaajamien kehittämiseen tai ei osaa ottaa kantaa asiaan. Usein syynä oli, että: ”mökkiläisenä mahdollisuudet ovat rajallisia”. Toisaalta ne vapaa-ajan asukkaat, jotka olivat kiinnostuneita osallistumisesta, toivat esille, että kesäasukkaita voisi ottaa enemmän mukaan kunnan toimintaan. Heillä voisi olla esimerkiksi ”jonkinlainen rooli kunnanvaltuustossa”. Vapaa-ajan asukkaat kokivat, että kyselyt, asukas/mökkiläisillat, talkoot ja muut tilaisuudet ovat sopiva tapa vaikuttaa. He myös korostivat viestinnän merkitystä: ”kesä-asukkaana seuraan mieluusti kunnan tilaa ja tapahtumia. Niihin liittyvä viestintä palvelisi puolin ja toisin”.

Pohdinta

Supistuvien kuntien taajamien kehittämisessä keskeiseksi muodostuu toimivan, asukkaiden tarpeita palvelevan ja viihtyisän keskusta-alueen luominen. Väestön väheneminen vaikuttaa taajamarakenteeseen. Aarrevaara ja Rönkkö (2015) kuvailevat suomalaisten maaseututaajamien nykytilaa keskeneräiseksi. Taajamarakenne on hajanainen ja jäsentymätön. Tilat ja alueet ovat toiminnallisesti vajaakäyttöisiä. Kyselytutkimuksen vastauksissa taajamien keskeisiksi kehittämistoimiksi nousivat rakennuksiin, ulkotiloihin, liikenteeseen, palveluihin ja sosiaaliseen pääomaan liittyvät ehdotukset. Vastaukset osoittivat, että taajamien kehittämiseen liittyy myös Karjalaisen (2004) mainitsemia niin sanottuja pehmeitä tekijöitä, kuten arkiviihtyvyyden ja yhteisöllisyyden edistäminen.

Ulko- ja sisätilojen laatu vaikuttavat taajamien viihtyvyyteen ja imagoon. Kyselyyn vastanneista moni piti tärkeänä, että huonokuntoisia rakennuksia korjataan tai puretaan ja keskustaa mahdollisesti täydennysrakennetaan. Tyhjiin tiloihin ehdotettiin uusia toimintoja, jotka täydentäisivät taajaman palvelutarjontaa tai lisäisivät vapaa-ajan aktiviteetteja. Myös puistomaisten viheralueiden ja siistien, huollettujen ulkotilojen merkitys näkyi vastauksissa. Taajaman tärkeinä ominais-piirteinä pidettiin pienmittakaavaisuutta, luonnonläheisyyttä ja turvallista asuin- ja elinympäristöä. Taajamasta ei haluttu liian urbaania. Väestöltään vähenevien kuntien yhtenä vetovoimatekijänä onkin pidetty juuri maaseutuidylliä, joka tukee suurista kasvukeskuksista pienempiin taajamiin tapahtuvaa muuttoliikettä (Hersund 2012; McGranahan ym. 2011).

Väestöltään pienenevissä taajamissa pitkät ostos-, harrastus- ja asiointimatkat rytmittävät asukkaiden arkea. Kyselytutkimuksen tulokset osoittivat, että julkisen liikenteen heikentyminen on vahvistanut yksityisautoilua. Tämä tuo ne asukaat, joilla ei ole omaa autoa tai joilla on perheessä vain yksi auto, eriarvoiseen asemaan. Erityisesti julkisen liikenteen heikentyminen vaikuttaa ikääntyneiden arkeen, jos palvelut eivät sijaitse lähellä. Kestävillä liikkumismuodoilla, kuten kimppakyydit tai yhteiskäyttöautot, voitaisiin palveluiden saavutettavuutta parantaa. Taajamien välinen yhteistyö palveluiden järjestämisessä mahdollistaisi kattavamman palvelutarjonnan. Kaikkia palveluita ei voi eikä kannata järjestää yksin. Myös Meadowcroft (1999) tuo esille yhteistyön, kokonaisvaltaisen lähestymistavan sekä tulevaisuusorientaation merkityksen kestävien ratkaisujen kehittämisessä.

Yhteisöllisyys ja sosiaaliset verkostot vahvistavat taajaman muutoskestävyyttä (Coleman 1988; Hyrkäs 2009; Haase ym. 2012; Koizumi 2016). Taajaman keskustan kohtaamispaikat mahdollistavat sosiaalisen kanssakäymisen. Kyselytutkimuksessa kävi ilmi, että tori oli kaikkien kolmen kunnan asukkaille tärkeä paikka, ja toritoimintaa toivottiin kehitettävän pidempien aukioloaikojen mutta myös paikallisen tarjonnan suhteen. Tori onkin ollut perinteisesti taajaman

keskeinen kohtaamispaikka (Agboola ym. 2018). Tori houkuttelee paikalle niin vakituisia kuin myös vapaa-ajan asukkaita sekä satunnaisia ohikulkijoita.

Vapaa-ajan asukkaat ovat voimavara, jota väestöltään vähenevien kuntien kehittämisessä voisi hyödyntää vahvemmin. Monipaikkaisuus ilmiönä on yleistymässä (Roca 2013; Müller 2014; Antikainen ym. 2017). Ihmiset viettävät yhä enemmän aikaa kaupunkialueiden ulkopuolella sijaitsevalla vapaa-ajan asunnollaan. Uudet vapaa-ajan asunnot ovat usein suunniteltu jo lähtökohdiltaan ympärivuotiseen käyttöön. Vapaa-ajan asukkaille suunnatut palvelut ovat perinteisesti mitoitettu kausiluonteisesti. Monipaikkaisuus saattaa kuitenkin nostaa tarvetta laajentaa palvelutarjontaa ja monipuolistaa tilojen käyttöä. Kyselytutkimukseen vastanneet vapaa-ajan asukkaat toivoivat esimerkiksi toritoiminnan jatkamista kesän jälkeenkin. Monipaikkainen asuminen edellyttää myös toimivia tietoliikenneyhteyksiä, toimintavarmoja sähköverkkoja sekä jätehuoltoa (Admiak ym. 2015).

Vapaa-ajan asukkailla on kiinteistön omistuksen myötä muodostunut tietynlainen paikkaan solmittu pitkäaikainen side. He myös maksavat kiinteistöveroa mökkikuntaan ja ovat näin merkittävä tekijä kunnan elinkeinoelämälle. Kysely-tutkimuksessa nousivat esille kuitenkin myös monipaikkaisuuteen liittyvät haasteet. Vapaa-ajan asukkaat pitivät tärkeinä, että heidät huomioitaisiin paremmin palveluiden järjestämisessä ja infrastruktuurin ylläpidossa. Esimerkiksi mökkiteiden tai vesistöjen huono kunto sai kritiikkiä vapaa-ajan asukkailta. Julkisia palveluita, kuten terveydenhuollon palveluita, toivottiin laajennettavan myös vapaa-ajan asukkaiden käyttöön. Vapaa-ajan asukkaat ehdottivat myös, että heillä voisi olla rooli kunnan päätöksenteossa. Monipaikkaisuuden haasteet tuovat esille, että vapaa-ajan asukkaat mieltävät yhä useammin mökkikuntansa toisena kotikuntanaan (Valtiovarainministeriö 2018). Vapaa-ajan asukkaiden tuomat hyödyt ovat kunnan elinvoimaisuuden kannalta keskeisiä, ja näitä hyötyjä tulisi vahvistaa tukemalla yhteisöllisyyttä ja yhteenkuuluvuuden tunnetta.

Kyselytutkimuksella tavoitetaan usein vain tietty osa väestöstä. Vastaajia ovat monesti henkilöt, jotka ovat jo muutenkin aktiivisia tai joilla on huonoja kokemuksia. Tässä tutkimuksessa tavoitettiin hyvin yli 34-vuotiaat ikäluokat, 87 % vastanneista, mutta lapset, nuoret ja nuoret aikuiset jäivät vähemmistöön. Erityisesti nuorten ja nuorten aikuisten ikäryhmien huomioiminen taajaman kehittämisessä olisi tärkeää. Merkittävä osa taajamien muuttoliikkeestä tapahtuu, kun nuoret lähtevät opiskelemaan tai töihin suurempiin taajamiin (Palttila 2002). Viihtyisä ja toimiva asuinympäristö sekä yhteisöllisyys vahvistavat suhdetta taajamaan. Nämä ovat myös tekijöitä, jotka saattavat houkuttaa nuoria palaamaan opiskelun jälkeen kotitaajamaansa.

Kyselytutkimuksesta käy ilmi, että osallistuminen ja myös halu osallistua on yksilöllistä. Moni vastanneista koki, että osallistuu jo yhdistys-, luottamus- tai vapaaehtoistoiminnan kautta taajaman kehittämiseen. Toiset pitivät kyselyä luontevana tapana osallistua ja vaikuttaa. Jotkut asukkaat ehdottivat, että he voisivat osallistua taajaman kehittämiseen konkreettisesti esimerkiksi talkoo-töiden kautta. Asukkaat, jotka eivät halunneet osallistua taajaman kehittämiseen, vetosivat korkeaan ikäänsä tai siihen, ettei osallistumisella kuitenkaan pysty vaikuttamaan kunnan virkamiesten päätöksiin. Vapaa-ajan asukkaista useat olivat valmiita osallistumaan taajaman kehittämiseen, mikäli kunta tarjoisi siihen mahdollisuuden.

Vastauksista käy ilmi, että asukkaiden osallistuminen jää usein Arnsteinin tikapuun alimmille portaille. Varsinaiseen yhteissuunnitteluun päästään harvoin, vaikka tahtotila olisikin asukkaiden puolesta olemassa. Ministereiden ja Kuntaliiton ulottuvuusmallin mukaisessa jaossa asukkaiden päätösosallisuus ja toimintaosallisuus jäävät usein toteutumatta. Asukkaat nähdään monesti pelkästään oman etunsa puolustajina suunnitteluprosessissa, vaikka juuri heidän

kauttaan suunnitteluun saataisiin puuttuvaa paikallista niin sanottua hiljaista tietoa (Staffans 2004; Häikiö 2007). Asukkaille on muodostunut tunneperäistä kokemustietoa alueen vahvuuksista, arvoista ja ominaispiirteitä, mutta myös ongelmista, niiden kytköksistä ja kehityksestä ajallisesti. Asukkaat ovat kokeneet väestön vähenemisen seuraamukset ja sen vaikutukset arjen rutiineihin.

Aidon osallistumisen puuttuminen herättää myös epäluuloja ja turhautuneisuutta asukkaissa ja saattaa johtaa siihen, ettei asukkailla ole halukkuutta osallistua taajamansa kehittämiseen. Supistuvien kuntien taajamien kehittäminen niukoilla resursseilla on uudenlainen tehtävä niin suunnittelijoille kuin myös kunnan virkamiehille ja päättäjille. Kestävien ja toimivien ratkaisujen löytämiseksi tarvitaan monialaista osaamista ja vuorovaikutteista suunnitteluprosessia, jossa korostuvat avoimuus, luottamus, yhteistyö ja kokonaisvaltainen lähestymistapa. Asukkaat ja heidän aktiivinen osallistumisensa kehittämistyöhön ja omaehtoinen työnsä elinympäristön kehittämisessä tulisi nähdä resurssina, joka lisää taajaman elinvoimaa ja yhteisöllisyyttä.

Johtopäätökset

Yhteissuunnittelu avaa uusia mahdollisuuksia taajamien kehittämiseen, tilojen monipuolisempaan käyttöön ja taajamarakenteen eheyttämiseen. Kehittämistyön ei tulisi olla liikaa ylhäältä ohjattua, vaan tulisi tukea omaehtoista ja itse-organisoituvaa toimintaa antaen tilaa luoville ideoille ja näiden toteutukselle. Näin asukkaat omalla toiminnallaan voisivat vaikuttaa vahvemmin paikallisen identiteetin ja hyvän ympäristön kehittämiseen.

Monipaikkainen asuminen on sekä haaste että mahdollisuus. Vapaa-ajan asukkaat ovat tärkeitä kunnan elinkeinoelämän kannalta, mutta lisäävät myös palveluiden ja infrastruktuurin järjestämisen kustannuksia. Ehdotus kaksois-kuntalaisuudesta on ollut esillä viime aikoina. Kaksoiskuntalaisuus voisi mahdollistaa verotulojen tasaisemman jakautumisen kuntien kesken. Moni-paikkaisuus ei kuitenkaan näy vielä kuntalaissa, vaikka ihmisten arjesta on muodostunut entistä monipaikkaisempaa. Mökkikunnasta on tullut monelle vapaa-ajan asukkaalle jo ikään kuin toinen kotikunta. Monipaikkaisuuden tukeminen ja vapaa-ajan asukkaiden osallisuus- ja vaikutusmahdollisuuksien lisääminen hyödyntäisi kaikkia osapuolia ja tukisi vakituisten ja vapaa-ajan asukkaiden välistä yhteisöllisyyttä ja sosiaalista pääomaa.

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