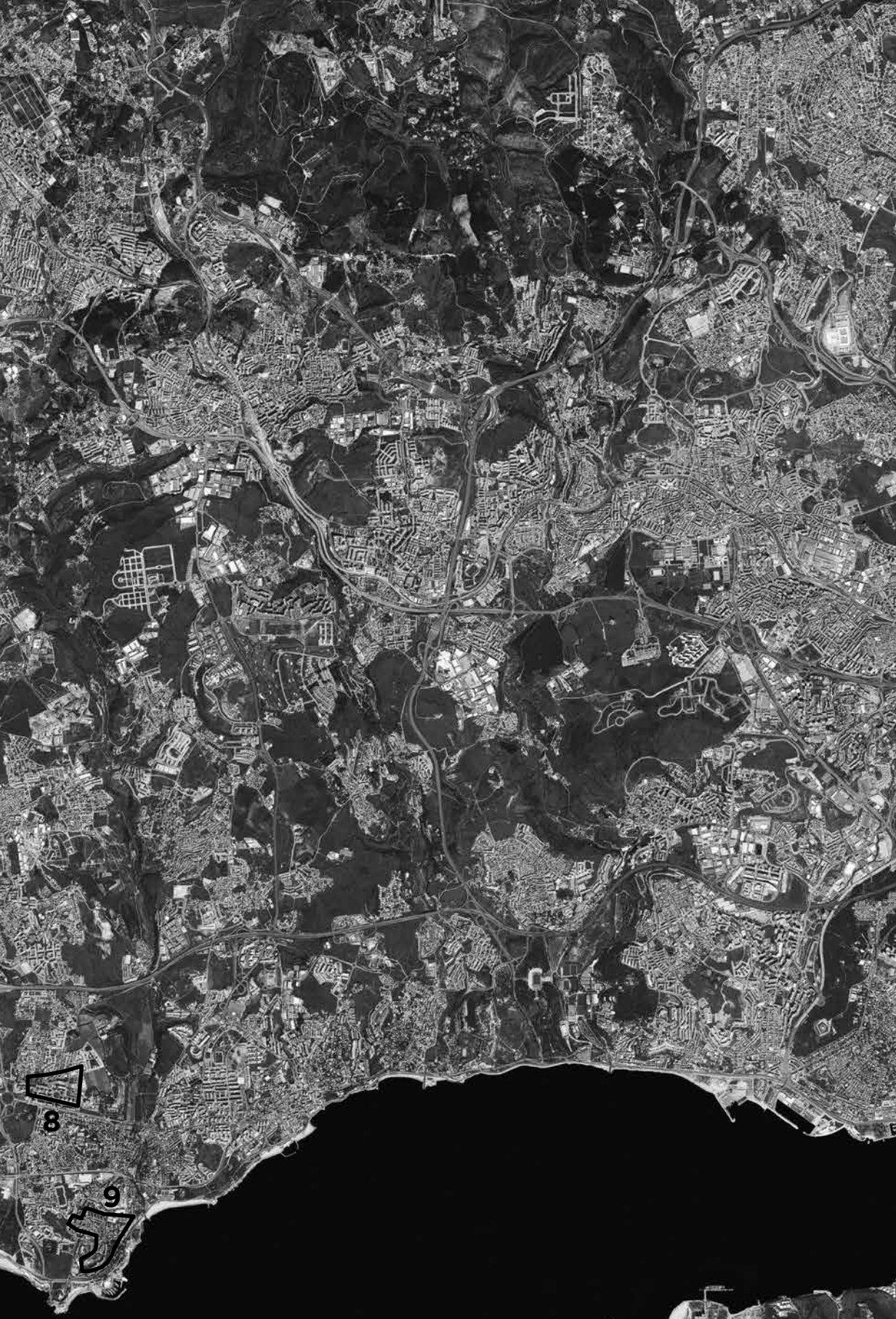Optimistic Suburbia 2 – International Conference
Middle-Class Mass Housing Complexes

# OPTIMISTIC SUBURBIA 4

Full Papers' Booklet

Ana Vaz Milheiro
Inês Lima Rodrigues

COORDINATORS

Beatriz Serrazina
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EDITORS

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**Optimistic Suburbia 2 – International Conference
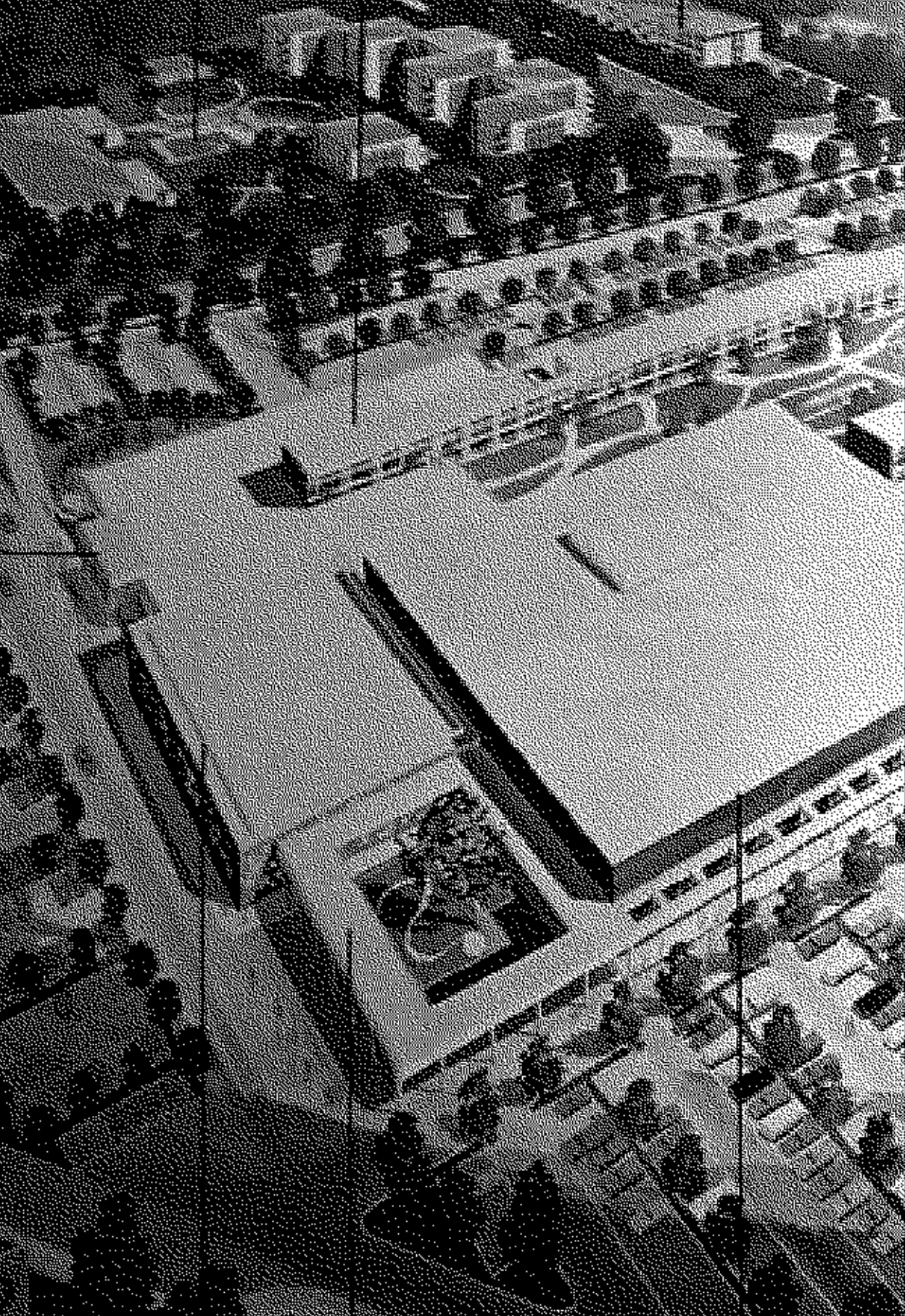Middle-Class Mass Housing Complexes**

# OPTIMISTIC SUBURBIA 4

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# MIDDLE-CLASS MASS HOUSING COMPLEXES. OPTIMISTIC SUBURBIA 4
## OS2 International Conference Full Papers' Booklet

**Ana Vaz Milheiro**
**Inês Lima Rodrigues**
Coordinators

*Optimistic Suburbia 4 International Conference Full Papers' Booklet* is a result of the meeting "Optimistic Suburbia 2 - Middle-Class Mass Housing Complexes". The Congress was an output of a research project funded by Fundação para a Ciência e Tecnologia, "Middle- Class Mass Housing (MCMH) in Europe, Africa and Asia" [PTDC/ART-DAQ/30594/2017], developed between 2018 and 2022. The project has crossed the whole pandemic period and raised several challenges, such as holding the first hybrid event at Iscte to host the International Congress, held between 16-18 June 2021[1].

The objective of this Second International Conference was to put into perspective the shaping and the pattern of autonomous neighbourhoods for the middle class, both of private and public promotion, on the outskirts of big cities, namely the ones designed in the second half of the twentieth century. Initially isolated in the orbit of large cities, they were characterised by a set of high-rise buildings of modern design, which were progressively articulated with the evolution of the historical city through major roads, which often ended up determining its limits.

The present book gives continuity to the previous volumes. It complements the content gathered in the book of Proceedings, the first outcome of the meeting (published in digital format in October 2021). The volume brings together some of the long papers of 15 researchers presented in parallel sessions, which have been later peer-reviewed, crossing six sessions that were part of a larger group with 137 participants distributed by eleven parallel sessions [2].

1.   See https://www.optimisticsuburbia2.com/. The first Optimistic Suburbia Conference was held at the same institution on 20-22 May 2015. See https://optimisticsuburbia.wixsite.com/ingles.
2.   Gaia Caramellino is a researcher of the MCMH project, responsible for the Italian case study Milnosa District.

An essential contribution to the session, *Writing the History of Postwar Housing Complexes and Neighbourhoods. A take on research strategies and methodologies* chaired by Gaia Caramellino[3] and Filippo De Pieri, was the study "Sarcellite, the word and the images (1950-1975). Analysing narrativity to overcome representations" by Yankel Fijalkow and Aurore Reynaud. The authors explored the relationship between the components of the 19th-century hygienist movement and the means used to counteract this discourse by local authorities, sociologists, and architects, illustrating the roots of a widespread history in France in the early 1960s.

Joined in the session *Publicness in middle-class large housing complexes as a new way to examine the premises of cultural encounters and social integration* chaired by Marie Glaser and Ellen Braae, Gonçalo Canto Moniz and Vitório Leite explored the "Routes to Campanhã. Research in-between modern social housing towards an inclusive public space". The authors interpret the empty and informal spaces as an opportunity to co-create a public space with local citizens and stakeholders, even crossing two different temporal phases of the COVID-19 pandemic. The research builds new urban strategies and lectures from co-design and participatory methods living laboratories, including citizenship events and tactical urbanism. Thinking about the public spaces under a different vision and methodology, Melissa Anna Murphy and Beata Sirowy disseminated "Spatial preconditions for publicness for cultural encounters and social integration", by analysing a post-war residential suburb of Drammen, Norway. The authors highlighted a gap in understanding the spatial preconditions for publicness and consideration of organised activities for social integration in Norwegian renovation practices in post-war residential suburbs.

Following up the goal of the session, *Spatial practice, representation and meaning of suburban housing estates*, chaired by Madalena Corte-Real[4] and Maria João Gomes, Marianna Charitonidou presented "Toward a Trans-European Petroleum scape: Architectural and Urban Histories of Designing Automobility". The author explored imaginaries produced by architects and urban planners to overarching approaches in the design of mobility and sightseen how urban planning and architecture play a key role in implementing new types of mobilities promoting environmental sustainability.

Unearthing the research into who the residents inhabiting large housing schemes undertaken by private estate agents, raised in the session *The Imagined Community of Middle-Class Mass Housing* chaired by Laurence Heindryckx and Tom Broes, Géry Leloutre presented "The optimistic post-war urban development in Brussels. Conventional urbanism between public authorities and property developers". The paper unpacks the different actors who share a common global vision of architecture, way of life and degree of public involvement in urban production, highlighting the value of green residential areas. Looking into the session, Andrea Pastorello presented "Stuck in the Middle: The Middle Class in the Middle of the Wildness", disseminating the imaginary of two communities born between the 60s and the 70s, Parly 2 and Milano 2, as a paradigm for new residential complexes for the middle class multiplying their respective "mother cities": Paris and Milan.

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3.   Of 137 participants, 61 joined Lisbon to engage in face-to-face Conference activities. The Conference had a hybrid format since 2021 was a yet pandemic year.
4.   Madalena Corte-Real is a researcher of the project MCMH in the sociological field.

To provide a broader view of the technological changes that enabled or characterised the construction of large housing estates, João Cardim chaired the session, *New technologies in housing construction: a path towards a new city?* Framed in the session, Ariadna Kuzhakova analysed the "The phenomenon of experimental neighbourhoods in Russia. The different approaches of Soviet modernism to the housing problem (1950-1980) by identifying the type of construction, variety of structural, urban solutions and the organisation of the apartments. Marianna Charitonidou presented "Takis Zenetos's 'Electronic Urbanism' as adaptation to social structure: Tele-activities as actor of change". The author explored the concept "Electronic Urbanism" as an artistic contribution to experimental architecture but is also characterised by a new social vision, promising to synchronise daily life practices. Mariana Porto Ferreira proposed an understanding of the façade, seen as the face of four major office buildings in Lisbon, by presenting "Face: Technical element used as an aesthetic device", where the façade with its entire splendour is interpreted as the unifying element of the project.

The session *Inhabiting Suburbia: art (registers) of living*, chaired by Maria Rita Pais, launched the challenge to involve proposals from architects, artists, curators, critics, historians, anthropologists, urban planners and others for traditional papers to be peer-reviewed and orally presented for discussion during the Conference. In the framework of the proposed aims, Giuseppe Resta showed "Wallpapers from the Eastern Europe. Visual research on the façades of post-war mass housing", exploring the modular quality of the facades from analysis of perfectly repeated geometries that could be ideally repeated ad infinitum. Inês Marques mapped a set of sculptural objects and architectural structures existing in public places in the Lisbon residential neighbourhood of Olivais through "Walking wonders. An atlas of useless structures in two housing". Architects and visual artists came together to endow these housing complexes with transitional spaces, playful structures for residents animated by 'useless' objects such as observatories, circular walls, and labyrinths - to foster social and collective encounters.

*Demolition Vs Renovation: an open question regarding Middle-Class Mass Housing in the contemporary city,* the session chaired by Alessandra Como and Luisa Smeragliuolo Perrotta opened a reflection on the demolition/renovation as an opportunity to rethink Middle-Class Mass Housing within the contemporary city. Thus, Jean-Marc Basyn confronted heritage with interventionist renovation strategies in terms of contemporary sustainability, bringing to the session "The Cité de l'Amitié: 1970s pioneering housing ensemble for people with reduced mobility in the Brussels periphery confronted to its future". The author focuses the human-oriented and participatory alternative in reaction to the coldness of a dying Modern Movement.

The collection of these articles, reflections and discussions made the MCMH project richer by highlighting different methodologies and comparative studies on the complex MCMH scattered around the world. On the other hand, it allowed different approaches and optimist visions of seeing, thinking, and acting on the territory in urban peripheries. With this contribution, we hope to disseminate and support new urban strategies that are expected to take place, some of them urgently, throughout the 21st century.
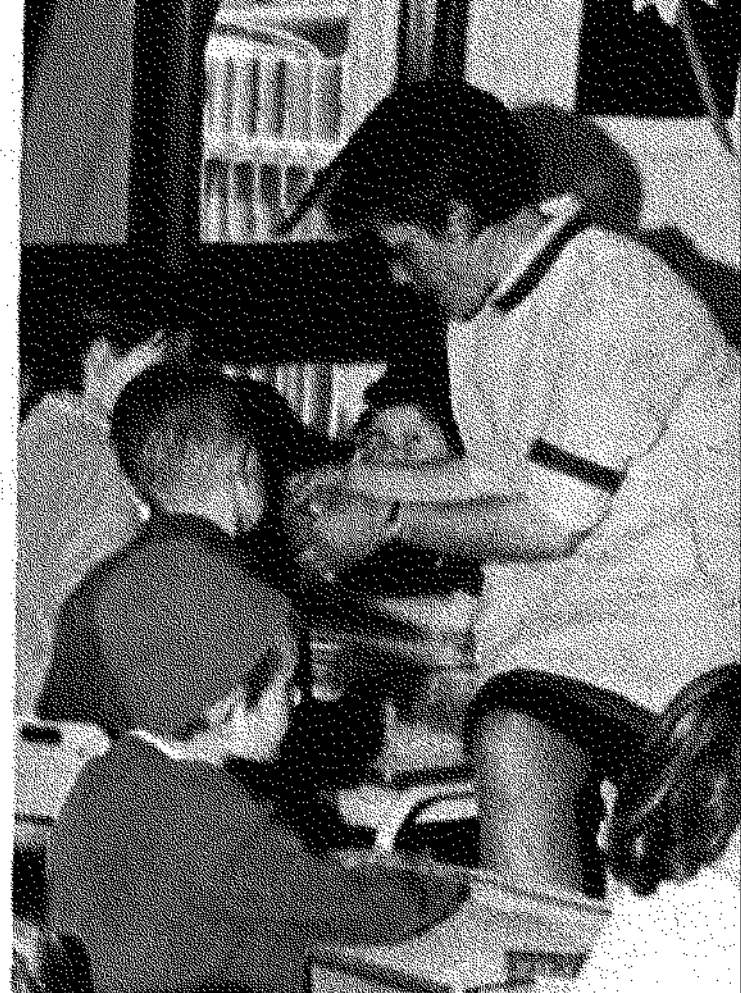
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# Sarcellite, the word and the images (1950-1975) Analysing narrativity to overcome representations

**This article illustrates the roots of a widespread story in France in the early 1960s, the 'Sarcellite', named after a large housing estate, Sarcelles, which was supposed to cause mental and social disorders. By examining the texts and authors involved, the article shows that many of the components of the 19th century hygienist movement can be found. It then examines the means used to counteract this discourse by local authorities, sociologists and architects, in particular the AUA architectural agency in the 1970s and 1980s, and today in the teaching of architecture schools in France.**

**Keywords:** Large housing estate, Narratives, Architecture, Hygienism

The conventional narrative of the *Trente Glorieuses* in France describes the access of modest and average social groups to modern, decent and cheap housing, following energetic measures taken by the government from 1953. But a few years after its completion (1960) and its settlement by more than 30 000 inhabitants, the Sarcelles, built by the architect Henri Labourdette, seem a "nightmare". The media described as "Sarcellite" a certain mental pathology attributed to large housing estates: loss of meaning, boredom, alcoholism, suicide.

*Sarcellite, total disenchantment, indifference to social life, insurmountable boredom, leading to nervous breakdown in mild cases, to suicide in acute cases.*
("Les raisons de la Sarcellite", L'Humanité, 5 November 1963)

*Sarcellite is not an imaginary disease: sarcellite exists. This condition, which is a "depressive state" peculiar to the inhabitants of large housing estates, affects above all a few young women in search of idleness.*
(R. Miquel, "L'Aurore", 26 April 1965)

How did this dramatic narrative develop?
How did an architectural movement try to break away from it?
How does research into the micro history of buildings help to break out of the stigmatising narrative?
The first point explains the roots of Sarcelitte's evil in the 1960s. The second will treat the AUA movement, which tried to do something different with large housing estates. The third will show how research on the life cycle of large housing estates can be a way to get out of the stigma and to consider large housing estates as heritage.

< Municipality's brochure, 1969

# Sarcelles's disease

The hypothesis of a pathogenic environment is not absurd in this period of sociological transition. But the denunciation of the sick city is not new: hygienists inaugurated it in the 19th century and led to urban renewal sectors (Fijalkow, 1998). In the case of Sarcellite, this narrative led to the adoption, in 1973, of a text signed by the Minister of Construction asking to 'prevent' the construction of 'large housing estates', 'not in line with the aspirations of the inhabitants and without serious economic justification'. Wanting to "fight against the tendency to segregate the distribution of various categories of housing among the urban agglomerations", the text denounced "the homogeneity of the types and categories of housing built, the monotony of the forms and architecture, the loss of human scale in the constructions".

That public discourse was caricatural: social homogenisation, architectural monotony, loss of human scale. A parliamentary commission brought together journalists, architects, social scientists, family associations and housing organisations. In 1958, it published a "note on the demographic and social optimum of large housing complexes".[1] The journalists drew their arguments from the numerous researches conducted by the social sciences at the time, and it was not until the 1970s that they established a less negative viewpoint.

Can we then draw up the path of the arguments? We propose to identify the process of stratification of this discourse and to show how this narrative, which is a legacy of hygienism, is confronted with some position by architects.

Our analysis is limited to non-fictional literature. Other researchers have studied large housing estates in film and children's literature (Meunier, 2018). While many have identified the Sarcellite issue before us, we develop the hypothesis that this phenomenon is part of the narrative's governance about urban architecture. All the actors mobilise and use rhetorical repertoires, symbolic imaginaries and discursive practices in their choices and actions. By talking about their city, whether in promotional brochures, strategic plans, architectural models or tourist promotion sites, they position

themselves, coalesce, confront each other and govern. Their discourses are not only acts of legitimation linked to interests and developing values. They are also narratives that carry representations of reality, past and possible and conceivable future. Each urban planning operation is then a scene in which, according to the enunciators, types of inhabitants, types of places and processes take place.

The notion of performativity (Austin, 1962), explains how the word allows creations to exist and give them a real social and spatial existence. Thus, the power of discourse lies in its capacity to refer to *stereotypes* when it comes to architectural form; to *archetypes* when it comes, for example, to referring to illness; to *ideal models* when it comes to evoking a 'new city'.

### The archetypal scene: the 'community' narrative

The narrative of the lost community is widespread. One of the actors of the community narrative is Robert Caillot, (born 1915). He was the editorial secretary of the journal *Économie et Humanisme* created by Father Lebret, and he also co-authored with him Volume IV of the *Guide pratique de l'enquête sociale sur l'aménagement du territoire*. He theorised the use and conditions of possibility of the "survey-participation".

Father Louis-Joseph Lebret, an engineer by training, is a former student of the naval school in Brest who became a Dominican priest. When he created the *Economie et Humanisme movement* in 1942, he claimed "A science of human economy based on small entities: the town, the neighbourhood, the local corporation; to build survey instruments that are both monographic and statistical." Economy and Humanism developed a severe critic of materialist and agnostic modernity, where "man is uprooted from everything", which causes free unions, alcoholism, delinquency, etc. In this context, *Économie et Humanisme* aspires to "restore communities". (Astier and Laé, 1991).

In this vein, it is hardly surprising to read articles by Robert Caillot such as *Le danger des grands ensembles en urbanisme* (1959) or *Le problème des jeunes dans les grands ensembles immobiliers* (1960).

1.   Assemblée Nationale, CAC, 770 775/44 dossier de l'Aménagement du Teritoire.

## The stereotypical scene: the account of sociological needs

The sociologist Chombart de Lauwe was the first post-war urban sociologists to respond to state research commands. He questioned the productive turn in French society and the transformation of the needs and aspirations of the working-class who was joining the large housing estates. Needs-obligations and needs-aspirations were defined by nine items: space, appropriation, independence of the people in the dwelling, rest and relaxation, separation of functions, liberation from material constraints, intimacy, being well regarded, external social relations. The Centre d'Etude des Groupes sociaux, which he directed, exploited the results of surveys conducted in the early 1950s among 1500 households in social housing estates. They testified to their frustration with the layout of the rooms in their new homes, which forced them to change their way of life or to model it on that of the middle classes. Chombart developed both an optimistic discourse which makes the large housing estate "the melting-pot of tomorrow's civilization" and a negative on the "large housing estates discomfort".

Rene Kaës, psychoanalyst, was close to Chombart de Lauwe. He was a specialist in group behaviour and a student of Didier Anzieu, the author of the notion of the "skin-self". He wrote in *La vie des grands ensembles*:

*The studies of Chombart de Lauwe has shown that overcrowded housing leads to an increase in the mother's cries that are inversely proportional to the surface area. They also showed the isolation of young minorities among the mass of adults and small children". He also points out the paradox: "Common sense is surprised and scandalised that we can speak of a pathology of large housing estates. It seems inconceivable that measures intended in part to eliminate the effects of slums are, in certain cases, responsible for psychological and nervous disorders and dysfunctions. And yet, the experience of doctors and psychologists leads us to pose a serious problem (...). The studies of Dr. Hazeman, Professors Heuyer and Lafon, Chombart de Lauwe, and other researchers have long since demonstrated the close link between delinquency and defective housing conditions.*
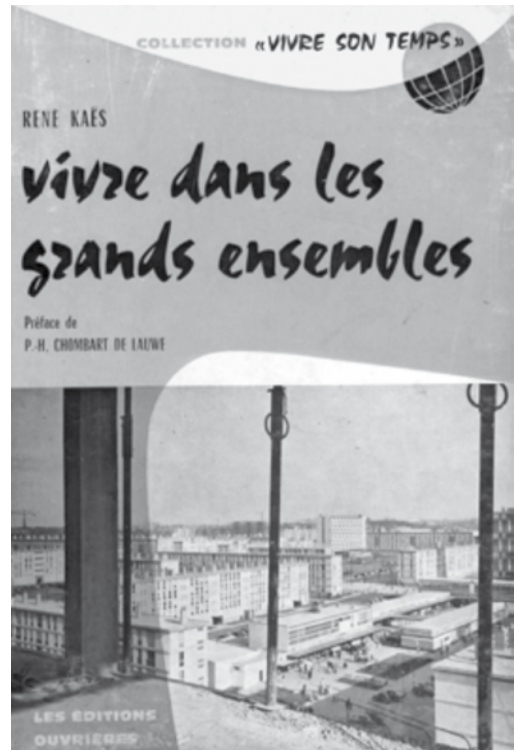


Fig. 1 - RenKAES, Vivre dans les grands ensembles, les éditions ouvriéres, 1963

Dr Robert-Henri Hazemann, quoted by René Kaes, is a graduate of the Institute of Legal Medicine, Hygiene and Sanitary Technique. After graduating in 1924, he settled in Athis-Mons, a semi-rural commune in the Paris suburbs, and directed the hygiene office and the dispensary of Vitry-sur-Seine (Seine, Val-de-Marne). It included a service of social assistants, a technical assistance service, a municipal laboratory (bacteriology and chemistry) and an outdoor school. He made the hygiene office a social observatory based on statistics. He was also active in the Communist Party. In 1928, he left for the United States to complete his training as a hygienist at the University of Baltimore. He returned with a project on psychiatry's sector. At the time of the creation of large housing estates, he developed a critical approach and gave preventive advice. He emphasised urban planning that was unsuited to needs, a built environment of mediocre quality, the dissolution of social belonging, the crumbling of family structures, and the deviance of young people. Until the 1970s, he nourished a reflection on architectural "gigantism" and its impact on psychology.

It is interesting to note the personality of Georges Heuyer, also cited by René Kaes. This child psychiatrist was a specialist on juvenile delinquency. In 1945, he collaborated on a profoundly anti urban collective work with Doctor Decugis, member of the National Institute of Hygiene:

*All the pathological and social causes combine to a maximum in urban environments. In a family where the bases are met, the child suffers the consequences of heredity, first by direct transmission, then indirectly, by the life of this amoral and miserable environment, where the deplorable social conditions have been determined by the mental anomalies or parent's illnesses. In all the statistics of child delinquency, it can be said that almost all the persons are of urban origin. (...) A whole housing policy must be undertaken to enable city workers to live in the country, by developing the means of transport which will enable them to come quickly and cheaply to the place of their work. But the return of city dwellers to the country must not be done blindly, without guidelines, without precautions, without social protection measures, on pain of seriously damaging the future of the race.*

This anti-urban plea willingly advocates de-urbanisation and the virtues of the workers' pavilion and its garden.

### Ideal models

Although the large-scale project was decried by the social sciences, the magazine *Urbanisme* also participated in the movement. This review, founded in 1932 by the *Société Française des Urbanistes*, published in 1959 papers of Jean Royer one of its foundater. He denounced the *'gigantism'* of mass plans. Jean Royer was one of the first and most eminent graduates (1924) of the urban planning school, and former assistant of the architect-urbanist Henri Prost who elaborated the first Paris-Region's development plan. But above all, he taught from 1945 to 1966, the "composition" with the urban planner Robert Auzelle.

Robert Auzelle presented himself as an alternative to large-scale housing projects. He was close to *Economie et Humanisme* and Chombart de Lauwe. In 1950, as a state architect and town planner, he published in *La*

*Vie urbaine* a paper on the "implantation of buildings for residential use". He took a step back from the Modern movement without completely refusing the traditional city, which he considered unsuited to modernity. He defended a modest scale in the face of gigantism, refusing to consider the architect-urbanist as omniscient and proposing multidisciplinary collaborations. His creation of the Plaine district in Clamart (1947-1953) was a counter-proposal to the policy of large housing estates.

Another point of view came from the historian-philosopher Françoise Choay, who expressed the dilemma between "garden cities or rabbit cages" in the magazine France Observateur (1959). Françoise Choay evoked the "garden city" as a counter-model to the large housing estates. She recalled the garden city project of the Office public d'HBM du Département de la Seine with individual or collective rented social housing, landscaping, gardens and collective facilities around the housing.

### The means of optimism: becoming a "new town" in the municipal and developer's narrative

As early as 1969, Sarcelles had grown from 9,000 inhabitants in 1954 to 52,000. Mayor publication denounced the "drama of a mushroom town". The municipality was faced with enormous needs due to the arrival of new populations: "Sarcelles, a dormitory town, i.e., a town without jobs". It put on the agenda the
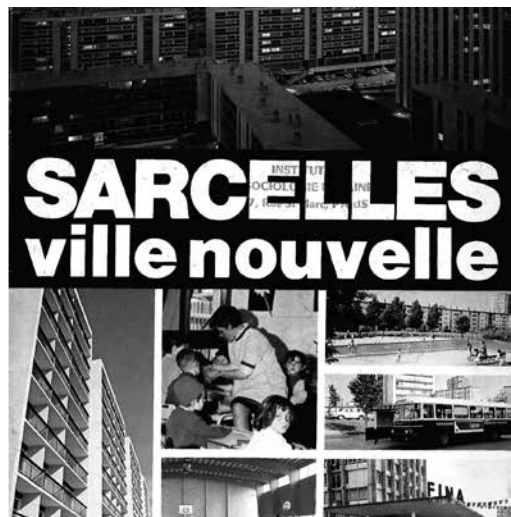


Fig. 2 - Municipality's brochure, 1969

creation of an industrial zone and the rehabilitation of the old village (Lochère) en relation to the new city.

In Sarcelles, the developers, SCIC, depended on the Caisse des Dépôts et Consignation. It was a major builder in the Paris region. In 1975, it launched a major press campaign with the municipality. A brochure entitled "Sarcelles is no longer Sarcelles: the evolution of its brand image over the past five years". The brochure, which denounced "a systematic campaign", cited press articles that had become increasingly positive since the 1970s.

The denial of Sarcellite, and the notion of "dormitory town" converge to the affirmation to be a "real town" with facilities and shops. The Scic stated that "Sarcelles is a new town", which introduced a certain confusion with the policy of new towns, implemented in 1965 by the government to distance itself from the hasty construction of large housing estates (Vadelorge, 2006). In a second brochure, the Scic presented Sarcelles as an American-style thoroughfare and insisted on the potential for employment on site (which is one of the conditions of the new towns program), green spaces and its location very close of Paris.

These arguments can be found in a book by Jean Duquesne (1966) who present himself as a "38-year-old civil servant from the Ministry
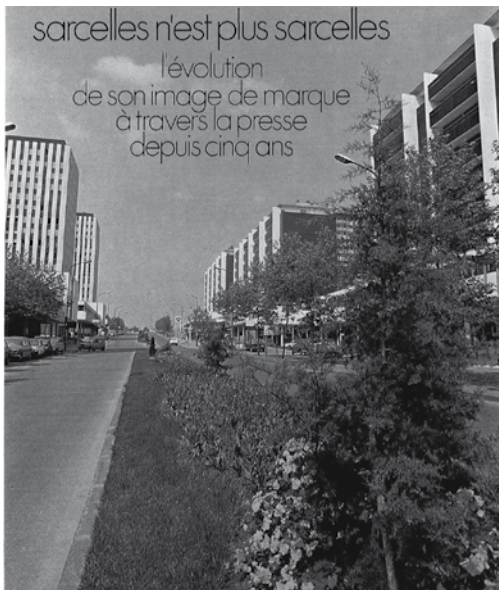


Fig. 4 - SCIC's brochure, 1975

of Finance who arrived in Sarcelles seven years ago", and "one of those who are called 'animators' in the new towns".

### From the social sciences, a de-dramatizing discourse by 1970

Two publications put the phenomenon of Sarcellite into perspective. Psychologist Michèle Heuget's studies on women, published by the CNRS in 1971, and the much-quoted paper of sociologists Chamboredon and Lemaire (1970). For the latter, it is the narrative of the urban melting pot that is pathogenic and forces the co-presence of the working classes and middle classes at the origin of the myth of the discomfort. Chombart de Lauwe is designated by these authors to develop the myth. Nevertheless, he directed Michèle Heuget's work, which relativised the problems experienced by women in housing estates. Case studies and statistics illustrated her demonstration on the habituation phenomena, the lack of investment on public's spaces and intolerance to modernity.



Fig. 3 - Municipality's brochure, 1969

# A new scale and another professional posture in architecture

## AUA new architectural discourse

According to Gautier (2005), big estates are the "unloved ones in the history of architecture and urban planning". Some great names and collectives of French architecture, now recognised, have signed a certain number of innovative collective housing projects: F. Pouillon, A. Lurçat, the Atelier de Montrouge, and the AUA. According to Jean Louis Cohen (2018), the *Atelier d'Urbanisme et d'Architecture*, AUA (1960-1985) claimed a social, political and even ethical position for the profession of architect. Established as a cooperative, it anticipated the question of the equipment of large-scale housing estates built en masse, far from urban centres. As Pascale Blin (1988) wrote, "the AUA was created to confront the developers and large commercial agencies that were mass-producing in the post-war period". Founded by the sociologist and urban planner Jacques Allégret, it brought together some twenty designers of different generations and disciplinary backgrounds: architects, urban planners, engineers, artists, sociologists, landscape architects, interior designers, etc.[2]

According to a video shot in 1968 *("Reflection on Contemporary Architecture")*, the members of the AUA even refused a few operations that amounted to a structuring of space to the detriment of the social role of the architect.[3]

"Against Taylorist architecture (...) the democratic condition of the habitat is to give the right to a life, to an *enclot, to its own life. But industrial society cannot manufacture spaces for uses, it manufactures objects."*[4]

The AUA emphasised its desire to work on the architectural and urban problems linked to the suburbs, but by providing a different response to the large housing estates. They mainly build in the inner suburbs near Paris, especially small units such as the *Briques Rouges* complex, made of brick and millstone, essentially on two or three levels. At the heart of their housing projects are facilities and landscaping. In the innovation' wave of 1970's, they equipped the "red suburbs" with swimming pools and innovative and committed programs, such as family planning centres, youth centres and homes for the elderly.



Fig. 5 - Evolution of a building, the example of the Red Bricks (personal source)

This extract from an interview with Paul Chemetov, filmed by Robert Bober and Béatrice Caufman, expresses it well:

*I work a lot in the suburbs, that's where we have to pay the most attention, we can't accept to see such piles [he shows a tower block]. We are irresponsible if we say to ourselves, well, we'll stay beyond the ring road and in the middle there's Paris, which is still superb (...) so yes, we've thought about the people on the mechanical part, there are flats, lifts, there are baths (...), but we haven't thought about them as complete beings, we've told them that as long as you can sleep, as long as you can eat, the essentials are assured, and that's why these dwellings have been made smaller.*[5]

2. Jacques Allégret, Jacques Berce, Valentin Fabre, Jean Tribel, Jean Deroche, Jacques Simon, Michel Steinbach, Georges Loiseau, Maria Deroche, Michel Corajoud, Annie Tribel, Henri Ciriani, Paul Chemetov, Vincent Sabatier, Christian Devillers, Borja Huidobro, Jacques Kalisz, Jean Perrottet, Miroslav Kostanjevac, Jean-François Parent, etc.
3. Chemetov, Paul. Réflexion sur l'architecture contemporaine 1968, Caméra III, Archives AUA Paul Chemetov.
4. Chemetov, Paul. Aux arts ! citoyens ! op. 2, "En route pour l'architecture", antenne 2, 4 avril 1982.

5. Chemetov, Paul. Une architecture à voir peut-elle est une architecture à vivre, quand un architecte nous prend par la main un reportage de Robert Bober et Béatrice Caufman, 1980

## The diseases of post-war architecture

In order to understand how a certain number of buildings are today victims of "diseases", like Sarcellite, it is important to identify the key elements of their lives, and their paths.

Aurore Reynaud's PhD work aims to understand the levers of heritage, or demolition of post-war architecture, and more specifically of AUA buildings. This work was carried out within the framework of an industrial convention for training through research. This allowed to have access to an abundant "grey matter", as a practitioner, researcher, and also teacher.

To gather the information gathered during these last years, we chose to make life lines of buildings. Just like humans, buildings go through different periods, events, diseases, or care, during their existence. This is linked to local national policies, to municipal considerations, to claims of users, inhabitants, to specialized publications, local or in the daily press, etc.

To set up these friezes is a methodology of archaeology of the project, allows to understand the history of the buildings, how they crossed or not the times. Here you see a melting pot of the different elements that constitute my grey matter, the raw material of my lifelines.

From a technical point of view, we tried to use more classical tools of historical frieze layout, but we quickly found myself limited in the number of entries, in the temporal divisions, in the available format, etc. We then decided to use an architectural tool, Autocad.

Why does a building fall into oblivion, when another building designed by the same architects at the same time, sometimes with the same materials, can be found in the hit parade of heritage or the specialized press?

The friezes are organized by identifying the local impact of international phenomena. Indeed, certain regulations or international events, such as the oil crises or the question of the 20th century heritage label, are international elements that have local repercussions on architecture. In the same way for this building, presented as an example, it is legislative modifications, regulations decided at the national level, which led to its closing about ten years ago.

It is also by these friezes that we manage to identify the delay of latencies, sometimes of more than 10 years, between the identification of architectural, urban or even social problems and a real rehabilitation or consideration. Between ANRU (National renewal program), projects, housing policy, financing problems, regulations, public procurement procedures, but also abandonment by landlords, the life cycle of buildings is diverse. But generally one notes a lack of regular maintenance, and disinterest over time.

Finally, media coverage plays a major role, between the specialized press that praises the buildings, the original architects and the articles with current 'aggressive' titles. The lever of the media can be decisive for the future of this architecture or on the contrary make it more sick, stigmatized, as we could also see on the example of Sarcelles.

On the teaching side, the frieze technique allows the debate to be dispassionate. This is what we have been experimenting with in class. Aurore Raynaud taught in different schools of architecture and universities, and I made it part of my research object. A first observation is, that the question of teaching the rehabilitation of post 45 architecture, within the framework of the project course, is still rare. On the subject, we are doing a survey of degrees on the subject, in French schools of architecture, on the year 2018.

At the same time, the work with undergraduate students on historical friezes was very motivating. This allows to put the buildings in their context, but also to understand the actors of the city and their role. This method of lifeline resulting from the history of architecture is at the same time a method of research, but also of transmission, which supports the understanding of the built in its genesis.
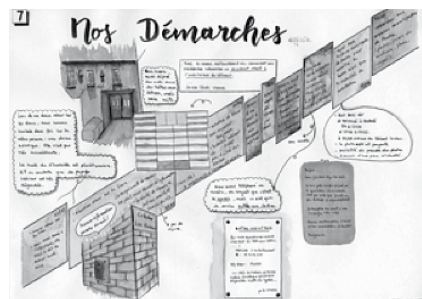


Fig. 6 - Historical frieze of the life of the building (personal source)

# Conclusions

The Sarcellite narrative illustrates the paths of discursive strategies on large housing estates in 1960-1970. Between the stereotype, the archetype and the ideal model, the actors' dresses possible histories and futures. Despite the social project (Cupers, 2018), the condemnation of the large housing estates shows the persistence of the hygienic ideology despite the failure of the garden city program, the attraction of a 'new town' program and the search for a different positioning of architects. Reconstructing the filiations of narrative is not self-evident (Motis, 2016). Like a detective, it implies borrowing the long term, mobilising heterogeneous documents, and bringing together actors from different professional, historical and even national contexts. It can be considered as spinning requires to take into consideration "a historical time that is realized in the present" (Lepetit, 2014). The same work is also necessary to break with the stigma and to develop another look on this heritage both in education and in architectural intervention.

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# Routes to Campanhã
## Research in-between modern social housing towards an inclusive public space

**Suburban areas planned in the 1950s for public and cooperative housing urbanization created available public spaces in-between the different modern neighbourhoods. During the last 50 years some of these urban areas with agricultural and industrial patterns were fragmented by motor or rail infrastructures increasing the difficulties of mobility. Nowadays, these empty and informal spaces often integrate routes on the suburbs, from the suburbs to the centre and vice-verse.**

**At the URBiNAT project, these in-between spaces, with lack of publicness, are seized as opportunity to co-create with local citizens and stakeholders an inclusive public space, that we call "healthy corridors", integrating nature-based solutions, harmonizing material and immaterial dimensions.**

**Distinguishing between two different time phases: one pre-pandemic, when an intense collective activity of 15 participative actions was developed on Campanhã's public space and schools, and the current time, when a semi-virtual activation of the project was forced by the Portuguese multiple declarations of state of emergency – this text relates these different periods of curfew and non-curfew, with the two of the main working routes of the researchers: a coordination route and an interaction route.**

**The aim of the article is to describe different views of this process through the lens, routines and drifts of the researchers – before and during the effects of the Covid-19 virus – comparing the work evolution during these different moments and contributing to the upcoming debate of the existence of a post-pandemic new consciousness about urban practices.**

**Keywords:** Public space; Healthy corridors; Campanhã

< The campmarket. Source: URBiNAT, CES, UC, 2020

**Introduction**

On urban territory it has always been difficult to conciliate intransigent economic and financial needs and social and cultural cohesion. This is particularly felt on the outskirts of the cities, namely in the social housing neighbourhoods where people live in conditions of great vulnerability. In these places, the urgency of putting citizens at the heart of urban processes it's not just because they can create, use and maintain the public space but also because the process itself can be also an experience that promotes and improves their well-being.

Therefore, the European H2020 project URBiNAT aims is to co-develop the urban project for a healthy corridor (Moniz, Ferreira, 2019) that integrates nature-based solutions with a human-centered approach, so that all citizens can carry out leisure, cultural, social and economic activities (see Fig. 1). The healthy corridor is a public space that is being co-created with citizens and stakeholder of seven European cities, namely Porto, Nantes and Sofia, as frontrunners, and Hoje-Taastrup, Brussels, Siena and Nova Gorica, as followers. This paper is focused on the case of Porto, where the authors are members of the local taskforce, constituted by researchers and technicians of Porto Municipality, Domus, CIBIO, CES, UC, GUDA.

The objective of co-creating a healthy corridor is being followed by Porto's task force team since 2018, to regenerate a strategic urban area of Campanhã parish. Working in this continuous zone located in between 3 neighborhoods of Campanhã – Bairro do Falcão, Bairro do Cerco do Porto e Bairro do Lagarteiro – the team is trying to understand the perceptions and wills of people who walk and live in this place to preview and co-design the improvement of the urban quotidian routes of the area and contribute to the socio-spatial transformation, which is now occurring in the parish, with and optimistic outlook.

This paper aims to be a reflectional analysis of the work that has been done by two of the researchers of the project, organized in two parallel routes that are coincident with their role on the project: one as coordinator of the project (CES) and the other as a researcher of one of the partners (UC).

# URBiNAT urban regeneration

URBiNAT project intends to find the answers in a multiplicity of actors and issues,
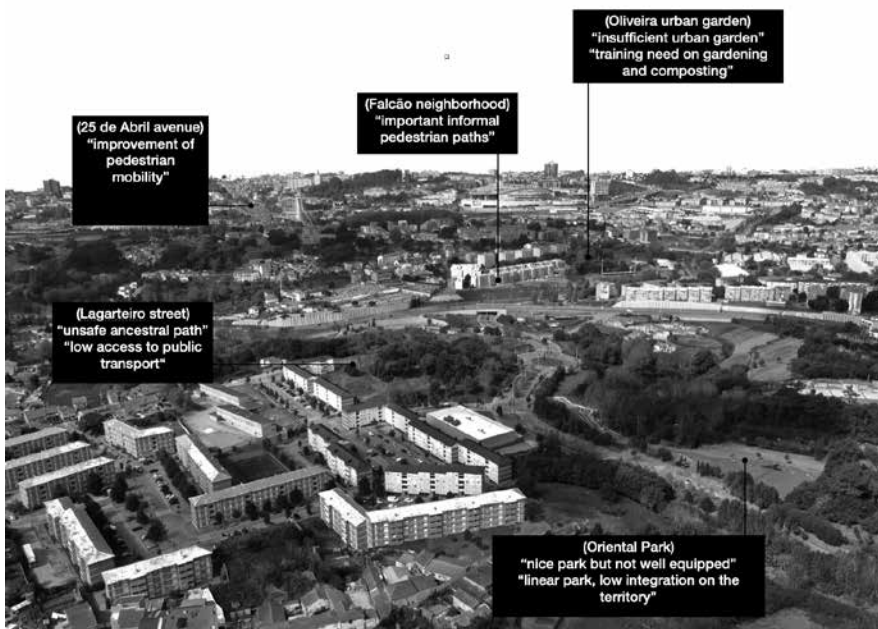


Fig. 1 - Aerial photo of the study area, including citizens' comments. Source: URBiNAT

instead of simply resorting to regulations and other abstract forms of administration or land management. The spatial planner or designer must develop mechanisms that create urban regeneration made "by and with the people", with effective participation - sharing and exchanging power, knowledge and experience - and not "for the people" (Sanoff, 2000).

In fact, the engagement of politicians, technicians, citizens and stakeholders in the co-creation of the urban project for the heathy corridor is an opportunity to regenerate a space in which all are valued: a space that is both public, inclusive and healthy.



Fig. 2 - Living lab participatory meeting. Source: URBiNAT

Outside the historic centres, namely on social housing neighborhoods, the public space took on multiple forms and lost its ability to be used and appropriated by citizens. The focus on rapid mobility prevented investments in spaces close to housing neighborhoods or large commercial and industrial areas. Today, it is here where the great opportunity lies for cities that want another urban development model that extends across their entire urban area. As UN-Habitat proclaims, "more compact, socially inclusive, better integrated and connected cities and territories that foster sustainable urban development and are resilient to climate change (Suri e Slecthping, 2018).

# Campanhã available territory

## Campanhã territory

Until the beginning of the 21st century, mostly because of its historical evolution,

Porto's oriental parishes' urbanization was seen as less stimulating (Tavares, 2001) than the urban development of the occidental part of the city. The first 20 years of this century, Porto faced the challenge of renovating the central area as defined by Porto Capital of Culture 2001, supported by the Polis programme. Nowadays, this part of the territory is living one of the most interesting regeneration processes of the city.

The parish of Campanhã, one of the biggest of these oriental zones, has an urban center in Corujeira square and an urban limit in Porto peripheral road "Circunvalação", which is also the administrative limit of the city. This territory is a palimpsesto with three main layers: firstly, the farms dedicated to agriculture, as Freixo, Bonjóia and Falcão; secondly, the industries connected with Campanhã train station, as the Porto's slaughterhouse; and thirdly, an intense process of housing urbanization in the last century, when public housing was highly promoted in low-density areas of the outskirts of the city (URBiNAT, 2019).

During the last 60 years, this parish was occupied by these punctual and zoned housing interventions that left some of the existent agriculture and industrial plots with an uncertain future, contributing to a multiple and fragmented morphology that had been crystallized by "the unpredictable consequences of inherited socio-spatial arrangements" (Brenner e Schmid, 2017).

The structures that fragment neighborhoods, cities, or societies are more often invisible. They are outlined by the multiple socio-spatial features and stories that confine people to certain parts of the territory, but in the case of this particular hinterland (Brenner, 2016), the structures are also very visible, they exist explicitly and physically, as railways, roads, buildings, terrain vague and topography. And, during the last decades, these material and immaterial borders led to an ultra-fragmentation of the territory that allowed the following precarious settling and the very insecure pedestrian traffic that has been passing through some of the vacant lots that were not still occupied.

These gradual occupations contributed to an evolutionary context that defines the boundaries between the inhabitants of the area, its collective structures, and the rest of the city.

Fig. 3 - Campanhã in the Porto city map. Source: URBiNAT

**From co-diagnostic to co-design in Campanhã: the co-creation of the healthy corridor**

For this reason, during the phases of co-di-agnostic and co-design, some of these vacant plots were highly identified as the ones that needed an urgent transformation in the area. In addition, with the identification of the available municipal plots for our intervention, most of the proposed ideas of NBS for the project were established there or nearby. At the URBiNAT project, these in-between spaces were seen as an opportunity to co-create with local citizens and stakeholders an inclusive public space, that we call "healthy corridors", integrating nature-based solutions, harmonizing material and immaterial dimensions.

In Porto, the intervention aims to be a strategic occupation of what remains of an old farm - Lugar do Falcão - improving the connection between the three existent neighborhoods of the area – Falcão, Cerco do Porto and Lagarteiro. A surgical purpose that will also upgrade the connection of the neighborhoods with the existent pedestrian mobility network and, consequently, the rest of the city.

The healthy corridors will try to occupy and activate the use of this vacant public space, promoting multifunctionality with the involvement of the local community. The importance of transforming this layer of avail-able city from an urban unsafety barrier into porous and activated parts of public space is fundamental to achieve the aimed change. The co-creation of the healthy corridor is organised by URBiNAT in four stages: co-diagnostic,

co-design, co-implementation; co-monitoring. The co-diagnostic stage engaged citizens and stakeholders in participatory activities in order to map the uses and perceptions of the terri-tory to identify the needs. Two groups were involved firstly the students in primary schools and secondly the public in general in a public event. In parallel, local association and insti-tutions were also invited to create synergies with URBiNAT, sharing their experience and knowledge, as well as their ongoing projects.

The co-diagnostic offered a baseline that was the starting point for the co-design stage. Combining walkthroughs with workshops, students and adults co-designed ideas to integrate in the healthy corridors, organised in four categories: public space and nature; culture and sports; education and environment; social economy and solidarity practices. These ideas were consolidated with proximity meetings with face-to-face interviews and then developed with presential workshops and online meetings due to the covid-19 restric-tions. Finally, the ideas were systematised and discussed to decide which ones should be developed. Finally, an urban plan integrated the ideas in a territorial global strategy.

The co-implementation is starting in the mid of 2021 to develop the NBS proposals and plan its implementation by the citizens or by the construction works. The process is organ-ised in the frame of a municipal roadmap that puts together citizens, stakeholders, municipal technicians and political representatives, as well as the URBiNAT team in a co-governance model (URBiNAT, 2020). The co-monitoring stage will close this circular process by

monitoring with all actors the impact of the healthy corridor in several dimensions: people's wellbeing, environment, public space, culture and economy. The evaluation is an important stage to consolidate the methodological process as a research and action strategy that engages the community in all stages of the urban regeneration. In this sense, the co-creation of the healthy corridor will build a public space in Campanhã but also a community of practices that as the social infrastructure and the toolbox to activate the living lab to co-create new projects for common needs.

# Research field routes

The aim of the article is to describe different views and premonitions of this process through the lens, routines and drifts of academic actors with two different roles – coordination and research- before, during and after the effects of the Covid-19 virus.

Distinguishing between three different time phases: one pre-pandemic, when an intense collective activity of 15 participative actions were made on Campanhã's public space and schools; a pandemic, when a semi-virtual activation of the project was forced by the Portuguese multiple declarations of state of emergency; and a possible post-pandemic, when (a new) normality will be reactivated, with different lens, senses and experiences. This text relates these different periods of curfew and non-curfew, with the two working routes of the researchers: a coordination route and an interaction route.

For the mentioned research URBiNAT and the local citizens created a living lab, to engage the community in an urban regeneration that identifies their needs and explores solutions together, in dialogue with the municipality and the academia. The laboratories are no more in the university, far from the reality, but they are inside the community, open to their knowledge and experience. If the process is appropriated by the citizens, then an inclusive urban regeneration may be achieved.

The healthy corridor is a public space but it's also a research and action routes that aims to co-create an investigation and project in collaboration with different partners and the local citizens. Based on an interdisciplinary cooperation, a community of practice and interests shares their knowledge at different levels: in-between the partners, in-between the cities, in between the local taskforce and the citizens, in between the URBiNAT and other projects.

The research and action routes have a physical dimension, related to the field work that is developed in the territory, and also a mental dimension, based on the step-by-step of the activities related to management, research, design, cooperation and collaboration.

This process was organized in two parallel routes, one that played a strategic approach, the coordination route, and other the was responsible for the implementation and field work, the interaction route.

## Coordination route

The coordinator route aims to open gates to paths arriving in Campanhã in a material and immaterial way. (See Fig. 4) This route is intersected by other paths that establish a connection with other cities and other scientific partners in order to share the knowledge production and establish a community of practices.

|  | ACADEMIA FRONT | INSTITUTIONAL FRONT | ACTION FRONT |
|---|---|---|---|
| **COORDINATION** | Workpackages (dialogue with academic partners) | Taskforce (dialogue among local partners) | Living labs (dialogue with citizens) |
| **ROLES** | Collaboration | Articulation | Mediation |
| **AIMS** | Concepts, Methods | Planning, Reporting | Needs, Solutions |
| **SYNERGIES** | Interdisciplinarity, sharing concepts | Learning from practices | Learning from experience |
| **CONFLICTS** | Conflict between different disciplines | Conflict between different approaches | Conflict between different views |

**Fig. 4 – Resume table of coordination route. Source: URBiNAT**
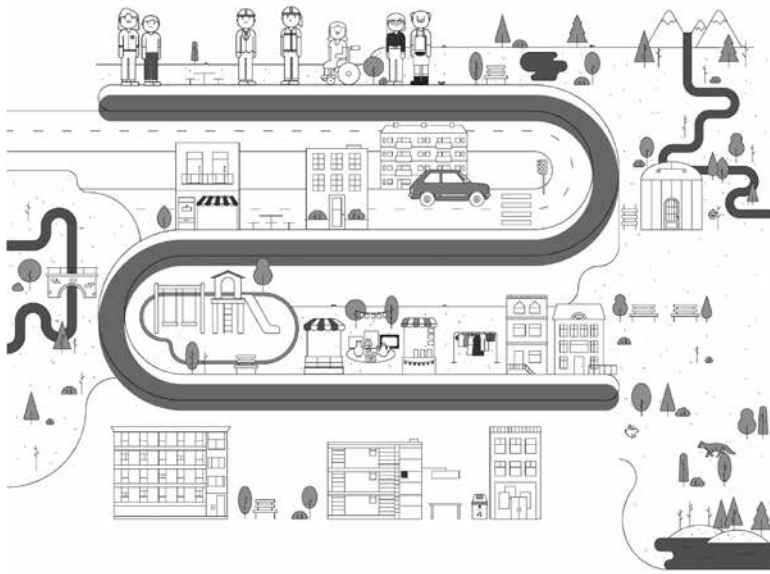
**Fig. 5 - The healthy corridor illustrated diagram. Source: URBiNAT**

The coordination route starts in the Academia, where the scientific partners, in the frame of several work packages, dialogue to design concepts and methodologies to be implemented in each case study and the city's intervention area. At the institutional front, different institutions are in dialogue to work together in planning as a taskforce and reporting the activities, according to the local culture. Finally, in Campanhã, at the action front, citizens are engaged in the process and integrate a third layer of complexity to identify the needs and solutions. Although this narrative is top down, this is a circular process in which all the stops are fed by the others, promoting interaction.

In the different stops of this route, the coordinator plays different roles such as a collaborator in the WPs to share knowledge, as an articulator in the taskforce to relate the different stages, and as a mediator in the living lab to activate.

On one hand, this process might generate synergies, to share knowledge between



**Fig. 6 - The healthy corridor illustrated diagram in Porto. Source: URBiNAT**

disciplines, to learn from the practices of the different institutions and from the experience of the stakeholders. On the other hand, this process might also generate conflicts, due to the different understanding of concepts between the disciplines, due to different approaches (ways of doing) between the taskforce, and to different views of the several stakeholders.

The healthy corridor concept followed this route from a conceptual proposal developed in the frame of the academia, to be integrated by the local municipality in its urban planning strategy and finally to be appropriate by the citizens and stakeholder.

In this sense, the co-creation process of the healthy corridor started with the engagement of these two important actors, the municipality and the citizes, in order to create synergies with projects that were already being implemented in Campanhã. As target area of the municipality strategy, the healthy corridor took advantage of the planned renovation of the social housing neighbourhoods in terms of buildings and public space. In this sense, the co-creation of the corridor in Porto focused in the space in-between the three neighbourhoods of Falcão, Cerco do Porto and Lagarteiro.

The paths built by URBiNAT will link with the path designed for the three neighbourhoods establishing an integrated system of public space that will improve mobility and connectivity in the urban area. This strategy was co-developed with municipal technicians in workshops, but it was also identified by the citizens as a need in walkthroughs organised in the beginning of the co-design stage.

The same synergy was developed with local social institutions that participate in URBiNAT activities and merged their projects with the proposal that were co-created with citizens, namely the solidarity market that will be co-supported by REDES project, from APPC and *Fios e Desafios*. These partnerships and cooperation build a community of practices based in a community of interest, that creates bounds between the several actors involved.

The coordination route operates at a strategic level putting the three fronts in dialogue in order to create proximity and appropriation of the concepts, methodologies and tools by the local actors, but also to improve the academic front with the feedback from the field

work. It's a circular route that aims to reinforce the sense of community acting together at different levels.

**Interaction route**

The openness of the participatory activities and used methodology, along with the proximity that the URBiNAT living lab provided, triggered an intense co-design moment for all the stakeholders involved.

On one hand, this context had created a period of intimacy and co-creation, which allowed to expand the needs identified and catalogued existent solutions to new ideas and proposals, where the participants developed new ways that rethink the territory and also the local culture, local economy and the local schools' educational activities. But, on the other hand, it also generated a busy agenda of activities and meetings and consequently a workflow of difficult observation, reflection and registration.

For an architectural researcher in the field these are rich creative moments of collective practice, which enable a deep experience of critical proximity (Latour, 2015), allow to rethink the knowledge about the contexts we are studying and trigger a more accurate use of the disciplinary usual tools (Cruz, 2019), During these periods - walks, travellers, talks, meetings and working moments – can be spatial experiences and, even that only momentaneous, can integrate the researcher on a local quotidian life. (Fig. 7)

During these periods, outsiders, as the institutional technicians, researchers and also some curious that attended, were involved in URBiNAT participated process. This feeling of involvement and integration was an important matter for the closeness that we wanted to



Fig. 7 - School activity on the living lab. Source: URBiNAT

create. A feeling and a way of think that was not promoted by an imposed participation but by a flexible dialogue between all actors that wished to participate and contribute to the co-creation process.

Fig. 4 sums up the different fronts that, as researchers on the field, URBiNAT team needed to use during the interaction route, in order to activate the global research process and the local urban project. The differences between these normally distanced fronts, enunciated on both coordination and interaction route, evidence the need of flexibility and also the very different kind of efforts that take to maintain the aims that are described.

The operations were developed according to the roles, but were always changing by the shifts of the challenges and aims of the project, which were always evolving, because of the different actors that have been integrated during all the process.

All these topics, here divided on the table (Fig. 8), are all mixed on the field. Most of the times, roles are not so clear on every front and the different aims, here described for each one, are mixed: an institutional aim can also be an academia or action front or, for example, an action role can be the same as an academia or institutional role.

On this interaction route resume is also clear difference between the two phases inscribed by the pandemic state we are still living. For the same roles and aims, the operations are very different.

With the emergency declaration triggered by the pandemic, the urban project work activities and the drifts on the study area migrated from the vacant lots and the local living lab to the phone lines, web meetings and digital tools. The research routine was transformed on a home curfew with small periods of possible small group activities.

On this point, the living lab, a proximity action front established on a classroom kindly ceded by the local main school, which was fundamental to trigger the collaborative process, closed. But even during this period, without this fundamental and common space, there was the need to create some moments to get back to a close dialogue with citizens, in small groups, and in person.

Because of these restrictions, from a situation of close togetherness, created by face-to-face experiences, when individual memories were merged into collective ones and the project was being collectively created, we were pushed to a distant new sensation that we try to reduce on numerous debates, face-to-face participatory sessions, when possible and digital activities.

However, very hardly we could maintain the same level of interaction and workflow on the project. The new digital normality, even upholding some of the important ties with the local stakeholders, does not seem to generate the same shared knowledge and lead to the cancelation of important activities.

The work on proximity was clearly not fully achieved during the pandemic, but the

|  | ACADEMIA FRONT | INSTITUTIONAL FRONT | ACTION FRONT |
|---|---|---|---|
| **RESEARCH** | Workpackages | Taskforce | Living labs |
| **ROLES** | Investigation, inter-disciplinary dialogue | Registration, systematization, interpretation | Observation, interaction, co-designing |
| **AIMS** | Information, tools | Collaboration, appropriation and interaction | Dialogue, integration, empowerment solutions |
| **PRE-PANDEMIC OPERATIONS** | Living Lab coordination and group meetings | Task Force implementation of Living Lab, technical dialogue and face-to-face meetings | Living Lab interaction, citizen workshops, walkthroughs and face-to-face meetings and interviews |
| **POST-PANDEMIC OPERATIONS** | Periodic webinars | Periodical web meetings | Digital workshops (miro software), small personal meetings, online interviews |

Fig. 8 – Resume table of interaction route. Source: URBiNAT

Fig. 9 – Collaborative online collage. Source: URBiNAT

work that was done before co-created a group of ideas that were already in motion, so the task-force team used this calmer period to systematize on different categories and to work together with academic and institutional partners, for its development.

The new NBS are still under-development and the team is still trying to involve more and more the local people and institutions on the co-creation process. To notice and work the all-participants perceptions and challenges, which this organic process triggered on the definition of these ideas, was essential to define and develop the NBS. This was not a

collecting process, although the number of ideas that were obtained and mapped with a large variety of participants. This was a curational process where ideas were formed, crossed, compared and discussed in various formats and languages, and where informality, conflict and personal relationships were also essential for the co-creation process.

The map on Fig. 10 captures and maps all these ideas that were proposed for a pre-established area. Some of them are in plots that are about to be transformed by the urban project, but some are also outside of this limited intervention zone.

This mapping started from a rational need of the team to plan a territorial strategy for the project, but was also a consequence of the gradual development of the new NBS ideas. The objectivity that this activity was searching was limited in its location and was trying to develop a situated knowledge about the place and the people who live it (Haraway, 1988). A kind of knowledge that tries to integrate the subjectivity of all opinions and reasons that appeared during the process (Ranciére, 1998) and that its capable to contribute to develop a project beyond the analytical pressure of the results and according a specific moment in time and space.



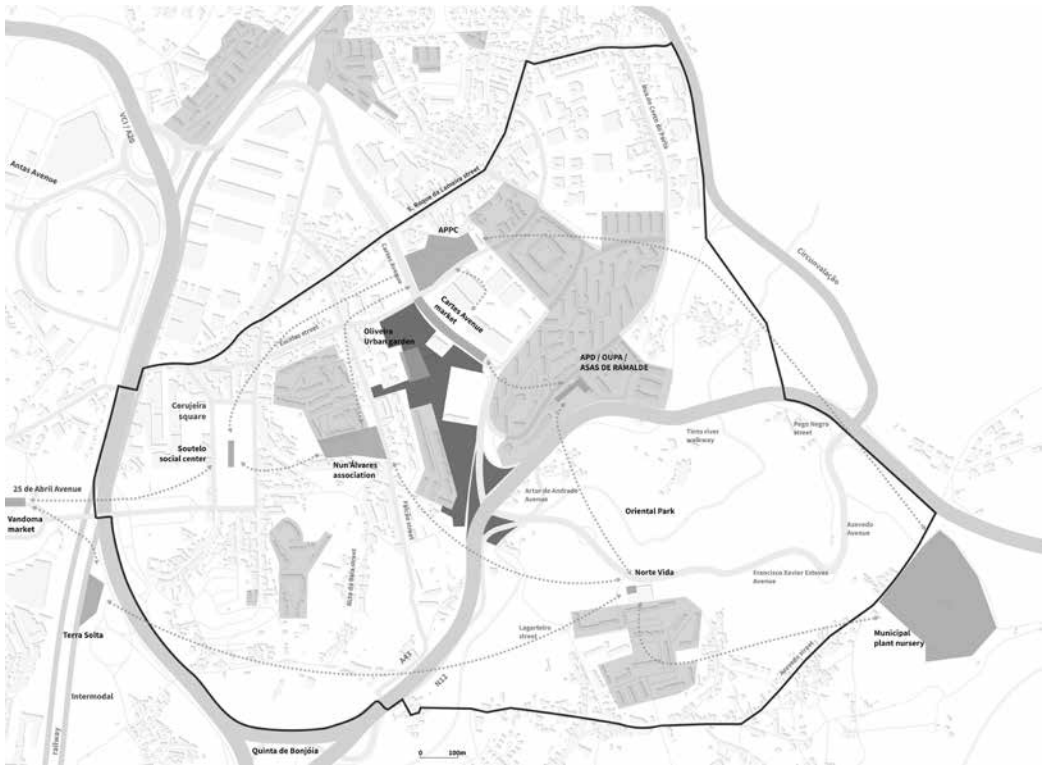Fig. 10 - New NBS location map. Source: URBiNAT

Fig. 11 – Social economy practices existent network. Source: URBiNAT

The following map (Fig. 11) illustrates an attempt to use this strategical and intense design process, as a problem setting and not just a practice of architectural problem solving (Crysler, 2015). This map indicates an existent network of existent social economy practices, a specific theme discussed during the participation process and one of the groups of new NBS that were defined during the systematization of the ideas.

To map and to cross the information created by every one of this groups of themes was essential to start to understand the publicness that exists not only in the public space of the area, but in all kind of plots, buildings and every kind of urban artefacts. The themes help us organize a strategy on how to contribute to the transformation.

To preview the contribution of the project on the territory is a difficult and speculative task and, to map this contribution, has a specific time frame and put together different empirical relations and synergies that URBiNAT's project aims to support and develop. Some of

them can be physically and spatially supported and others can be developed in a more ethical, pedagogical or procedural way.

During this exercise, local participants standpoints that were considered and included were essential to map all the possible spatial transformations. This was because they seemed more adequate and sustained and not motivated by a romanticized vision of their participation or a need for legitimate reasons and arguments for the urban project. To integrate these standpoints, in a way that wished to be the more accurate and inclusive as possible, we needed to create a symbiotic relation (Meneses, 2012) with the people involved, where mobility, interchangeability but also specificity, difference and conflict were always present.

The new previewed network, established on Fig. 12 tries to illustrate all the proposed new NBS, not fully developed yet, for the same specific thematic group of social economy practices but also all the relations, processes and contexts of this ideas.

During this still incomplete interaction route, where the digital times we are living obligates to struggle with a participative process occurring on online meetings and using digital tools, it was even more important to work with the critical proximity, which we are trying to promote and use. And, apart from the generic debate of the scientific objectivity (Haraway, 1988), we need to encroach and interfere on the specific visions that we could find on the actors we could work with.



Fig. 12 – Social economy practices network with new NBS. Source: URBiNAT

# Routes on post--pandemic healthy corridors

Architecture, as a discipline that it is constantly reshaping our building environment through the question of sickness (Wigley, 2020) can be one of the most affected fields of a possible new post-pandemic consciousness.

Comparing the work evolution during the different moments described before, it is notorious the uncertainness created by this pandemic that we are living and the changes it may have created.

The research-in-action of URBiNAT project was conditioned and delayed by this particular moment, however an opportunity for reflection and transformation also emerged with positive scientific benefits. During this time, the idea of the healthy corridor in Porto has expanded, from a pathway to a park. The goals of the project developed, from connections (corridors) to an intervention on in-between urban spaces.

In addition, the co-design method had to combine the landscape approach with a more integrated one, which includes citizenship events and tactical urbanism, stating that the corridor is also healthy, or in another words, is more than green.

Fig. 13 – The campmarket. Source: URBiNAT, CES, UC, 2020

This image of the new NBS named by a local association of campmarket (Fig. 13), created accordingly the work developed collaboratively, of an existent ruin that will be transformed on a new public space that tries to redesign a space for all the uses and ideas of the participants, trying to capture this approach of the project.

From the reflective analysis expressed on this paper, about the two methodological routes that are still in progress until 2023, there are some important lessons that will be careful used on the next steps of the project and may also be useful to share:

. The importance of a proximity process. The researcher or technician needs to establish a transparent relationship with participants, where proximity and a critic interaction are important issues to be aware during the process. To be close to the thoughts and wills of the participants can inform the project in a very accurate way about the territory and its inhabitants quotidian, but it can be also proved to be a very difficult process, where criticality and methodological escapes/barriers are fundamental to identify the different positions and roles we shall assume during the process.

. The need for a flexible and gradual mapping. To map is a strategic action to locate and to record possibilities of challenges, needs, expectations and aspirations, and do it with the necessary time and flexibility for collecting a wide range of contributions can be a very rich circumstantial process. However, to leave the project with options opening until the finishing moment can be a stressful journey if who coordinates, designs or decides, at last, are not methodological prepared. In this sense, mapping is an analytical tool but it can also be a planning method that supports flexible process.

. To make an inclusive co-design process can be a very challenging process. Establishing a common grounded general concept or vision is an important initial action, but also a constant collective argumentation.To use common reasoned options during all the process will possible be necessary to survive to all the conflicts that may emerge and achieve an effective socio-spatial transformation.

During this reflection, even with this apparently changes, it is still difficult to separate a possible pandemic caused development from non-pandemic evolution. One interesting study can be to analyze the pandemic effect on the project main ideas and aims.

During the pandemic period, the routes described were clearly adapted and revised, and the line of thought of the project mutated. Nevertheless, due to the critical simultaneous planned moments of the research coincidence with the pandemic period, it is hard to understand if the change was directly influenced by the pandemic or just happened because of the critical spatial thinking that was created on the project and the synergies it may had promoted between the several fronts – academia, institutional, action.

In this sense, one of the most central conclusions is the need to keep the co-creation process open and flexible to incorporate change, uncertainty and perceptions, which are indispensable principles of an inclusive public space, before, during and after the pandemic.

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# Spatial preconditions for publicness for cultural encounters and social integration

Today's post-war housing estates are the subjects of urban renewal projects across the western world. The physical environments are renovated alongside goals for increasing social integration, often related to how diverse residents meet and learn from each other. Yet, these measures are often carried out without understanding how space can encourage and hinder interaction between people.

This paper examines spatial preconditions for supporting *publicness*. We transcend uses of the term as applicable only to the public sector or a pre-defined public sphere, rather approaching *publicness* broadly as diverse interactions between people (Kohn, 2004; Varna & Tiesdell, 2010). Within this, we are most interested in how publicness in physical spaces is affected by how "the material world pushes back on" (Yaneva, 2009, p. 277) them to encourage or limit encounter. Informed by a "relational and (inter)subjective" approach, we see that these interactions often transcend presupposed spatial functions (Tornaghi, 2015, p. 24).

More specifically, this paper seeks to add knowledge about spatial preconditions for publicness by mapping potentials for publicness in both public and common but privately owned spaces of a post-war housing estate suburb of Drammen, Norway.

Beginning at the door to an apartment and moving to the street and nearest public spaces, the study describes the various extents of "publics" one can meet during chance encounters. This mapping accounts for how local policies, rules, practices, organized social activities and physical conditions like locked doors work with and through space to limit or enable the breadth and diversity of the populations that may interact. This offers a way to approach what space attempts to do without being deterministic or normative. The method has been useful for the PUSH research project to understand how indoor spaces originally designed for sharing have gradually been subject to increased controls and how outdoor spaces originally left up to the housing cooperatives have become subject to redesign, programming, and rebuilding by the municipality in a renewal project. New spaces with public intentions sometimes increase and other times decrease the actual breadth of who might meet. Discussing the findings of this study highlights a gap of understanding of spatial preconditions for publicness and weighting on organized activities for social integration in Norwegian renewal practices at post-war housing estates.

**Keywords:** Public space; Common space; Mapping

< The football field at Fjell in Drammen is one of the most central spaces in the estate that supports a variety of use. Photo by author

### Introduction

Post-war middle-class mass housing estates are the subjects of urban renewal projects across the western world. The physical environments are renovated alongside goals for increasing social integration, often related to how diverse residents meet and learn from each other. This paper questions the under-standing of space and physical environments in such renewal projects and offers a multi-faceted mapping approach for researching the spatial preconditions of such renewals. One can find many rhetorical expectations for the design of housing and public space to support social goals like cultural encounter and social integration. While spatial design principles and guidelines are plenty, there is a knowledge gap concerning the mechanics of how physical space can support or inhibit diverse interactions. This paper maps varying degrees of publicness in a Norwegian post-war housing estate to show how potentials for cultural encounter and social integration exceed those targeted by the site's recent renewal. Publicness is framed broadly here as interactions between people, analysed against how "the material world pushes back on" (Yaneva, 2009, p. 277) them to encourage broad, diverse meetings or limit the possibili-ties for such. The paper takes a "relational and (inter)subjective" approach by understanding that such interactions can happen independent of a space's main functions (Tornaghi, 2015, p. 24), but simultaneously focuses on what aspects of space might narrow or broaden the potentials for them.

# Public and common spaces in post-war housing

## Social expectations of public and common space

One of the earliest discussions of social values of public space can be found in the writings of the American landscape architect Frederik Law Olmsted (2013 [1870]). He observed that poor social conditions and competitive instincts that evolved in cities make people lose trust in each other. In this context he argued for the need of providing high quality publicly accessible spaces, where people could meet across social class, religion, and ethnicity. Importantly, he pointed out that urban populations need both places where they can interact with others and where they can be alone (Beveridge, 2000).

Urban design theory in the 1960s provides a more recent discussion of social values of public and common spaces in cities. Urban space, housing, and urban renewal policy today continue to draw from many of Jacobs' (1961) and Whyte's (1980) observations from public spaces in New York, understanding urban life as important for attracting other people, keeping streets safe, and establishing a sense of trust amongst residents. Christopher Alexander (1977) pointed to a need for different scales and levels of intimacy of public spaces in cities, and in this context – to the particular importance of common spaces in residential neighbourhoods, where people can meet their neighbours and learn to share urban space without anxiety. In his view (1977, 337), "just as we need public spaces at the neigh-bourhood level, there is a need for smaller and more private types of common spaces shared by few groups or few families. Such common areas really form the heart and soul of any neighbourhood." These spaces make people feel comfortable outside their homes and and strengthen their ties to local communities *(ibid.)*. This confirms much of Jane Jacobs (1961) observations on the importance of building a better sense of community and increasing safety through informal surveillance ("eyes on the street").

There is also a political dimension of this theory that links it to cultural encounters and social integration: shared outdoor spaces provide settings for a healthy democratic life (Parkinson, 2012). By meeting and interacting in diverse arenas, individuals can develop their communication skills, express political opinions and values, and are being exposed to the diversity of society, which contributes to building a "sense of We" across differences. This is crucial from the perspective of social integration.

These tenants of urban theory can be found being applied to many contexts in today's cities, including in the upgrades of sub-urban post-war housing estates in Norway, like the case of this paper, Fjell in Drammen. There is an underlying assumption that physically at-tractive spaces will promote residents meeting

and social exchange, which may lead to greater tolerance in diverse neighbourhoods, better language skills (and therefore employment opportunities), and more participation in civil society and the local government.

Attractive public spaces are also thought to be beneficial from a public health perspective, encouraging active recreation and soft mobility (walking, cycling) (WHO, 2017). More recently, public space has been considered an important arena to address the challenges of social isolation and loneliness in contemporary cities (HM-Government, 2018).

### Post-war housing and common spaces

European post-war housing was heavily inspired by Le Corbusier, where functional residential units are organized densely amidst vast lawns and open spaces. Both indoor and outdoor spaces were imagined as offering common functions and facilities to the residents. Shared interior spaces were often planned. An iconic example of modernist thinking about residential housing is the Unité d'Habitation in Marseille, the first large scale project of Le Corbusier completed in 1952. The project was intended to facilitate communal living for all the inhabitants – offering opportunities to shop, play, live, and gather together. The majority of the communal indoor spaces are located on the roof: a garden terrace, a running track, a club, a kindergarten, a gym, and a shallow pool. Beside the roof, there are shops, medical facilities, and even a small hotel distributed throughout the interior of the building.

At Fjell, our case study area in Drammen, shared interior spaces include common laundries, playrooms, social meetings or parties, bicycle and cold food storage. All of these are located in the ground floors and basements. We have witnessed many of these common spaces being adapted for individual unit storage and increasingly locked for security and ease of maintenance over time as society becomes more individualized and technology develops.

Post-war outdoor spaces were often left unplanned for use/functions. The designers imagined that greenery, common (unobstructed?) views and sunlight offer ample potential for residents to adapt them as they will over

time. Yet, in reality these spaces were often perceived as anonymous, unwelcoming, unsafe, and suffered a gradual deterioration. The demolition of the Pruitt-Igoe housing estate in St Louis, initially praised among other things for its allowance for plenty of outdoor green space, is often cited as a powerful symbol of the failure of the modernist vision of social housing. Architectural historian Charles Jencks declared the television transmitted dynamiting of this estate in 1972 as the moment when "modern architecture died." Later studies, however, have examined the significant social challenges of the resident populations of many of these estates to show that the architecture was not the sole root of perceived problems (e.g. Spicker, 1987).

Already in late 1950s Jane Jacobs (1958) pointed out the failures of the modernist vision of public spaces – in particular their disregard for human scale and diversity of social life. In a similar tone, Jan Gehl (1971) argued for more attention towards "life between the buildings", Contemporary critiques of these spaces often find them to be anonymous and lacking in use function. Renewal projects throughout Norway invest substantially to introduce fresh design elements and equipment to increase their use and value to residents, often citing social integration goals they hope to achieve with physical upgrades (e.g. Drammen, 2010a; Drammen, 2010b).

### Spatial access and publicness

As cities increase in density and diversity, indoor and outdoor common spaces are increasingly under pressure, challenged to accommodate many different users and activities in limited amounts of area. Few scholars agree upon how to problematize and define the goals and meaning of "public" for these spaces, but the discussions usually address two, partly overlapping domains:

→ the social potentials of urban space focusing on the conditions for a flourishing social life, and in this context emphasizing the need for diversity of uses, functions and aesthetic expressions, human scale, and activities to bolster social interaction (Jacobs, 1961; Gehl, 1971; Whyte, 1980).

→ the political questions of who can participate in public space in terms of actual use and decision making processes, but also

a broader question of how urban spaces are distributed within an urban network and to what extent they support public domain interactions amongst diverse users (Hajer & Reijndorp, 2001).

The above-mentioned domains define "what" of publicness debate (the area of thematic concerns). Relational perspectives, on the other hand, provide insights on "how" to address these concerns. They show that publicness may be assessed by examining specific interactions as they play across different geographical scales – for example investigating how a specific urban space and activities in it can affect a larger urban system, and vice versa (Tornaghi & Knierbein, 2014). This perspective suggests that the degree of "publicness" of a space is related to the extent diverse publics (individuals/user groups) can access it and benefit from it, across different scales.

Addressing publicness of shared spaces in this paper in terms of "what" in PUSH project we focus on the quality that is important from both the social and the political perspective: opportunities for a variety of unplanned, unmediated, and improvised uses and chance encounters (Franck & Stevens, 2006). The methodological "how" leads this study to ask how broad – in number and diversity – are the publics can potentially encounter each other in particular spaces? This is inspired by a relational approach offering the understanding that people, experiences, norms, and rules can work through and with a particular space to

affect its potentials for publicness (Tornaghi & Knierbein, 2014).

Applying this view to earlier conceptualizations of publicness, we can see the role of space can confine or narrow who meets physically through its materials, through policies attached to it, and through norms and experiences understood psychologically. Madanipour (1999) describes publicness as based on three dimensions: access (to a place and to activities within it), agency (control and decision-making processes) and interest (targeted beneficiaries of actions and decisions affecting a space). Kohn (2004) in her conceptualization of publicness includes intersubjectivity - the kinds of encounters and interactions a given space facilitates – together with ownership and accessibility. Her focus on the management dimension led to three degrees of publicness to guide comparative studies – open to all, open for a fee, and restricted to members (Kohn, 2004, p. 177). Nemeth and Schmidt (2011) build upon Kohn's model, defining a space's publicness in terms of "how open and inclusive it is to a diverse public," with three indicator axes: ownership (public-private), access (inclusive-exclusive), and use (diverse-homogenous). Varna and Tiesdell (2010) elaborate upon this in their star model, defining publicness along the dimensions: Ownership, Control, Civility, Physical Configuration, and Animation. This turns our particular concern in this paper to *access* of shared indoors and outdoor areas in housing estates, framed as material, policy, and psychological access - which we believe has

| Kohn (2004, 11) | De Magalhães (2010, 571) | Varna & Tiesdell (2010, 580) | Németh & Schmidt (2011, 10) | Langstraat & Van Melik (2013, 435) | Tornaghi (2014) |
|---|---|---|---|---|---|
| Ownership | Ownership/ control | Ownership | Ownership | Ownership | Spacial scale |
| Accessibility | Rights of access | Control | Management | Management | Degree of normativity |
| Intersubjectivity | Rights of use | Civility | Use/users | Accessibility | Modes of social encounter |
| | | Physical configuration | | Inclusiveness | Sound-visual, tactile olfactory |
| | | Animation | | | Biodiversity |

Physical space affects acess – *or the breadth of people who could potentially meet* – in three ways:
. **Policy access:** Aspects of spaces translate access restraints and practices from policy and local rules
. **Material access:** Spatial materials can lock or physically constrain access
. **Psychological access:** Qualities of spaces affect experiences, expectations, inclusion, user desires of use

Fig. 1 – The dimensions of publicness overlap policy, material, and physical access. Source: author

not been problematized in a sufficient way in the existing scholarship.

By policy access we refer to access to a space as defined by the existing policies, regulations, and management practices. By material access we refer to the access afforded by physical characteristics of a given space: fencing, locked doors and other physical barriers. Universal design is also important here. By psychological access we refer to access as perceived by users, related to their comfort, experiences and perceptions encouraging the use of a space. It can be most broadly viewed as a feeling of belonging and being welcome to a place. It is some extent is conditioned by the former two types of access (the awareness of existing policies and material barriers), but goes beyond them, being dependent upon such factors as urban design, aesthetics, existing social practices, social control.

In our case study we decided to scale these types of access relatively, using low numbers to reflect the least support for diverse groups to spend time and potentially meet. As we are interested in access that allows encounter and interaction, we use the ranking "0" to denote access that does not allow for meeting – this does not imply that the space is not accessible at all.

→ POLICY ACCESS – affecting the breadth of who is allowed to access a space, by level: 0 – access by one person at a time; 1 – access by an individual household and their personal invited network; 2 – access by residents sharing building floor; 3 – access by a defined subset of residents, for example one building's residents; 4 – access by all estate residents; 5 – access by a subset of the general public, for example by reservation or membership; 6 – open access to all.

→ MATERIAL ACCESS – physical locks or restrictions on access, by level: 0 – locked, requiring access; 3 – unlocked with deterrents to access; 6 – no material restrictions on access.

→ PSYCHOLOGICAL ACCESS – incorporating social norms, comfort, experiences, and perceptions encouraging spending time in a space, by level: 0 – high sense of discomfort, non-belonging, or otherwise discouraging to those without invitation, 3 – vague feelings of discomfort or being out of place to outsiders, 6 – comfortable and welcoming for all.

We have chosen to rank these three individually, then map a sum of the three aspects. This allows examination of how the different types of access work together or even against each other. In sum, they offer a relative measure for understanding which spaces are most likely to support a breadth of interactions. Importantly, the relative importance of each of these types of access for evaluating the overall access to a space is always relative to the specific context. In some situations, for example, the degree of psychological access can play a clearly dominant role for the users and require a different weighting. In this study, we hold the three dimensions as equal in weight to test the framework, but we do not suggest this to be a universal formula. It is rather a suggestion for further testing and development.

# Method

This study is one part of the research project "Public space in European social housing," It was made at the project's Norwegian case, and will be presented through a joint exhibition to inform study in the project's other cases in Denmark, Switzerland, and Italy. The project offers the relational framing of publicness, and we carry that forward seeking to offer a non-deterministic and non-normative manner to study the role of different spaces in social encounters. This has been approached as a deconstruction of the many ways and spaces people meet which we have recorded over the past three years through observation studies, review of architectural drawings, and interviews with residents and formal municipal actors involved in the estate's upgrades. Due to limitations from the COVID-19 pandemic, participant observations supplement to a significant extent much of this study, which ideally would be weighted more towards "go-along" interviews to understand informants' experiences in all of the spaces. The project's exhibition has further weighted exploration of visual representation and mapping methods.

## Mapping degrees of publicness

Spaces are ranked based on information triangulated from these sources alongside the research team's own embodied experience entering the site as outsiders. The categories and boundaries of spaces were derived together through an iterative grounded theory

process, where trends in the data inform our interpretation of theoretical conceptualizations of publicness. The zones mapped are not absolute, and borders could shift seasonally and at different times of the day. More focus on the psychological access as perceived by individuals has the potential to produce different maps altogether. Those pictured in the findings for this study reflect boundaries perceived and experienced by the two primary researchers. Ranking of spaces is thereby not objective, but consistently measured relatively between different spaces on the case.

Psychological access proves the most challenging to evaluate, and ideally would demand a broader phenomenological study of user experience as it usually depends not just on observable qualities of space but also on largely individual factors such as life experience and cultural background of a person. Our limited interview material swayed this part of the study to be largely based on participant observation and reflections of two researchers who were commonly on site, supplemented and seen together with pop-up interviews with users at specific spaces. Material and Policy access are relatively easily evaluated based on empirical observations and document studies, but these also required supplementation by observation and interviews as elements and spatial measures do not always work as intended.

# Publicness context for cultural encounter

Before presenting the findings from this study, we briefly outline the case and some aspects its context that give an overall framing to what kind of publicness may happen on the site in general.

## Case description

Fjell, a suburb of Drammen, Norway is a post-war housing estate completed in 1976 (see Fig. 2). Substantial social and public space upgrades to Fjell's public spaces were carried out between 2010-2020, where integration goals include higher employment rates, better language skills, increased tolerance, and more participation in local government. The ca 3000 estate residents are culturally diverse, with around 70% estimated to have a non-western background.

## Limitations of publicness from Fjell's urban fabric

Common to the localization of most post-war housing estates, Fjell was planned on the periphery of a city, as a physical enclave without through-routes. This quality, together with the area being predominantly housing, works to limit how many different kinds of people come to and use the public spaces at Fjell. The area functions predominantly for its own residents, though



Fig. 2 – The football field at Fjell in Drammen is one of the most central spaces in the estate that supports a variety of use. Source: author

in recent years the upgraded spaces, school, and several district functions draw occasional visitors from nearby neighbourhoods. The estate is the end of a well-serviced bus line from the centre, so is highly accessible, but not a place one discovers by chance passing through. Fjell's physical location and strong visual expression from afar further exaggerates the estate's poor reputation, leaving many Drammen residents to stigmatize the area as dangerous.

### Municipally organized social meeting

As social integration was among the goals of Fjell's recent upgrade project, great efforts have been made by the municipality to encourage social meeting. These are physically manifested in a new hub with a youth club, meeting rooms and a party hall along with sports and library facilities. They employ a local volunteer coordinator who assists in encouraging and scheduling different organized activities that can be posed by local residents. The variety of rooms in the new hub can serve many functions but need to be booked in advanced through the municipal system and access arranged, as each floor of the building requires key cards. Only the children's library has a public counter that allows drop-ins whereas the estate's earlier district house was designed much more open and flexible for potential users. Pointed efforts have been successful in inviting different groups, like local women, to meet across cultures, but they are limited the municipality's facilitation and resources. This was highly apparent during the COVID pandemic, when all organized activities were cancelled, and the building closed for several months.

# Findings: Publicness zones by breadth of encounter

To understand the everyday potentials for diverse encounter, a mapping study compares spaces from within a high-rise residential building out to its nearest public spaces. Indoor and outdoor spaces are ranked (Table 1), then mapped to understand the spatial preconditions for diverse people to access, meet, and have social exchanges. Fig. 3 breaks the table into indoor and outdoor spaces, offering a color coding for understanding the mappings (indoor in Fig. 3, outdoor in Fig. 4).

# Discussion: Spatial preconditions

Moving beyond preconceptions of the role of ownership or physical access alone, we find we find much more fluidity in the extent people might meet both inside and outside buildings, on private and public property by relatively ranking policy, material, and psychological access together.

### Materiality plays a significant role

We know from theory that enclosing, fencing, and even locking spaces can contribute to safety and interpersonal relationships, which can come into conflict with publicness thoughts of allowing everyone material access (Hajer & Reijndorp, 2001). At Fjell, as any housing estate, it is unsurprising to find that locked rooms inside the residential buildings are limited in supporting publicness and that even common spaces will not offer the same breadth of encounter as open outdoor spaces. However, the material locks on the estate's upgraded public buildings show a deviation from rhetoric around public access. Material locks here, placed by those responsible for building design and property management significantly lower access to the estate's indoor public spaces. Original plans for the school's cantina to invite the public in were squelched by the principal. An open, public lobby as Fjell had in its former district house did not make its way into the new hub building's design.

Rooms with specific, narrow purpose reduce the actual meetings that take place in either building type. Several meeting rooms are commonly appropriated by established groups – family or private friends, neighbours, or cooperative boards. Locking or requiring booking of rooms means they only open for invited publics rather than broadly supporting chance meetings.

In the high-rise, largest and most commonly accessed of planned common rooms that are locked – like baby carriage storage and bicycle rooms - can operate more like unlocked rooms if they are populated often enough to spark chance exchanges. An informant tells about kids bicycling through some of the storage rooms while their parents watch and chat. These potentials are further emphasized

Table 1 - Access rankings and spatial descriptions of indoor and outdoor spaces in Fjell

| SPATIAL DESCRIPTION | policy access | material access | psychological access | sum |
|---|---|---|---|---|
| Private outdoor parking areas | O | = | O | **O** |
| Interior spaces where people cannot meet due to access or size limitations. | O | O | O | **O** |
| Interior spaces where one must be a resident or invited for access accommodate the narrowest of publics. | 1 | O | O | **1** |
| Common hallways support chance meetings of all those living on the same floor of a building, plus their invited social network. | 2 | O | O | **2** |
| Locked, and very specific rooms common to a building or building entrance can support meetings amongst anyone in the building | 3 | O | O | **3** |
| Uncomfortable outdoor spaces that lack amenities and are too steep or wooded to be commonly used. | 5 | 3 | O | **8** |
| Unlocked indoor common rooms, stairs and elevators, including land-ings, lobbies, and private balconies that may support exchange amongst residents. | 3 | 3 | 3 | **9** |
| Elementary school, district house, and new hub building all invite a broad public for specific reasons and during restricted opening hours. | 5 | O | 6 | **11** |
| Appropriated spaces that are highly decorated and used almost exclusively by few residents with their invited guests. | 4 | 6 | 3 | **13** |
| Residential parking areas | 4 | 6 | 3 | **13** |
| Streets, driveways, and public parking | 6 | 6 | 3 | **15** |
| Shopping centre central in the site has a pizza restaurant and turkish grocery with a great deal of poten-tial to support chance meetings. | 6 | 6 | 3 | **15** |
| Extroverted appropriated spaces can also be found by most building's entrances with benches and picnic tables. | 4 | 6 | 6 | **16** |
| Playground areas designated by specific sport and age group and lacking amenities for a broader public than interested children and their caretakers. | 4 | 6 | 6 | **16** |
| Open lawns, local paths, free-sit-uated picnic tables, shared waste sorting areas, and small play-grounds easily mix residents from nearby buildings. | 5 | 6 | 6 | **17** |
| Large central football field that accommodates many different types of uses and users simultaneously. | 6 | 6 | 6 | **18** |
| Sidewalks, bus stops, and main circulation paths through the site. | 6 | 6 | 6 | **18** |



Fig. 3 – Degrees of publicness at one Fjell residential high-rise (as originally planned). Source: author

where there is furniture or shared amenities that encourage residents to spend more time – increasing the chances of meeting and interacting with others.

The public buildings draw a broader public but can likewise pose limits with locks and specific purposes. Access to the hub beyond the children's library has to be booked in advanced, as each floor of the building requires key cards, restricting its use to multiple sub-sets. This has proved challenging for those who work in the building who desire residents to visit without appointment and to accommodate drop-ins in offered language and work-skill courses. These material restrictions contrasts with the site's shopping centre – not upgraded due to private ownership – but with an interior circulation space that remains unlocked most of the time. The building's age leaves much of it empty, which can psychologically discourage use despite central location, but it is worthy to note that its material access supersedes all the public buildings on the site.

### Psychological access combines materiality and experience

Experiences of use can detract from otherwise public-seeming spaces, as shown by sidewalks. Despite being public, sidewalks prove difficult to categorize here since interactions among them are hindered by adjacent traffic. They are observed as less used than main, quieter, pedestrian pathways through the summer, where people often stop spontaneously to chat. At the same time, the sidewalks are much better lit and cleared of snow and ice than the other paths, making them the predominant routes in winter. Streets and driveways, even if publicly owned, have low psychological access scores alongside parking areas because car presence deters from social interaction and comfort – privatised through "invasion" (Carmona, 2010). As residential parking spots are strictly assigned per unit, they can encourage chance meetings amongst passers-by and can incite conflict when used outside of the established norms and regulations – in contrast to private parking in Fjell which fully restricts access.

Privately-owned outdoor spaces can be experienced as more or less public. The main entries and areas around the base of each high rise primarily accommodate residents, though spaces further out can be shared with nearby residents and their guests. Without physical barriers or locked doors, more subtle design elements encourage different levels of intimacy, causing outsiders to feel they are intruding - particularly where residents have added hedges, plants, furniture, and decoration over time or where specific groups are regularly present. Other residents recognize and describe regular groups, often defining them by language or cultural background, age, or gender group when users are insular. The more extroverted appropriated spaces feel more inviting and host interactions with passers-by. While these areas also tend to have regular users, they spark more extroverted exchanges. Other standard picnic tables and even small playgrounds without personalization or regular users seem quite public and anonymous even if privately owned.

Aesthetics is another factor influencing psychological access, especially in the areas with a large cultural and ethnic diversity. While early design proposals suggested multicultural elements and patterns, the redesign as built is devoid of such. This was explained by an informant as an effort to avoid "exotifying" the different cultures. Young adults who grew up during the renewal laugh that the municipality as "Norwegian-ified" the neighbourhood, but generally appreciate that particularly the outdoor areas have gotten more aesthetically attractive and comfortable to use. The homogeneous expression of the post-war buildings does not offer much room for individual expression, though they do give a backdrop for displaying contrast when individual initiatives like decorated balconies or small gardens appear. These initiatives, however, take up a very modest amount of the vast open areas in Fjell, likely due to local norms and the thresholds proposed by the cooperative board approval processes required.

### Policy and ownership do not preclude diverse interactions

Many spaces owned by the building cooperatives offer amenities that encourage residents from different buildings to interact and share spaces. The breadth of who meets here may vary slightly depending on how close spaces are to well-trafficked pedestrian ways, bus stops, or building entrances but can generally support chance encounters without high levels of conflict or appropriation. These are still on private land but are perceived as
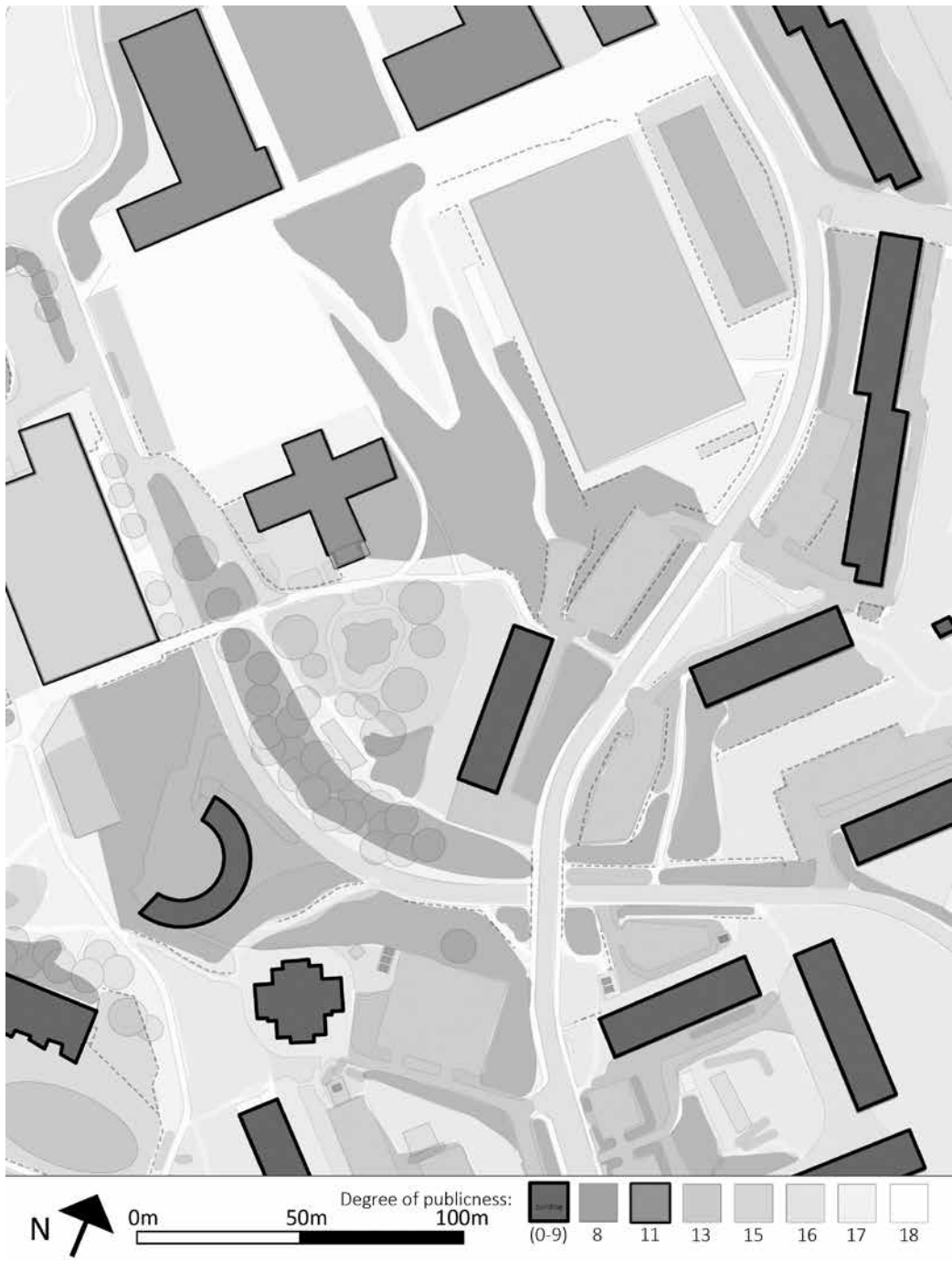
Fig. 4 – Degrees of publicness outdoors at Fjell – the highest rankings (lightest colours) show spaces that support the greatest breadth of potential encounter based on policy, material, and psychological access. See Fig. 3 and Table 1 for description of coloured zones. Source: author

public, as notable through a debate regarding handicap accessibility at the playgrounds and resident reports of uncertainty in which tables they are allowed to use. Interestingly, many of these areas might attract a broader group than many upgraded publicly-owned play areas, which were designed for specific subsets of the public. Here we see that both privately and publicly owned spaces can have reduced degrees of publicness because who they serve is limited by the activities they physically support. The municipal renewal policy intended to encourage social meeting, but prioritized children and separation of activities in most of the design, leaving few spaces that draw a broader public on the estate – though a plaza still under construction is intended to do so.

Otherwise limited (by age-group or activity) playgrounds still can support chance meetings between previously unknown residents and encourage pick-up games of sport since they are not restricted to organized events. However, some spaces are so designated to specific activity - like two volleyball courts and several new small football fields - that they do not support other uses. In absence of volleyball interest, designated spaces go unused.

The spaces that function to support the broadest and potentially most diverse interactions do not restrict who can access them or who might meet by chance. The main football field, plays a surprisingly public role because it hosts a wide variety of children and adults walking, playing with their dogs, riding bikes, sitting in groups, and playing other sports as well as football. The centrality, size and openness of this field with sight from many adjacent windows offers it safety through informal surveillance (Jacobs, 1961). This space needed no major upgrades to support interactions. The main pedestrian routes, however, did benefit from the renewal, as the municipality succeeded in making a couple of otherwise too steep or too thickly forested areas more accessible. The pedestrian pathways appear more able to support interactions after to the upgrades.

### Breadths of possible interactions at Fjell

The clearest difference in breadth of possible interactions at Fjell may be indoor and outdoor, though the nuances this study offers to outdoor spaces are interesting to consider further. Within the building, all levels

of publicness are limited to those with access to the front door or those they invite, which limits the diversity of publicness meetings in the building to the diversity of the tenants and their immediate networks of friends and family. Indoor limitations to publicness are generally explainable with local policy, security concerns, and the need to support intimate encounters.

Outside of each building at Fjell, the levels of publicness supported in different spaces fluctuate significantly. Here we see that physical hindrances play a much smaller role as there are virtually no gated outdoor areas. Experience and perception can play a stronger role in the outdoor spaces, particularly as effected by physical features in the land and landscape design. Some areas are too steep to comfortably traverse or spend time in, resulting in their being very little used despite free access. These are often wooded areas whose lack of use contributes to a common perception as "scary space" – which is a factor of privatization posed by Carmona and de Magalhaes (2006). Other areas may be more comfortable to cross and visually accessible but are deterrent to use due to lack of activity or amenity and the social norm of few leaving the dedicated pathways. Some pathways are used primarily by the residents of one or few buildings out of habit and need, feeling more private than the main paths. The most public pathways provide broad-reaching arteries and shortcuts for Fjell residents and visitors. This may interestingly be debated again along the roads – despite generous sidewalks being provided, the level of comfort along these roads is reduced by the noise and speed of adjacent traffic. The two main roads through Fjell, along with the many parking lots and driveways are plagued by what Carmona (2006) explains as privatization through being "invaded" and primarily occupied by cars. Nevertheless, these paths are the ones observed as most used in the evenings and through the winter, when the other paths do not have the same level of lighting or snow and ice clearance.

Within the designated and upgraded "public" spaces in Fjell, we can again find different levels of how broad a public they serve. The main football field, contrary to expectation in its singular-activity physical programming, hosts a wide variety of children and adults that often perform very different activities at the same time. This gives the space the highest score of publicness, along with the main pathways in the site. Coming close is a playground

designed with a smaller football field, play area for larger kids, and picnic table. The combination of amenities here draws several groups together and facilities different uses. An interesting note is that the small football field here, along with other small football fields throughout Fjell, do not support uses other than football playing. This is different only in one other open field that is not demarcated or fenced, so supports other types of play and most pointedly in the large field where people walk, play with their dogs, ride bikes, sit around in groups, and play other sports as well as football. The centrality, size and openness of these two fields makes them stand out as places to spend time, perhaps particularly due to both having clear lines of sight from many adjacent windows. The three majorly renovated playgrounds on the site do not have as clear views and are rather located away from the housing – while peaceful they can also contribute to an earie feeling of not being under informal surveillance to the same degree as the others, possibly making them feel less safe (Jacobs, 1961). In addition, the design of two of them is more age-specific – one only offering play activity for larger kids and another with a water element and picnic tables, presumably for families and smaller kids. While meeting their target groups, the playgrounds are not widely used by a diversity of people. They feel less welcoming than the football field, for example. Adults without children struggle to find something to do in the areas that have been upgraded – even if benches and picnic tables are not designated, it is less conducive to sit and rest idly beside areas where children are playing. We find that adults meet in groups without children most often at the picnic tables closest to the buildings – offering them intimate areas for quiet conversation and the ability to meet and greet neighbours and passers-by. These zones around the buildings, and particularly by entrances take on a special semi-public stance which may somewhat deter outsiders, but are important for meeting ones neighbours and feeling a sense of belonging in the neighbourhood (Alexander, 1977).

Despite a focus on user participation, there are voices that went unheard in the renewal which may have activated spaces in other manners. While many resident-proposed activities for children were built in this upgrade, those by older people seem to have been overlooked– for example, offering a common space for people to wash their cars and change tires or arenas for lesser familiar sports and hobbies

were not included in the upgrade. Reinstating common TV rooms, opening up meeting rooms with basic furniture, reimagining spaces that apartment dwellers need in their everyday life and could share socially would have driven an upgrade focus closer to the buildings and spaces where the most people pass by and would be more likely to meet.

# Discussion on the Method

The main elements of this study's method warrant further consideration and development, both in terms of how to rank the forms of access and how to map different resultant zones. In the ranking, we found it necessary to find a similarly weighted scale for the three types of access in order to understand what each might do to the sum. An early weighting attempt used 0-2 rather than 0-6 for both material and psychological access, but we found that gave the 0-6 ranking of policy a dominance and swayed the overall sums in a manner that did not correspond to our or our informant's experience of the site. Using 0-6 for all of three resulted in more zones and thereby a more nuanced picture of how the outdoor spaces worked. A more precise ranking description of psychological access could be developed with a larger phenomenological study that included comparable reports from many informants. This offers a great deal of methodological potential for future research to use for example walking-interviews, informant mapping, and more participatory methods to make and check the data and rankings mapped.

The actual mapping and drawing of the ranked zones pose further interesting questions for further development. Particularly outdoors, the boundaries between zones are seldom straightforward, many may vary greatly with season, daytime, or even individual perception. Additionally, elemental choices like the scale and extent of the study have an effect on how detailed and nuanced zones can be defined. Zooming in may offer more detailed information over a smaller area, and offer the potential for showing the shifting nature of borders. Examining the thresholds between the zones analysed in this study, we can identify only few concrete spatial elements that create definite borders between zones of publicness.

The most straightforward of these can be found within the buildings – walls and locked doors that physically impede free movement and limit those who can meet. The size of spaces affect how many might use an area at once, primarily when walls, fences, or drastic topographical changes limit them. These aspects concretely reduce the numbers that can cross paths in space. While local policy is often enforced with material elements, boundaries in particular between different psychological zones can be more difficult to define.

# Conclusions

This study outlines a way to study the materiality, experience, and policy of space as preconditions for publicness that work together to affect the diversity and number of people that might encounter each other and interact in space. The actual meetings and interactions and their quality would require further study, particularly in the dimension of experience and psychological access, but here we approach what the space itself might contribute. We see that people, materials, and policies work through physical space as well as with and against space in manners that can support or limit how many people might meet and some extent of their diversity. This offers a backdrop for further study into cultural encounters and social interactions that can inhabit these different zones at different times, understanding that the physical space itself affects the interactions but does not determine them.

This study helps us to understand that Drammen municipality has done commendable work investing in outdoor areas and organized activities in Fjell's renewal project but has not prioritized the everyday areas where the most diverse residents may be the most likely to meet and have meaningful social exchange. Upgrades to pedestrian pathways through the site may be the most successful of measures in this lens, as they meet a need and increase access for all entering the estate - making the neighbourhood more pedestrian friendly and conducive to chance conversations without noise from traffic on the way. So far, however, the residents do not have a central place for fully open publicness as they move through the site. The dilapidated shopping centre's potential is not reached in attracting many diverse people to meet and stay. A main square is awaiting construction so may serve

this purpose, but the plan for it appears to follow suite of overly specific programming as witnessed at the other public playgrounds on the site. The soccer fields and play equipment is well visited, and these spaces likely support a good sense of public amongst the youth and families they serve. However, the lack of amenities and more diverse activities in these spaces overlooks the notion of the public in general and the aging profile of most residents in Fjell in specific. The municipality made investments on private residential land in this upgrade, but were little able to direct upgrades towards areas that could have supported cultural encounters and social integration across generations in the areas closest to the residential buildings – the very areas that those who are aging or less fit spend most of their time. Not all residents of Fjell have the physical form to walk for many kilometres up steep hills connected by the new pathway and they lack benches and meeting places in the newly designed spaces. In absence of participation in organized activities, some residents withdraw to their apartments and furthest out to the picnic tables outside of their building.

Renewing our awareness of the spatial preconditions for publicness offered by post-war housings' original designs could be a step to better inform estate upgrades towards serving social and political purposes. Resources could be diverted from purely aesthetic and public-limiting upgrades – as we see with the volleyball fields – to renewing common spaces and making some of the privatized spaces in housing units more accommodating to supporting everyday, spontaneous meetings. Prioritizing youth for a better future for Fjell was a noble cause in the upgrade, but does not maximize what they could have done to address the cultural encounters and social integration amongst today's population. While cultural encounters can be accommodated with high levels of publicness where space encourages passing by and short meetings, social integration may have other demands and be better accommodated in safe and smaller areas that allow for more intimate exchanges. The differences here reinforce the usefulness of mapping and understanding different preconditions in space to be able to direct social goals and polices to and through the spaces that can carry them forward.

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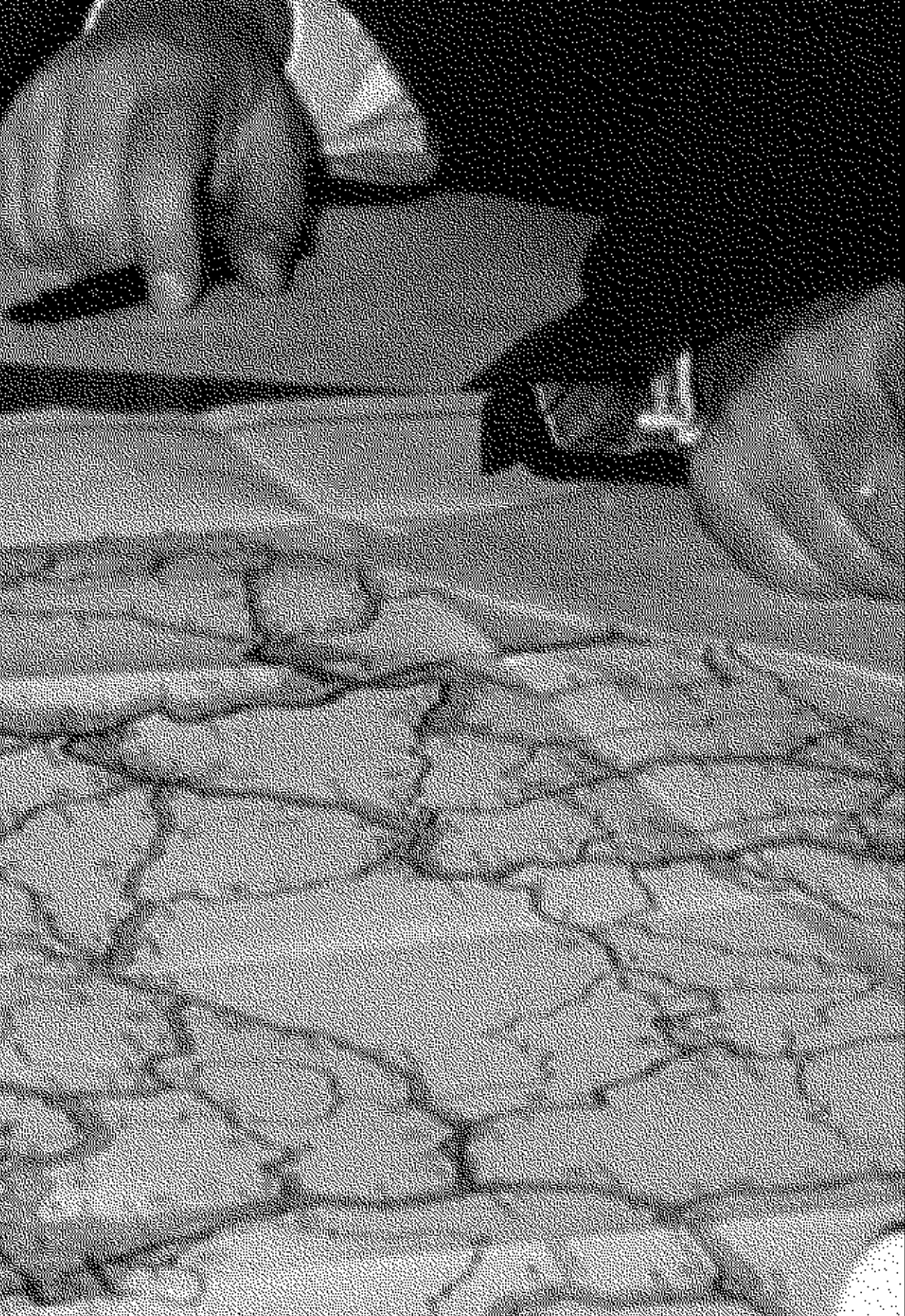
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# Toward a Trans-European Petroleumscape: Architectural and Urban Histories of Designing Automobility

The paper examines the role of architects and urban planners in shaping connections between European land-based mobility, cities and landscapes. For over half a century, politicians have promoted transportation and transnational mobility for commodities and individuals by planning and funding the E-road network. This attempt to link the different European nations and overcome their separate plans has reshaped the urban landscape and the territory at large. The paper shows how urban planning and architecture play a key role in implementing new types of mobilities promoting environmental sustainability. At the centre of the paper lie the imaginaries produced by architects and urban planners, and their vision for highways in different national contexts and for their connexions to planned new towns. Taking into account that the EU and its nations aim to overcome regimes of petroleum-based mobility and associated architectures, the paper demonstrates how the land-based transportation of both individuals and commodities in the E-Road network functions as an actor of planetary urbanization, investigating three kinds of nodes within the E-Road network: the nodes encountered on the E-Roads, those to be found at the gates to cities, and the new structures aiming to imitate the urban dimension but proposing a novel articulation of pedestrian and automobile circulation. It aims to relate the expression of the three nodes-typologies in various national contexts – characterised by different European urban planning methods - to overarching approaches in the design of mobility. The paper pays particular attention to the relationship of the emergence of an ensemble of new architectural typologies in the *villes nouvelles*. The emergence of new models of daily life related to the model of working and living within a trans-European network contributed significantly to a perception of Europe as an expanding polycentric and dynamic entity. To address the question of the impact of the car on "planetary urbanization" in a trans-European perspective, the paper examines the role of the E-Road network in suburbanization and its impact on the shift towards the model of the polycentric city. It will take into consideration the ways in which "transnational history" treats the connections between different national contexts as central forces within the historical processes.

**Keywords:** E-Road network; Infrastructural europeanism; Planetary urbanization; Mobility; Automobile vision; Petroleumscape; Sustainability; Trans-European highway system

< Infrastructural Europeanism in practice: studying a 1955 E-road traffic census map

## Introduction

This paper aims to examine the role played by the trans-European network in the formation of new design tools and theoretical frameworks for conceptualizing the role of the highways for the articulation of the city-centres with their peripheries.[1] It also attempts to explore how the emergence of a transnational highway system in Europe changed conceptions of the planning and design of cities and regions. The E-road network, which was formed on 16 September 1950, is a numbering system for roads in Europe developed by the United Nations Economic Commission for Europe. This network is the European analogue of the so-called Pan-American Highway. As Frank Schipper underscores in *Driving Europe: Building Europe on Roads in the Twentieth Century,* "[o]n a European level the 1950 Declaration on the Construction of Main International Traffic Arteries created what we today call 'E-roads'." (Schipper, 2008, 16). Schipper has also highlighted that "the E-roads effortlessly connected Europe from north to south and from west to east", underlining the fact that they "served as a powerful metaphor and visual symbol for international cooperation and European identity" (Schipper, 2008, 190). Despite the fact that on an international scale the Route 66 is more renowned in our collective memory, there are certain highways within Europe that have played a significant role in the evolution of the phenomenon of suburbanization. The article builds on renewed interest in automobility and highways within the social sciences and contributes to studies from multiple disciplines that have focused on the role of the E-Road network in the construction of Europe. It takes into account the fact that the conception of automobile vision differs when shifting from one local, urban and national context to the other. It intends to investigate how urban planning and architecture affect the connections between mobilities, cities and landscapes, taking into consideration different scales and different national contexts, and placing particular emphasis on the connections between suburbs and the city centres. At the centre of the paper lie the imaginaries produced by architects and urban planners, and their vision for highways in different national contexts and for their connections

to planned new towns. The Declaration on the Construction of Main International Traffic Arteries in 1950 sketched a system that would connect Europe from Scandinavia to Sicily. The construction of a highway system for Europe was already anticipated in 1968.

To understand the complex strategies characterising the role of the E-Road network for the construction of a vision of Europe one should take into account two layers: a layer concerning the comparison of the conception of highways within different national contexts, including the comparison of designs for the German *Autobahn*, the Italian *autostrada*, the French *autoroutes à péage*, etc., and a layer discussing the designs and spatial imaginaries of the E-Road network. Analysing these layers will allow a better understanding of the tensions between national visions and trans-European urbanization, combining the local with the trans-European dimension, and contributing to a new understanding of the history of Europeanization. The main objective of the paper is to render explicit that there is a tension between national visions as far as the relationship between land-based mobility and architecture and urban planning is concerned, on the one hand, and some pan-European vision motivating the E-road system, on the other. In order to do so, it builds upon the existing literature on highway culture within different national contexts in order to examine, within a trans-European network, how the imaginaries concerning architecture's automobile vision evolved within different national contexts, and how these imaginaries were expressed through the emergence of new architectural typologies and new conceptions of the highways. Another aspect that should also be taken into account is Schipper's remark that "[o]vercoming the East-West divide was a central goal for the ECE and its secretary-general Gunnar Myrdal" (Schipper, 2008, 189).

The system of lorries transporting containers from ships in order to enter cities and serve shopping centres is based on the existence of the E-Road Network. The land-based trans- European transport network, and the architectural typologies encountered on it, are part of the port cityscape and the "petroleumscape" supporting it (Hein, 2018) Please link this reference to the reference in the reference list. My analysis focuses on three typologies, which correspond to three kinds of nodes within the E-Road network, and are expressed within various national contexts that correspond to

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1.    See also my following article: Marianna Charitonidou. 2021b. "E-Road Network and Urbanization: A Reinterpretation of the Trans-European Petroleumscape". *Urban, Planning and Transport Research* 9(1) https://doi.org/10.1080/21650020.2021.1950045

different European spatial planning systems (Nadin & Stead, 2008): a first category of nodes (N1) that correspond s to the nodes encountered on the E-Roads, including service stations, hotels, motels, gas oil stations, and café-restaurants, a second category of nodes (N2) that concerns the nodes encountered at the gates to cities, such as business centres and shopping malls, and a third category of nodes (N3) that includes the new structures aiming to imitate the urban dimension through a renewed mode of articulation between pedestrian and automobile circulation, such as the *villes nouvelles* in France and the New Towns in the UK, the Netherlands, and Sweden (Fig. 1).
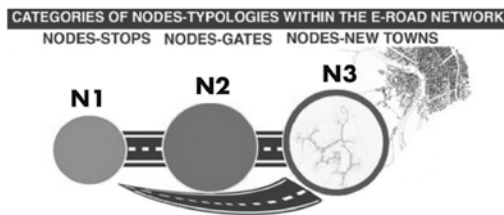


Fig. 1 – Categories of Nodes-typologies within the E-Road Network. Source: author

The design and promotion of road maps handed out at gas oil stations function as agents within this process of constructing imaginaries around the experience of highways and automobile transport. The distribution of free road maps and brochures by oil companies and the creation of networks of gas oil stations played an important role in suburbanization. Relevant for the investigation of the relationship between the generalised use of the automobile and the phenomenon of suburbanization is the fact that "[o]il companies have actively promoted the expansion of transportation systems [distributing, on the one hand] road maps designed to entice car users to destinations that were ever farther away" (Hein, 2009), and expanding further the existing networks of gas oil stations, on the other.

A question that is dominant within the current debates concerning migrant flows is that of whether the term mobility of migration is more relevant. As Sandra Ponzanesi highlights in her article entitled "Migration and Mobility in a Digital Age: (Re)Mapping Connectivity and Belonging", "[m]obility studies is an emergent interdisciplinary field that focuses on social issues of inequality, power, and hierarchies in relation to spatial concerns, such as territory, borders, and scales" (Ponzanesi, 2019, 548).

Mobility studies are understood as more socially sustainable in the sense that they are considered to relate to a more holistic approach than migration studies. A term that was recently coined by Mimi Sheller to respond to the dilemma of whether the term migration or mobility is more socially equitable is the term "mobility justice" (Sheller, 2018). The main idea behind the use of this term is the intention to render explicit that while mobility is a fundamental right for everyone, it is experienced unequally along the lines of gender, class, ethnicity, race, religion and age.

# Infrastructural Europeanism and the e-road network as an actor of co-construction of Europe

A central notion for better grasping the E-Road network as an actor of shaping visions concerning the co-construction of Europe is that of 'infrastructural Europeanism', developed by Frank Schipper and Johan Schot, in their article entitled "Infrastructural Europeanism, or the project of building Europe on infrastructures: an introduction" (Schipper & Schot, 2011). Schipper and Schot drew upon Paul Edwards' 'infrastructural globalism', and its emphasis on the integrationist potential of infrastructures, to refer to the co-construction of Europe and its infrastructures (Fig. 2). According to Edwards, "infrastructural globalism is about creating sociotechnical systems that produce knowledge about the whole world (...) it is a project: a structured, goal-directed long-term practice to build a world-spanning network". (Edwards, 2010, 25) Useful for understanding the integrationist potential of infrastructures is the fact that "[h]istorians have for decades now appreciated the integrationist potential of infrastructures, studying the processes of nation-state formation and how infrastructures have shaped and are shaping globalization" (Schipper & Schot, 2011, 248). Among the first countries that were connected via the E-Road network were Belgium, the Netherlands, Luxembourg, Denmark, France, Germany, Italy, Sweden and Switzerland. The United Kingdom and the Nordic countries were reluctant towards the E-Road network. The UK, despite being

Fig. 2 – Infrastructural Europeanism in practice: studying a 1955 E-road traffic census map. (Left to right) W. Moser (Switzerland), A. Agafonov (USSR), and E.D. Brant (UK) of the Transport Division of the United Nations Economic Commission for Europe studying a map on the 1955 Road Traffic Census. Despite Cold War divisions, East and West continued to collaborate on infrastructure-related issues at the European headquarters of the United Nations. Source: UN

among the most motorized countries in Europe in terms of car ownership, had the least E-roads per square kilometre, in contrast with Benelux, the Alpine countries and Germany, which had a high density (22–35 m/km[2]), coherent with their status as important transit countries.

Frank Schipper's *Driving Europe: Building Europe on Roads in the Twentieth Century*, Gijs Mom's "Roads without raise: European highway network building and the desire for a long-range motorized mobility" (Mom, 2005), and Pär Blonkvist's "Roads for flow – Roads for peace: Lobbying for a European highway system" (Blonkvist, 2006) are just some of the studies that can help us better the role of the E-Roads in the construction of Europe. The E-Roads serve as a powerful metaphor and visual symbol for international cooperation and European identity (Schot, 2010). Some important episodes in the endeavour to co-ordinate mobility on a pan-European scale are the *Declaration on the Construction of Main International Traffic Arteries*, signed in Geneva on 16 September 1950, which stated that it had become "essential, in order to establish closer relations between European countries, to lay down a coordinated plan for the construction or reconstruction of roads suitable for

international traffic",[2] the "Declaration on the construction of main international traffic arteries"(1951) by Edouard Bonnefous – the president of the Committee on Foreign Affairs of the French National Assembly who was a strong advocate of greater European integration – and the foundation of the European Conference of Ministers of Transport (ECMT) in 1953. Already in 1950, Bonnefous had maintained that "[t]he coordination of transport systems is probably one of the fields in which, in the opinion of all those who have studied the rationalisation of the European economy, it is easiest to advance rapidly and obtain tangible results".[3] (Henrich-Franke, 2012). On 16 August 1950, the French parliamentarian had used these words to launch a plan for the foundation of a supranational European transport organisation.

2. Declaration on the construction of main international traffic arteries, 16 September 1950, preamble, copy in registry fonds GIX, file 12.7.1.5–14,627, UNOG.
3. Archives of the Council of Europe, Strasbourg, Consultative Assembly, Second Ordinary Session, Motion recommending the creation of a European Transport Organisation, Doc. 63, 16 August 1950, 1.

# The Tensions Between National Visions And Trans-European Urbanization

To better grasp the tensions between national visions and trans-European urbanization, one should try to compare the different national contexts, focusing on the following parameters: firstly, the increase or abatement of social seclusion as an effect of highway infrastructure design; secondly, the ways in which architects and urban planners could contribute to promoting ecology-oriented strategies of regional planning, through their practice; thirdly, the use of different categories of roads for different types of mobility; finally, the extent to which highways cross the more central areas of the cities under study. Useful for understanding the planning of roads in France in relation to social seclusion is the fact that 'in the context of the isolation of the suburban working classes, […] *autoroutes à péage*, or toll roads […] exclude the poorest' (Hornsby & Jones, 2013, 107).

Constantinos Doxiadis aimed to incorporate a concept of mobility into his architectural and urban planning strategies. He employed different concepts to refer to different understandings of mobility corresponding to different historical eras. For the city of the twentieth century, he used the concept of 'megapolis', arguing that its main characteristic was the perpetual intensification of mobility flows, which would break the limits of the cities, altering not only their structure but also most importantly their very meaning. Doxiadis was convinced that the age of automobility demanded the founding of new urban types, which would be organized like beehives around multiple centres. (Doxiadis, 1962) Another concept of Doxiadis that is useful for analysing the relationship between mobility and urban planning is that of 'Ecumenopolis' and its relation to his understanding of highway networks. 'Ecumenopolis' started off with the hypothesis that urbanization, population growth and the development of means of transport and human networks would lead to a fusion of urban areas, leading to megalopolises forming a single continuous planetwide city.

Within the Italian context, the intensification of the concern about the notions of

'città territorio' and 'nuova dimensione' is closely connected to the shift from the interest in the historical city to the concern about territory (Charitonidou, 2018) During the 1950s and 1960s, this reorientation was expressed through the emergence of a variety of competitions for Centri Direzionali, which was mediating mechanisms between city and territory, and were home to the new oil headquarters. Luigi Piccinato's work played an important role in the emergence of the typology of the Centri Direzionali. The concept of "città territorio" appeared in a workshop organized in 1962 by Carlo Aymonino and entitled "La città territorio. Un esperimento didattico sul Centro direzionale di Centocelle in Roma" (Aymonino et al, 1964). In the framework of this workshop, a panel on 'città territorio' was held with participants Alberto Samonà, Ludovico Quaroni, Carlo Aymonino and Vieri Quilici. The concept of the 'città territorio' is more Italian than that of the 'città regione', which was more influenced by the American context given that Regions in Italy were officially established in 1970. However, the Regions were included in the Constitution in 1948, and the issues related to regional planning had already been dealt with in the Planning Law in 1942. The intensification of the concerns about the notions of "città territorio" and "nuova dimension" is closely connected to the shift from the interest in the historical city to the concern about the concept of territory. This reorientation, which took place in the 1950s and 1960s, was expressed through the emergence of a variety of competitions for Centri Direzionali. Centri Direzionali as programs were perceived as mediating mechanisms between city and territory. An important event for understanding how the suburbanization of the post-war Italian cities was conceptualized is the meeting of the Istituto Nazionale Urbanistica of 1959, during which the debate unfolded around the notion of the "nuova dimensione" with main participants Giancarlo De Carlo and Ludovico Quaroni. The emerging and intensified interest in the concept of the "nuova dimensione" was linked to the acknowledgement of the fact that the urban system was in a state of permanent transition. The question of the "nuova dimensione" was also addressed at a conference entitled "La nuova dimensione della città" ("The New Dimension of the City") organized in January 1962 by Giancarlo De Carlo in the framework of the Istituto Lombardo per gli Studi Economici e Sociali (ILSES) in the town of Stresa on Lago Maggiore (Istituto lombardo per gli studi economici e sociali, 1962).

De Carlo defined the new city as a "whole of dynamic relationships … a territorial galaxy of specialized settlements" (Tafuri, 1986, 98).

Within the Dutch context, the Dutch Randstad had an important impact on the perception of the city from the car, and on the special character of the post-war suburban living culture in Dutch New Towns (Hein, 2020). Within the French context, particular emphasis should be placed on the analysis of the relationship between the French *villes nouvelles* project and the new highway network. Despite the fact that the *villes nouvelles* were conceived in relation to the new regional express network, their connection with the new highway network, which was also being constructed during the same period, was an important component of the project. The *villes nouvelles* project was launched in 1965 in order to respond to the French government's effort to decentralise Paris (Cupers, 2014; Merlin, Mom, 1991). The emergence of an ensemble of new architectural typologies in the *villes nouvelles* proposals is related to the promotion of the dissociation between pedestrian and automobile circulation, which is very present in the proposal for Toulouse-le-Mirail by Candilis-Jossic-Woods, which started in 1961 and constitutes one of the most iconic projects of the aforementioned team's experimentation with mass housing in France, and was developed around two core concepts: that of 'stem' *(trame)* and that of 'cluster' *(grappe)*.

The dissociation between pedestrian and automobile circulation became possible due to the design of the so-called *dalle* – a continuous 'linear street' connecting Bellefontaine, Reynerie and Mirail, offering "a zone of highly concentrated activities and density of collective life". The design of the *dalle* was based on the intention to free the pedestrians "from the bondage of the automobile", thereby "giving the 'street' a new prestige – the street regarded as the primordial function in urban life". As has been noted by Inderbir Singh Riar, cars arrived "only at the perimeter of housing blocks or [...] [headed] directly to parking underneath the dalle, a resident simply never had to cross the road to engage the new city" (Riar, 2018, 82). In a collage by Candilis-Josic-Woods representing the role of the 'stem' in their proposal for Toulouse-le-Mirail, we can see that they repeatedly used illustrations of cars (Fig. 3). What is noteworthy here is Candilis-Josic-Woods's understanding of the street "as a morphological structure and a social space of everyday life", which implies

a re-articulation of the relationship between the highways network and urban planning strategies. The fact that Candilis-Josic-Woods treated the street as "the structuring device for the urban plan of the whole development, a massive new town for 100.000 inhabitants" (Cupers, 2010, 109) is symptomatic of their endeavour to reshape the connection between urban planning and mobility patterns. Toulouse-le-Mirail was the very first Zone à Urbaniser en Priorité (ZUP) – an administrative formula established in 1960 with the goal to "set priorities for government financing and execution of urban infrastructure, as well as for the selection of sites" (Riar, 2018, 77).

An aspect that is useful for understanding the specificity of the automobile vision within the Swedish context is the relationship between architecture and corporatism. The automobile, as a physical and perceptual presence, has influenced the relationship between welfare landscapes and social housing in Sweden. During the 1950s and 1960s, when the Swedish social model achieved full employment, promoted consistent growth and maintained price stability, an innovative urban planning model known as the 'ABC' model[4] was developed, aiming to imitate the variety and animation of city life in newly created large-scale suburban towns. Special attention should be paid to the analysis of Vällingby, the first city designed according to this model, and to the transition from the 'ABC' model, which was based on a limited use of automobile transport, to a recent tendency towards a renewed role for motorways and their connection to housing design, exemplified in Järvalyftet (Mattsson, 2015).

Useful for analysing the specificity of the relationship between highway culture and urban planning is Simon Gunn and Susan C. Townsend's *Automobility and the City in Twentieth-Century Britain and Japan* (Gunn & Townsend, 2019). Within the British context, the London County Council (LCC), and its Architects' Department, was responsible for the construction of several projects that changed the image of British cities. Alison and Peter Smithson, who designed Robin Hood Gardens built by the Greater London Council (GLC), which replaced LCC in 1965, addressed the contrast between the new post-war tendencies and traditional society, reinventing

4.  A referred to Arbete, or work; B to Bostad, or housing; and C to *Centrum*.
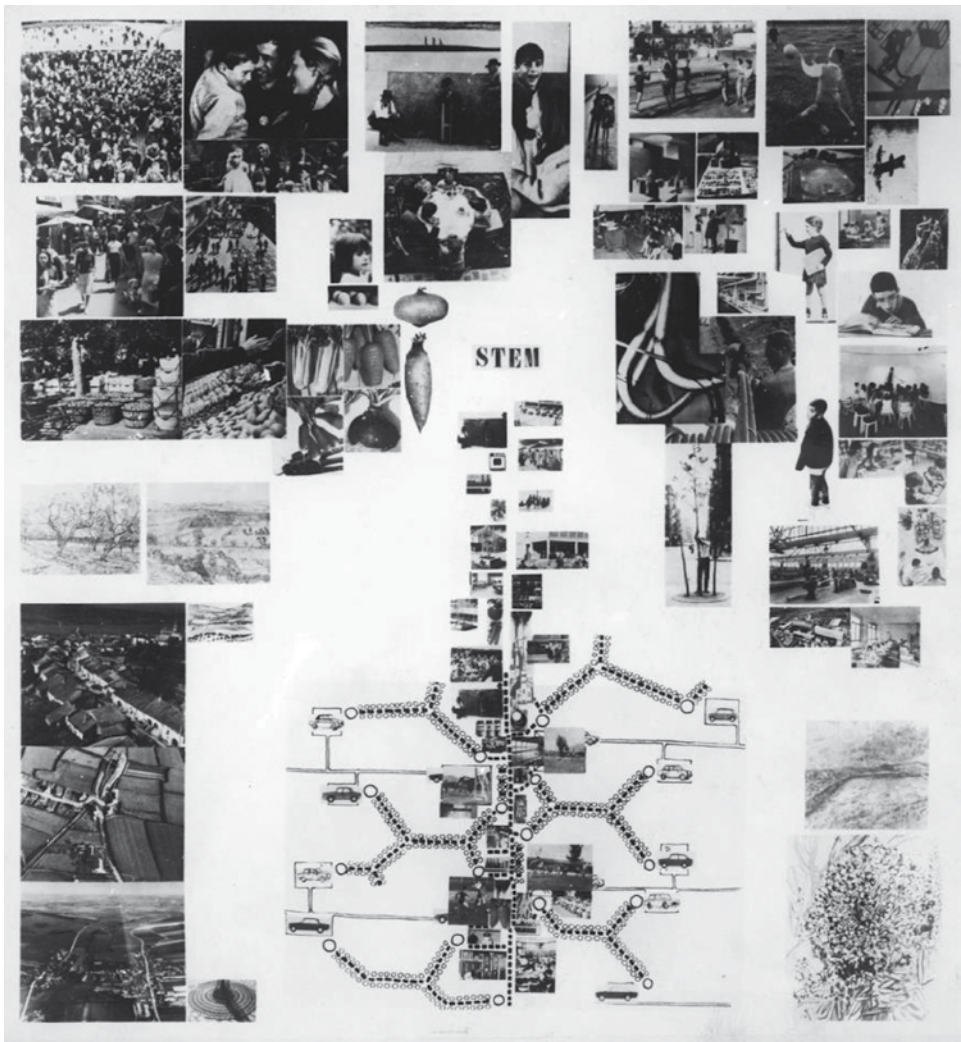
Fig. 3 – Candilis-Josic-Woods, Stem collage, 1961. Source: Shadrach Woods papers, Avery Library, Columbia University

the role of architecture within a context where the civic aspect became primordial. They conceived the car as an important means in this endeavour of architecture to respond to the welfare values of post-war society, proving that the emergence of a new understanding of citizens' sensibilities due to the generalised use of the car in the post-war society should be interpreted in relation to the welfare state (Smithson, 1983; Charitonidou, 2021a).

The link between the different architectural typologies under study is the fact that all of them are closely connected to the highway network. The question of suburbanization and its relation to automobile transport differs from one national context to the other: for instance, within some contexts, such as northern Italy, the existence of medieval and other urban patterns makes it necessary to conceive the network of automobile circulation in a way that extends or contradicts the existing layers of cities, since it is conceived as a new layer superimposed on top of existing networks. In Italy, suburbanization takes place over the existing pattern, extending or contradicting the latter. On the contrary, in other countries such as Sweden, suburbanization takes place in a more tabula-rasa way. Another aspect that should also be taken into account is the fact that shopping centres in France and Germany are more planned than in the case of Italy.

# Global palimpsestic petroleumscape or planetary urbanization?

The automobile is one of the key actors in the transformation of urban form and planning, significantly affecting the political, environmental, and economic spheres as well as their interactions, but there have been no studies that have examined this impact in a complex and holistic way, placing particular emphasis on the role of urban planning, architecture, and spatial imaginaries. The automobile vision plays a primordial role within the process of suburbanization. To refine the concept of suburbanization, we could develop an understanding of the trans-European network, which is based on a polycentric idea of the urban and suburban realities challenging the dichotomies between the centre and the periphery. The concept of "planetary urbanization" suggests an epistemological shift in the field of urban studies, promoting an understanding of urban constellations beyond the polarities characterising the field of urban studies in the early 20th century: it is useful for treating the connections between different national contexts and the relationship between the centres and peripheries and the urban and rural landscapes (Brenner & Schmid, 2012). Within such a perspective, the E-Road Network is understood as an actor of planetary urbanization, because it is the spine of planetary land-based transportation of both citizens and commodities.

The automobile vision plays an important role in promoting particular agendas related to the financial benefits of the use of highways for the circulation of commodities within a trans-European network. The role that oil companies play for the construction of spatial imaginaries of automobility and (sub)urban living should also be taken into account since they had an important impact on the historical transformations of the architects and urban planners' automobile vision during the post-war period. The idea of "global palimpsestic petroleumscape" employed by Carola Hein to examine how "petroleumscape […] shapes spatial practices and mindsets" (Hein, 2020, 101) tying "commodity and energy flows to diverse spaces" (Hein & Sedighi, 2016, 352). This concept is useful for comprehending the symbolic dimension of the modernisation of roads and the imaginaries of fast mobility,

on the one hand, the relationship between architecture, urban planning and logistics concerning the circulation of commodities via the E-Road network, on the other. The logistics of the land-based transport of commodities relate to the endeavours of the countries under study to use architecture and urban planning as agents for constructing imaginaries related to car travel. They also play an important role in shaping imaginaries related to the use of the automobile. Apart from analysing the changing role of automobile transport in processes of suburbanization, one should also try to relate historical perspective to contemporary conditions.

# Infrastructure and transformation of citizenship and selfhood

Important for realising how geopolitics and infrastructure interact is the relationship between European integration history, the history of European highway infrastructure and the history of automobile imaginaries in Europe. Kenny Cupers and Prita Meier's remark, in "Infrastructure between Statehood and Selfhood: The Trans-African Highway", that "[b]ecause of its scale, cost, and ambition, infrastructure is often thought of as a story of geopolitics, state building, and 'big men'" (Cupers & Meier, 2020, 63) is useful for understanding the impact of highway infrastructure – and of buildings erected nearby – on the relationship between citizenship and consumerism. In order to reveal the interconnections between infrastructure and transformation of citizenship and selfhood, one should place particular emphasis on demonstrating the relation of highway infrastructure to social issues and identity politics. For such a purpose one could draw upon an ensemble of recent anthropological studies focusing on the role of infrastructure (Dalakoglou, 2017; Harvey & Knox, 2015).

The aim of this paper is to contribute to the studies that investigate the relationship between the evolution of land-based mobility and logistics, and urban and suburban transformations, while adopting an interdisciplinary approach focusing on the interactions between networks of actors. Within the international

context, there is an ensemble of professional organizations that explore these issues such as the Congress for the New Urbanism (Swift, 2011; Talen, 2013). In parallel, researchers such as American urban planner, sociologist Clarence Arthur Perry (1872–1944), who was a staff member of the New York Regional Plan and the City Recreation Committee, started investigating the impact of the advent of the automobile on the shaping of turban fabric in response since the late twenties (Perry, 1929, 1939; Southworth & Ben-Joseph, 2003; Stein, 1969). The E-Road network concerns both individuals and commodities, and that the land-based transportation functions as an actor of planetary urbanization, focusing on the organization of the land-based trans-European transport network (TEN-T). Special attention should also be paid to the Rhine–Alpine corridor of the TEN-T since it crosses Switzerland.



Fig. 4 – TEN-T core network corridors. Atlantic, Baltic–Adriatic, Mediterranean, North Sea–Baltic, North Sea–Mediterranean, Orient–East Mediterranean, Rhine–Alpine, Rhine–Danube, Scandinavian–Mediterranean. Source: European Commission

# Around the political agendas behind the pre-eminence of land-based transport

The emergence of new architectural typologies, such as shopping centres and directional centres among others, is related to the political agendas aiming to legitimise the pre-eminence of land-based transport. An analysis of the different architectural typologies at the intersection of automobile and built environments and the variations in architectural typologies encountered on certain important routes of

the E-road network could help us shape a new methodology for understanding the infrastructural histories concerning the highways from a trans-European urban perspective and to establish methods permitting going beyond disciplinary studies of mobility and logistics in order to explore the nodes between mobility and locality. The comparisons of the imaginaries implemented in the architectural typologies of nodes within different national contexts give insight about how different types of highways cater to national identities, and how architects and urban planners accommodate them. The replacement of other modes of circulation of commodities by their transportation on tracks is connected to the construction of imaginaries regarding the fetish of speed. As Claire Pelgrims has highlighted, "fetish allows a transversal approach, interrelating with different interpretations of automobility infrastructure in mobilities studies" (Pelgrims, 2020, 94). Fetish is understood here as dependent "on a particular order of social relations, which it in turn reinforces" (Pietz, 1987, 23, 1985). During the post-war years, citizens sought to supplant traditional development patterns with new visions centred on the role of the automobile in daily life. Buildings, roads, nature, policy-makers, urban planners and architects should be understood as actors within a network in continuous becoming. The concept of 'evolutionary resilience', which has been examined by Carola Hein and Dirk Schubert, is useful for understanding the dynamic relationship between buildings, roads and nature (Hein & Schubert. 2021a; Hein & Schubert, 2021b), taking into consideration the fact that "[r]esilience has become a buzzword used to describe the capacity of cities to bounce back after disasters" (Hein & Schubert, 2021b, 235).

# The spatial embodiment of global economic flows

Vincent Kaufmann, in *Re-thinking Mobility: Contemporary Sociology*, argues that "the speed potentials procured by technological systems of transport and telecommunications [can] be considered vectors of social change" (Kaufmann, 2016, 99). He employs the term "motility" to refer to the operation of transforming speed potentials into mobility potentials, arguing that "[t]he notion of

motility allows [...] to distinguish social fluidity, from spatial mobility" (Kaufmann, 2016, 99). The social fluidity approach, currently present in debates in the social sciences, takes into account the role of "transport and communication systems as actants or manipulators of time and space" (Kaufmann, 2016, 4), placing particular emphasis on the fact that "the automobile [...] associates speed and freedom in space and time" (Kaufmann, 2016, 101). Particular emphasis should also be placed on the role of mobility in the formation of social positions. In parallel, the shift from the model related to contiguity to that related to connexity is pivotal for understanding the role of the E-Road network within this process of enhancing "the interaction of actors by cancelling [...] spatial distance" (Kaufmann, 2016, 22).

Actor Network Theory (ANT), path dependence theory and the concept of planetary urbanization are useful for better understanding the relationship between the spatial embodiment of global economic flows and the effects of networks of trade and transport, and the relationship between global networks and local transformations. The main characteristic of ANT, originally developed by Bruno Latour, Michel Callon and John Law, is the symmetrical treatment of human, social and technical elements within a system (Latour, 2005). The elaboration of methods related to ANT to tackle questions concerning urban studies has already been addressed in *Urban Assemblages: How Actor-Network Theory Changes Urban Studies* (Cvetinovica et al., 2017; Far as, 2010; Rydin & Tate, 2016; Farías, 2010; Farías, Bender, 2010). An understanding of highway infrastructure based on ANT implies that highways and architectural typologies encountered in them are understood as active elements of a dynamic urban system. ANT focuses on the interaction between the different actors of the network and is a convenient theoretical framework for studying the intersection of car and built environment, and for interpreting highways, automobiles and architectural and urban assemblages as actors of a dynamic network. ANT is also useful for interpreting mobility policies based on the supremacy of the associations between them, treating highway infrastructure mostly as infrastructure process, and as being in a dynamic state of continuous transformation.

ANT is based on the idea that "[o]bjects, tools, technologies, texts, formulae, institutions and humans are not understood as pertains

to different and incommensurable (semiotic) realms, but as mutually constituting each other" (Far as, 2010, 3; Far as & Bender, 2010). ANT can serve to treat space as one of the agents of the network under study, and path dependence is useful for analysing the transformation of the institutional and epistemological approaches concerning urban planning related to the generalised use of cars and the promotion of highway transport of commodities within a trans-European network (Sorensen, 2015). Departing from Carola Hein and Dirk Schubert's claim that "path dependence provides an important way to look at port cities" (Hein & Schubert, 2021b, 390), what I claim here is that path dependence is equally convenient for examining the evolution of highway infrastructure and mobility policies. Taking into account that "[u]sing the transformation of the form, function, and location of port infrastructure as the lens for understanding resilience [within a] [...] comparative framework [...] can provide new insight into the complex intersection between institutional decisionmaking and spatial development" (Hein & Schubert, 2021b, 391), what I argue is that studying the mutations regarding the form and function of highway networks within a trans-European perspective can contribute to a sharper understanding of the intersections between institutional decision-making processes and spatial development concerning mobility policies within Europe.

Vincent Kaufmann, in *Rethinking Mobility: Contemporary Sociology* (2016), draws a distinction between the areolar model, the network model, the liquid model, and the rhizomatic model. Taking into account the fact that the E-Road network can be understood as adopting a perspective that combines different aspects of the aforementioned models, the aim is to examine its shaping an approach based on the intention to transform motility into mobility. To understand the different functions of the architectural typologies encountered on the E-Road network in the process of planetary urbanization and in the production of flows of commodities and individuals within Europe, one could compare the different forms taken in different national contexts by the three kinds of nodes (Fig. 1). The latter are as follows: the architectural typologies of intermediary stops on highways (service stations, hotels, motels, gas oil stations, café-restaurants), the architectural typologies encountered at the gates to cities (business centres, shopping malls) and the new urban formations that enhanced

suburbanization, contributing to the creation of polycentric entities, such as the New Towns of the welfare states. This categorization of the typologies according to their function within the network of transport of commodities and individuals is useful for understanding the different approaches within each national context vis-à-vis the relationship between the automobile infrastructure and architecture and urban planning. "Transnational history" and its intention to treat the connections between different national contexts as central forces within the historical processes is based on the conviction that 'the historians must examine the specific relationships that constitute the links between concepts and their fields of emergence and evolution, in parallel with their investigation of the evolution of the concepts under study in order to understand which methods are most appropriate for the study and deepening of the objects of research object' (Charitonidou, 2016, 150).

# The shift from road to rail networks in switzerland

An aspect that is also interesting for better grasping the mobility patterns within the E-Road network is the shift from road to rail networks in Switzerland. The 'rolling highway' of Switzerland is a government-subsidized articulation between the E-Road Network and the Swiss railway network, whereby lorries are transferred onto trains in order to cross the Alps. Gotthard Base Tunnel played an important role in increasing local transport capacity through the Alpine barrier, especially for freight, notably on the Rotterdam–Basel–Genoa corridor, and in shifting freight volumes from trucks to freight trains. Taking into consideration the fact that "[t]he shift of goods transport to tracks is as declared, priority goal of the EU" (Scholl, 2012, 118; Günther, 2012) and "[m]odal shift of freight on to rail is […] part of Switzerland's federal Constitution" (OECD, 2012, 182). In 2010, upon the initiative of the Chair of Spatial Development at ETH Zürich, a strategic EU Interreg Project started with the objective to promote a dialogue regarding the relationship of the railway and spatial development, especially in connection with the North–South Link (Günther, 2012, 35). Departing from Felix Günther's claim that the

main objectives of the so-called NEAT project (Neue Alpen Transversale; New Railway Link through the Alps) were the banning of the circulation of commodities from roads, the use of railway infrastructure for their traffic, the reorganisation of routes and railway lines, and the improvement of the accessibility of Switzerland within Europe, one could reflect upon the role of Flachbahn tunnels within the Trans-European network. Flachbahn tunnels, including the Gotthard Base Tunnel, Lötschberg Base Tunnel and the Monte Ceneri Base Tunnel, aimed to reduce environmental pollution and to efficiently connect northern and southern Europe. Switzerland is located at the cross-roads of major European transport corridors. This makes the transalpine rail freight services very central in this process of shaping patterns of mobility within a trans-European scale.



Fig. 5 – Rolling Highway (RoLa) trains per day (August 2010). Source: Christoph Seidelmann, 2010, 27

# Conclusions

The paper presented an ensemble of key insights concerning a multi-layered analysis of the E-Road network and its relation to architecture and urban planning. Its main objective was to make explicit that it is necessary to shape methods aiming at a simultaneous investigation of the architecture of the automobile threshold spaces, the urban planning strategies and the variations of the imaginaries concerning European post-war welfare societies. In order to shape multi-layered methods, one should take seriously into consideration intertwinement of different scales, such as the architectural scale, the scale of urban planning and the territorial scale. In parallel, it is indispensable to take into account how the connection between the suburbs or the periphery and the city centre was treated within different national contexts.

The fictions related to automobility significantly transformed not only the relationship between the city centre and its territory but also the relationships between the different national contexts within Europe. The emergence of new models of daily life related to the model of working and living within a trans-European network contributed significantly to the perception of Europe as an expanding polycentric and dynamic entity. To address the question of the impact of the car on "planetary urbanization" (Brenner & Schmid, 2012) in a trans-European perspective, one should examine the role of the E-Road network in suburbanization and its impact on the shift towards the model of the polycentric city. Another question that emerges and is also topical as far as the debates around the rela-tionship between sustainability and mobility patterns are that concerning the mutations in spatial practices and mindsets that will emerge due to the shift from traditional petroleum fuels towards electric cars. Insightful for under-standing the shifts concerning the sociocultural dimensions of mobility of the reorientation towards the decarbonization of cities is the recently published issue of *Sustainability: Science, Practice and Policy* (Sonnberger & Graf, 2021). Special attention was paid, in the aforementioned issue, to the analysis of the importance of taking seriously the close con-nection of society, technology, movement and culture. The paper also intended to explain why architects and urban planners as visionaries function as agents of the dominant economic and social systems.

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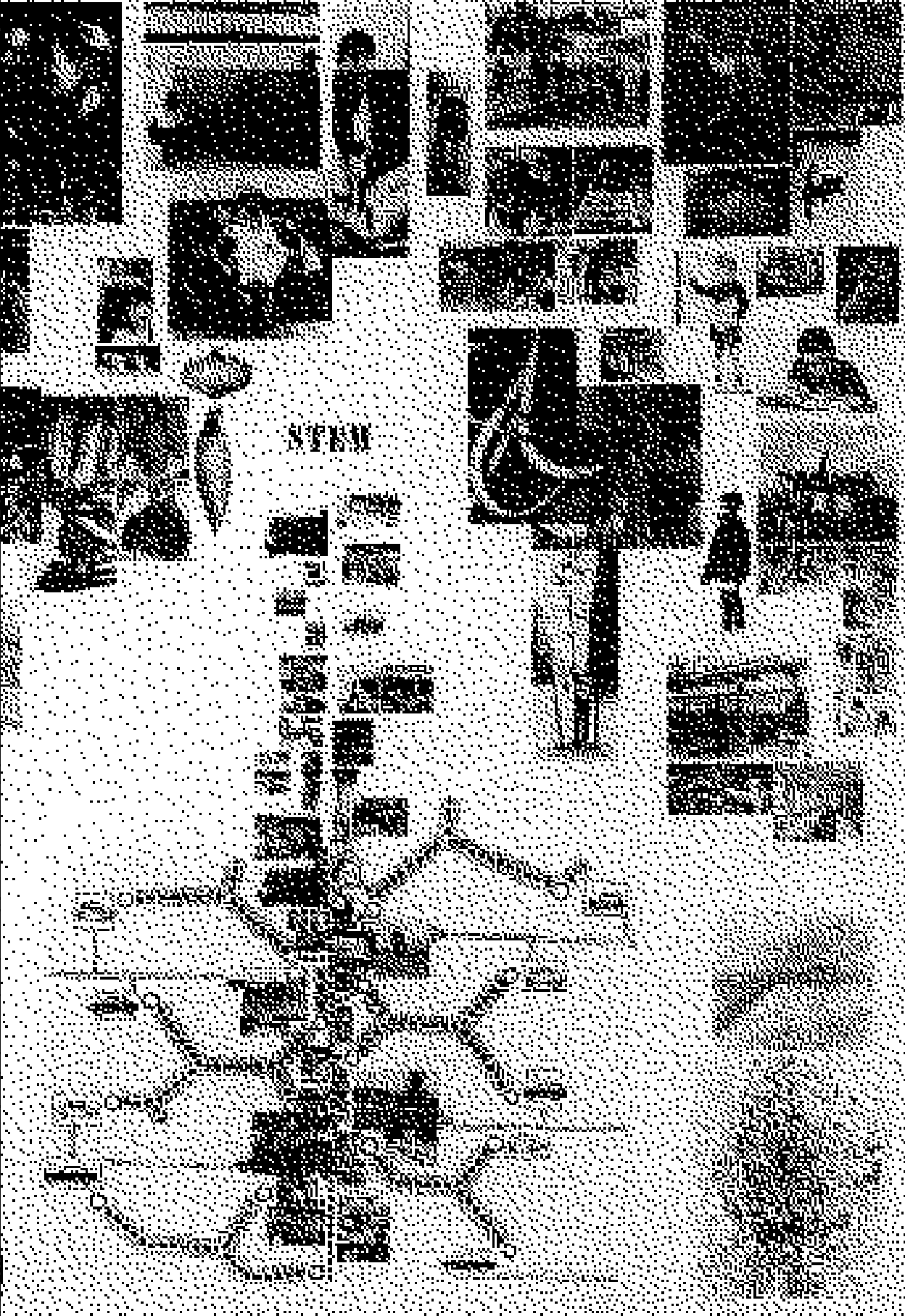
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# Postwar optimistic city development in Brussels. Conventional urbanism between public authorities and housing developers

In the thirty years following the Second World War, Brussels undergoes a fundamental transformation. Tertiary architecture has reshaped the historic city, while new green residential neighbourhoods have been built all around. These have formalized the borders of the Brussels agglomeration, marking a fairly clear distinction between the capital and its large surrounding area, which is characterized by a dispersed and low-rise urbanization, in the image of a large part of the Belgian territory.

The paper focuses on these green residential areas, and especially on high-rise private free-standing appartements buildings in parks, result of a specific agency of actors sharing a common global vision about architecture, way of living and degree of public involvement in urban production; an agency linked to a mode of contractual collaboration between the public and private sectors, known in postwar Belgium as "conventional urbanism".

The paper unfolds the different actors and their converging visions: the "commercial peripheral urbanism" of the mass distribution companies, the idea of "sub-(peripheral)--capital" of the municipalities of "short periphery of Brussels", the "Green City" advocated by the National Urban planning Administration and the dwellings in the green promoted by developers. The implementation of these visions appears contradictory with the dominant urban production in Belgium, driven by fiscal incentives participating in the growth of the dispersed urbanization. Only few specific developers like "Etrimo" and "Amelinckx" were able to find a way to consistently implement the green city with their standardised high-rise buildings.

Their production has participated in consolidating the structure of the green spaces and in making the identity of what can now be called the "Brussels Green Belt". By specifically targeting the low middle class looking for affordable, modern accommodation not too far from the city centre, these developers have created a peculiar market, which has formalized and consolidated the Belgian capital by surrounding it with dense but open neighbourhoods. Recognizing this makes it possible to insert these private investments into the postwar history of urbanization in Belgium, certainly with a relevance comparable to that given to garden cities in the understanding of urban planning history in the inter-war period.

**Keywords:** Urban regeneration; Public territorial policies; Commercial peripheral urbanism

# Introduction

From the point of view of Brussels' urban history, the literature portrays the modern transformation as erratic. The lack of a comprehensive plan, the enormous infrastructure works, and real estate speculation led to major demolitions in a city that had been relatively untouched by the two world wars, in a process since called "Brusselization".[1] This reading is also taken up in the international literature, denouncing the incapacity of Belgian public authorities to have an impact on the form of territorial development.[2]

However, this criticism has gradually shifted to a field of research on the impact of public policies in terms of promoting individual housing, incentives for the construction of social housing or new industrial zones linked to new transport infrastructures, with the conviction that it is not relevant to talk about architecture and the urban fabric without inserting it into a political history of Belgium[3]. This shift from the history of the city to a history of urbanization brings out the Belgian chaos in what Marcel Smets once called the 'banlieue radieuse'[4] - an oxymoron that brings together the imaginations of uncontrolled urban development and the most advanced modernist planning. The 'banlieue radieuse' refers to a specific development of the territory that is the spatial result of a decentralized policy of social emancipation and economic development via

incentives. In so doing, the reading of urbanization has become that of a 'palimpsest',[5] an apparent disorder following actually very precise rationales, carried by reflexive actors who each have -and often share- a clear vision of the shape of the territory.[6] Within this field, several scholars have focused on the way in which these territorial dynamics are combined in the development and transformation of large Belgian urban agglomerations, focusing on the work of the practices of project designers, public authorities and urban development actors and on the way they all develop ad-hoc practices of *urbanisms*[7] — the plural is important! — in order to steer the urbanization. In line with Socio-Technical studies, Actor-Network-theory's and the historical pragmatic approach, the research on urbanization looks not to the city as result but to cities "in the making" and to the logics behind this production.[8] In Brussels, the green residential districts, the so called "green crown"[9] is the result of a specific agency of actor sharing a common global vision about architecture, way of living and degree of state involvement in urban production. An agency which is linked to a specific mode of contractual collaboration between the public and private sectors, known as "conventional urbanism". The following lines intend to describe this specific urbanism, in the belief that its understanding essential to an understanding of the Brussels green belt and of Belgian urbanism in general.

1.    Among the main contributions to the post-war transformation of Brussels, we can quote: G. Abeels, *Pierres et rues: Bruxelles, croissance urbaine, 1780-1980 : exposition* (Bruxelles: Société Générale de Banque, St-Lukasarchief vzw, 1982); Jacques Aron, *Le tournant de l'urbanisme bruxellois:* 1958-1978 (Bruxelles: Fondation Joseph Jacquemotte, 1978); Claire Billen et Jean-Marie Duvosquel, *Bruxelles*, L'esprit des villes d'Europe (Anvers: Fonds Mercator, 2000); Maurice Culot, *Bruxelles Architectures de 1950 à aujourd'hui* (Bruxelles: AAM, 2012); Thierry Demey, Bruxelles: chronique d'une capitale en chantier. 2: De l'Expo '58 au siège de la CEE (Bruxelles : Legrain, CFC éditions, 1992); René Schoonbrodt, *Vouloir et dire la ville. Quarante années de participation citoyenne à Bruxelles* (Bruxelles: Atelier de recherche et d'action urbaines AAM, 2007); Michel Hubert, "L'Expo 58 et le 'tout à l'automobile'. Quel avenir pour les grandes infrastructures routières urbaines à Bruxelles?", *Brussels Studies*, no 22 (20 octobre 2008).
2.    Andras Faludi et Arnold van der Valk, *Rule and Order Dutch Planning Doctrine in the Twentieth Century* (Springer Science & Business Media, 1994); Koos Bosma et Helma Hellinga, *Mastering the City: North-European City Planning 1900-2000* (The Hague: NAI Publ, 1997); Donatella Calabi, *Storia della città: l'età contemporanea* (Padova: Marsilio, 2005).
3.    Maarten Delbeke, "Wie over architectuur wil spreken, ga rustig zitten", in *Jaarboek Architectuur Vlaanderen*, 1996-1997 (Brussel: Ministerie van de Vlaamse Gemeenschap, 1997), 81-87.
4.    Marcel Smets, "La Belgique ou la banlieue radieuse", in *Paysages d'architecture (catalogue d'exposition)* (Bruxelles: Fondation de l'Architecture, 1987).

5.    André Corboz, "(1983). 'Le territoire comme palimpseste'", *Le territoire comme palimpseste et autres essais*, Tranches de villes (Paris: De l'Imprimeur, 2001).
6.    Bénédicte Grosjean, *Urbanisation sans urbanisme: une histoire de la ville diffuse* (Wavre: Mardaga, 2010); David Peleman, "Les hommes de la route. Engineering the urban society of the modern road in Belgium, 1889-1962" (Proefschrift ingediend tot het behalen van de graad Doctor in de Ingenieurswetenschappen: Architectuur, Gent, Universiteit Gent, Faculteit Ingenieurswetenschappen, Vakgroep Architectuur en Stedenbouw, 2014); Michael Ryckewaert, *Building the economic backbone of the Belgian welfare state infrastructure, planning and architecture, 1945-1973* (Rotterdam: 010, 2011); Fredie Floré, *Lessen in goed wonen: woonvoorlichting in België 1945-1958* (Leuven: Universitaire Pers Leuven, 2010); Els de Vos, *Hoe zouden we graag wonen?: woonvertogen in Vlaanderen tijdens de jaren zestig en zeventig* (Leuven: Universitaire Pers Leuven, 2012); Guillaume Vanneste, "Large Landholdings in Brabant: Unravelling Urbanization Processes in the City-Territory", *Urban Planning* 5 (2020): 116; Michiel Dehaene, *Gardening in the urban field* (Ghent: A&SBooks, 2013); Bruno de Meulder et al., "Patching Up the Belgian Urban Landscape", *Oase*, n° 52 (1999): 78-113; Greet De Block et Janet Polasky, "Light railways and the rural-urban continuum: technology, space and society in late ninnteenth-century Belgium", *Journal of Historical Geography*, no 37 (2011): 312-28.
7.    Michiel Dehaene, "Belgian Design Laboratories of Post-Sprawl Urbanisation", in *Shaping Regional Futures: Designing and Visioning in Governance Rescaling* (Springer, 2019), 147-59, https://doi.org/10.1007/978-3-030-23573-4_11.
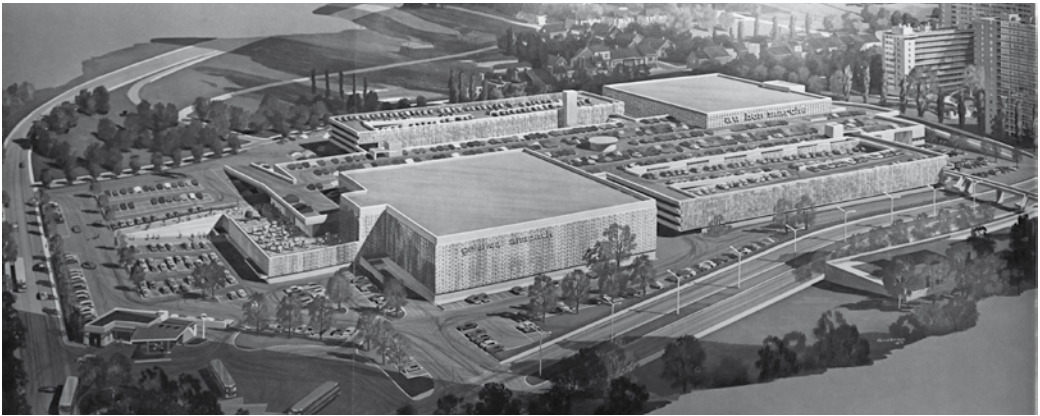
Fig. 1 – Promotional representation published by developer Devimo, of the project of the Westland Shopping Center in Anderlecht, at the Western fringe of Brussels, deserved by the Brussels peripheral highway, connected to a new high-rise neighbourhood. Source: Fonds GIB Group, Bibliothèques et Archives de l'ULB

# Commercial peripheral urbanism

In 1972 the Westland Shopping Centre was opened in the municipality of Anderlecht, on the edge of the Brussels agglomeration. This opening is the achievement of the 'commercial peripheral urbanism'.[10] The concept is pro-moted by Maurice Cauwe, CEO of Le Grand Bazar d'Anvers (later G.I.B. Group), pioneer in Europe in the development of supermarkets and shopping centres. From the beginning of the 1950s, Cauwe sought to renew the old

concept of the 'department stores' traditionally located in the city centres, aiming to target a new kind of car-based clients, both those from the wider urban periphery and those from the direct surrounding new neighbourhoods. Cauwe was inspired by the experiences of hypermarkets and shopping malls in the United States.[11] He quickly became a protagonist in the dissemination of mass distribution methods in Belgium and Europe, being the chairman of the Association of Large Enterprise of Distribution in Belgium (AGED) and of the Urbanism and Trade International Association (URBANICOM), founded in Brussels in 1966.[12]

However, the model that the GIB group wants to promote clearly distances itself from the American model and relies on the Swedish precedents of "integrated shopping centres", wich Cauwe refers to frequently from 1958. An important reference was Vällingby, a satellite town of Stockholm (1957) that Cauwe visited in 1961[13] and that published in Belgian

8.	Isabelle Doucet, "Making a city with words: Understanding Brussels through its urban heroes and villains", *City, Culture and Society*, Traceable Cities, 3, no. 2 (1 juin 2012): 105-16, https://doi.org/10.1016/j.ccs.2011.11.004; Bruno Latour, *Re-assembling the social: An introduction to actor-network-theory* (New York: Oxford Universitary Press, 2005); Isabelle Stengers, "Introductory Notes on an Ecology of Practices", *Cultural Studies Review* 11, no 1 (2005): 183-96; Francis Chateauraynaud et Yves Cohen, *Histoires pragmatiques* (Paris: Editions de l'Ecole des hautes études en sciences sociales (EHESS, 2016); Viviane Claude, *Faire la ville: les métiers de l'urbanisme au XXe siècle* (Marseille: Parenthèses, 2006); Benedikte Zitouni, *Agglomérer: une anatomie de l'extension bruxelloise, 1828-1915*, Cahiers urbains (Bruxelles: VUBPress, 2010); Geoffrey Grulois, "De la région à l'unité de voisinage: l'urbanisme du Groupe L'Equerre, 1937-1952", *VLC architectura* 2, no 1 (2015): 1-31; Tom Broes, "Urbanisons! Urbanising the Antwerp Agglomeration, 1907--1939" (Gent, Ugent, Faculteit der Toegepaste Wetenschappen, 2021); Gery Leloutre, "La transformation moderne de Bruxelles. Processus d'agencement de l'espace urbain bruxellois entre 1949 et 1979" (Bruxelles, Universite libre de Bruxelles, Faculté d'Architecture, 2020).
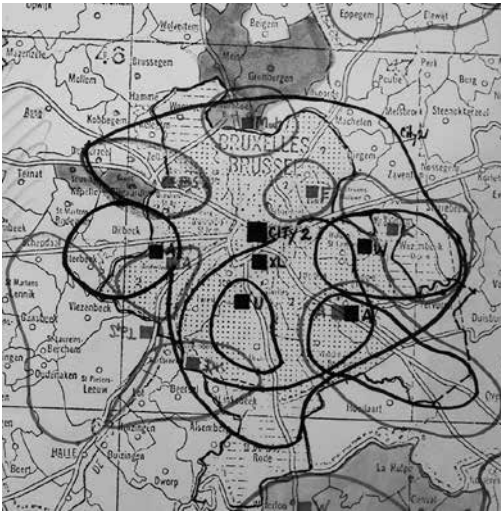9.	Géry Leloutre, "Le Park System d'Anderlecht. Construction d'un espace public pour la couronne verte de Bruxelles", *Bruxelles Patrimoines* 22-23 (2017): 114-29.
10.	Maurice Cauwe, "Commerce et Urbanisme (conférence présentée à la tribune de l'A.I.Lg. le 20 mars 1966)", *R.U.M.*, no 10 (1966): 253-61.

11.	Cauwe made there no less than 33 study trips between 1957 and 1981 including several assignments for the Belgium Service for the Advancement of Productivity in 1960 and 1961 which had a decisive influence on the construction of the first shopping centres in Belgium
12.	Yannick Vanhaelen et Géry Leloutre, "Shopping Centres as Catalyst for New Multifunctional Urban Centralities: The Case of Two Shopping Centres around Brussel", in *Shopping Towns Europe: Commercial Collectivity and the Architecture of the Shopping Centre, 1945-1975*, éd. par Janina Gosseye et Tom Avermaete (London: Bloomsbury Academic, 2017), 52-53; see also, Aron, *Le tournant de l'urbanisme bruxellois*.
13.	Incidentally the same year that Lewis Mumford praised this urban development in his book *The City in History.* Lewis Mumford, *The City in History: Its Origins, Its Transformations, and Its Prospects* (London: Secker & Warburg, 1961).
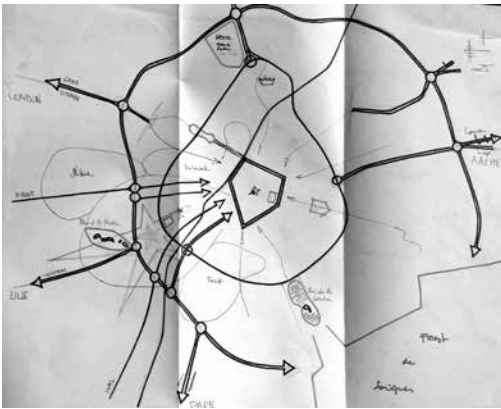
Fig. 2 – Two parallel but converging visions.
Up: GIB Group. Areas influence of Supermarkets GB and shopping centres around 1970 (Fonds GIB Group; Bibliothèques et Archives de l'ULB)
Down: Diagram by Jef Janssens representing the Sub-capital of the West, a well equiped green neighborhood in between city core and large periphery, around 1965. Source: Janssens, Bibliothèques et archives de l'ULB

of Stockholm as an example in a note from the early 1960s where he refers to shopping centres as a key element in turning the news green neighbourhoods in construction around Brussels into true "peripheral sub-capitals".[15] The image published around 1970 by Devimo, the developer, shows the Westland directly connected by pedestrian walkways to well-ordered housing developments in large public parks, separated from the wide modern roads dedicated to car traffic. It is the perfect illustration of the '*Ville verte*' as envisioned by both the municipal authorities and the national urban planning administration.

# City production process in Belgium

However, what is most interesting about the image published to promote the construction of the Westland shopping centre (Fig. 1) is not what it wants to show, but the background. A set of discontinuous rows of individual houses can be seen. This is the outcome of the classical urbanization in Belgium, resulting from the parallel and disjointed action of private investors on the one hand, and of the public authorities who install the urban infrastructure, mostly limited to streets, utilities and a few scattered facilities. The planification of this development is limited to alignment plans, pure passive and reglementary documents, heritage of the *art urbain des tracés*, bringing together on the same infrastructural basis economic and urban development, what is recently been described as *cheap urbanization*.[16] Until the post-war period, the Brussels agglomeration grew incrementally in line with the general alignment plans drawn up by the municipalities under relative provincial coordination.

Beyond the aspect of the planning device, this parallel cheap urbanization points out a major feature of the Belgian tradition of urban planning: direct intervention in the construction of the city is practically non-existent. Looking to housing sector, public action is primarily concerned with indirect support for construction, via incentives, one of the most

architectural reviews from its construction.[14] In Vällingby, the shopping centre was part of a public-private joint venture at the heart of the new town, which included housing, social, cultural and civic services and leisure activities.

Vällingby is also a major reference for the local authorities, especially for Jef Janssens, the urban planner for the municipality of Anderlecht. He mentions this case

14.   Among others, in 1957 : Etienne J. Guerin, "Vällingby, un nouveau centre suburbain suédois", *La Maison* 13, no 10 (1957): 316-19.

15.   Jef Janssens, "Note sur l'avenir d'Anderlecht", s.d., 16, Fonds Janssens, boîte 4, farde 5, Archives et Bibliothèque d'architecture de l'ULB.
16.   Dieter Bruggeman, "Urban questions in the countryside: urbanization and the collective consumption of electricity in Belgium, 1900-1940" (Gent, Universiteit Gent, 2019).
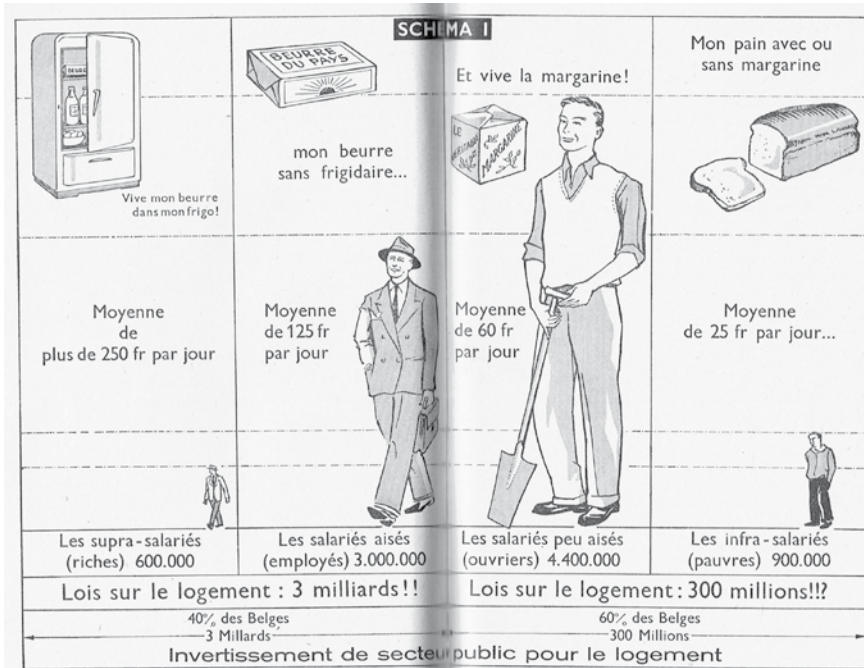
Fig. 3 – Critic of the distribution of financial resources for housing between support for private initiative and housing construction, by Abbot Edouard Froidure, struggling in the 1950's for an eradication of the slums in the Belgian capital. Source: 1933, Edouard Froidure, Paria 57. Les infra-salariés, les taudis, les enfants moralement abandonnés, Brussels : Stations de plein air

important of which is the policy of support for individual ownership. The construction of social housing, for example, concerns only a very limited portion of public investment, which was mainly through grants to individuals, especially from 1948 with the De Taeye act.[17] This has resulted in the absence of major players in housing construction in Belgium, in contrast to neighbouring countries such as France, Germany or the Netherlands.

When, in the post-war period, modernist planning principles gradually took over from the alignment plan, and the authorities, as a result, sought to control not only building permits but also all aspects of urban form, the building program and the pace of construction, this lack of a major player was to be severely felt.

# Ville verte in open panning

The specific experience of the garden cities in Belgium, on the one hand, and the active participation of many influential Belgian architects in the CIAM, on the other hand, has indeed generated a shared culture around the form that the city should take beyond the old city centres. In the Belgian context of post-war period, the 'neighbourhood unit' model was widely adopted. It is the idea of a district self-sufficient for daily needs, organized along pedestrian walkways in linear public parks, towards which converge housing complexes freely implanted in the green. This is "open planning", with car traffic structured around the periphery of the residential areas, forming a grid that delimits each neighbourhood unit and, in fact, organizes the metropolitan structure.[18]

17.   Karina van Herck et Tom Avermaete, *Wonen in welvaart : woningbouw en woncultuur in Vlaanderen, 1948-1973* (Antwerpen: Vlaams Architectuurinstituut, 2006); Katrien Theunis, "De Wet De Taeye. De individuele woning als bouwsteen van de welvaartsstaat.", in *Wonen in welvaart. Woningbouw en wooncultuur in Vlaanderen, 1948-1973* (Rotterdam, Antwerpen: Uitgeverij 010, VAI, CVAa, 2006), 67-77.

18.   Grulois, "De la région à l'unité de voisinage: l'urbanisme du Groupe L'Equerre, 1937-1952"; Geoffrey Grulois, "La fabrication d'une culture urbanistique", in *L'Equerre. Réédition - The Complete Edition*, éd. par Sébastien Charlier (Liège: Fourre-tout, 2012), 76-91; Leloutre, "Le Park System d'Anderlecht. Construction d'un espace public pour la couronne verte de Bruxelles".
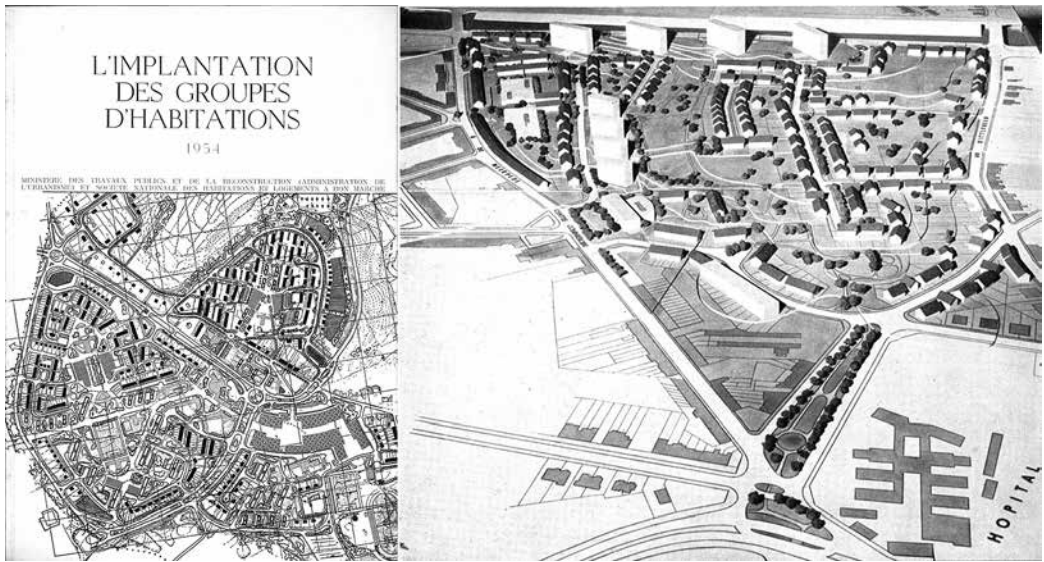
Fig. 4 – Crystallization of the concept of neighbourhood unit in Belgium.
Left: cover of an information brochure on neighbourhood planning published by the National Urban Planning Administration in 1954 (Parent, Emile, Bure, Victor, *L'Implantation des Groupes d'Habitation,* Bruxelles: Ministère des Travaux publics, SNHBM, 1954)
Right: Photograph of the model for the Scherdemael neighbourhood unit in Anderlecht, one of the few units entirely built in Brussels. Messin, Georges, "Anderlecht, Commune d'Avant-Garde". Source: *Cahiers de l'Urbanisme Communal, n°1,* Art et Technique, 1956

In 1944, new legislation replaces the instrument of the alignment plan with the development plan -le plan d'aménagement-, aiming to define both the urban form and the functions (with the zoning), keeping the planification task at the municipal level. At the same time, a national administration was created to oversee the elaboration of the development plans. The same administration is responsible for verifying and certifying skills of the technical staff within the municipal services, which will greatly increase training in town planning in the Belgian universities.[19] All this will widely disseminate and support the ideas of the green city and neighbourhood unit.

Nevertheless, Victor Bure, the director general of the national administration, is well aware of the limits imposed by the Belgian urbanization context to implement this green city. In the absence of massive investments in public housing construction, he calls for close collaboration with private real estate developers through conventions by which these developers undertake to take charge of the construction of housing as well as of all the public facilities linked to it. For Bure, peripheral urban planning will involve what he himself calls the "conventional urbanism".[20]

# Prototyping and industrializing private housing

The inter-war period was not only a time of formalization of modernist theories. Belgian legislation had also followed the evolution of the real estate market, with an increasing demand for apartment housing for a bourgeoisie that had previously occupied vast private mansions. The adoption of the 1924 law on joint property enabled the blooming of new real estate players. The construction company Amelinckx and the developer Etrimo emerged at this time and had a fundamental impact on the Brussels landscape.

19.    Sven Sterken, "Stedenbouw als instrument van sociale regeneratie. Gaston Bardet en het Institut supérieur d'urbanisme appliqué", in *Tekenen en betekenen. Opstellen over het architectuurinstituut Sint-Lucas, 1862-2012*, éd. par Rajesh Heynickx, Yves Schoonjans, et Sven Sterken (Leuven: Leuven University Press, s. d.), 158-67; Victor-Gaston Martiny, *L'Institut d'Urbanisme et d'Aménagement du territoire de l'Université libre de Bruxelles se raconte… ou un demi-siècle d'efforts en faveur d'un enseignement spécialisé de très haut niveau* (Bruxelles: Institut d'Urbanisme et d'Aménagement du Territoire, 1986).

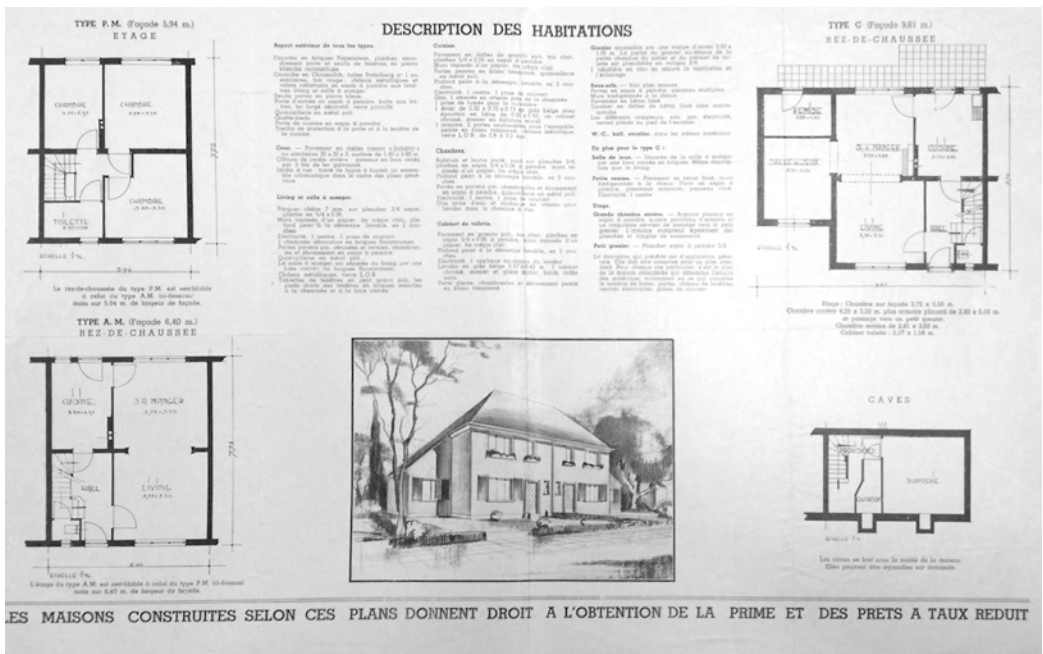20.    Victor Bure, Vers la rénovation urbaine, Cahier d'urbanisme 39 (Bruxelles: Art et Technique, 1961), 17.

**Fig. 5 – promotional folder for "De Taeye" turnkey houses provided by "Etrimo Social", a specific branch of Etrimo.**
Source: Archives d'Architecture Moderne, Fonds Colin

The need for reconstruction in the post-war period boosted the income of major construction companies and supported the demand for new housing. Besides Amelinckx, few entrepreneurs started to develop prestigious real estate projects in the early years, commissioning locally renowned architects such as Claude Laurens, Sta Jazinsky, Josse Franssens or Jacques Cuisinier.

Etrimo, and its founder, architect Jean-Florian Collin, distinguished themselves in the landscape of real estate development in the early 1950s. Collin will indeed understand the benefits of investing in the modest middle-class housing market. In the first instance, in the post-war period, Collin will offer a turnkey product of a single-family home, meeting the standards required to obtain the De Taeye law building incentives.

Jean-Florian Collin is fully in line with the general philosophy of stimulating individual private property. His innovation is to give it an industrial dimension. While some municipalities were already organizing a facilitation service for obtaining these grants, proposing a common architect to a series of candidate builders,[21] Collin was the first to propose a mass-produced product. The second innovation was to turn the demand for a house in the green into a collective dwelling in a park, a cheap translation of the concept of Le Corbusier's Cité Radieuse and the luxury residences then on the market, addressing this new offer towards the small middle class.

To some extent, Collin is here in line with the general philosophy of institutional support for private housing in Belgium, which combines a very liberal approach with the more social approach of emancipation of the largest possible part of the population. Collin campaigns for a wider accessibility to real estate through mortgage credit. He constantly tries to lower as much as possible the contribution from capital stock by the buyer. For Collin, real estate represents much more than a mean to access housing. In the first place, it takes on a

21.    Omer Van Audenhove, "Les communes et le problème du logement", L'Habitation 3, no 4 (avril 1950): 27-52; F. L., "Diest s'étend", L'Habitation 6, no 7 (septembre 1953): 427-33.

iedereen eigenaar

De « Résidence des Nations », één van de mooiste parels aan de Etrimo kroon.

De doktrine : de residenties steeds omringen met speelpleinen en tuinen.
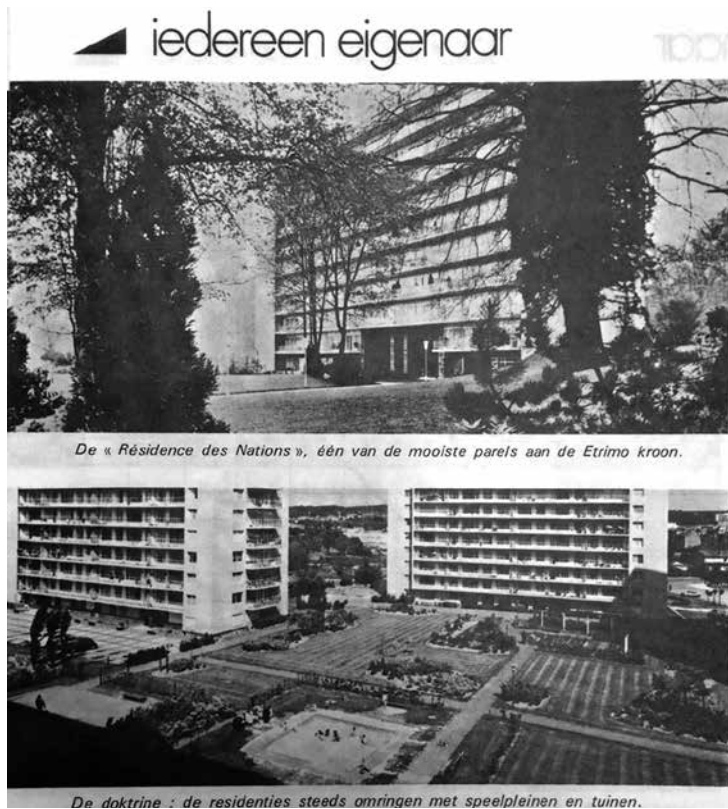
Fig. 6 – "All Owners". Promotional folder for Etrimo's appartments in a park in the "Quartier de l'Europe" estate, in Woluwe-St-Pierre, East of Brussels (Archives d'Architecture Moderne, Fonds Collin)

social value, intended to *repair birth inequalities.*[22] Real estate is then a tool to increase the wealth of the households and therefore to improve well-being, as he considers that buying a housing with a loan is a *real estate savings (épargne immobilière).*[23] This consideration will be one of his main selling arguments, with the slogan "*you are 30 time wealthier than you might think*".[24] With no legal framework at the

time, Etrimo set up a pyramid system, financing the construction of buildings with the purchase premiums of clients linked to future projects. A system that led to its bankruptcy in 1970.

# Conventional urbanism

From the mid-1950s onwards, in addition to Etrimo, few other construction companies are interested in the production of middle-class housing. However, Etrimo and Amelinckx are distinct in their efforts to optimize their buildings by systematically repeating the same model in order to reduce costs, without claiming an architectural identity, unlike their competitors who work with a specific architect for each project.

All of this companies target a potentially huge market - the middle class - but nevertheless reduced it to a very specific segment: the middle class looking to comfortable housing,

22.     "Since 1929, I studied the organization of housing development credit and especially the one dedicated to workers and craftsmen for housing with a modest stature. I considered [...] it was essential for a well balanced society to repare the inequality one bears when beginning in life and to make possible for all men to own a shelter, the first social unit ; it was necessary to create a general mortgage credit organization for construction." The sentence is from a small manifesto "L'épargne immobilière et sa fonction sociale" written by Collin in 1938. Politically active in liberal circles after a short-lived commitment to the Communist Party during the Second World War in which he joins the resistance, Collin reaffirms his faith in the benefits of property in a second book, "L'Europe des provinces" (1968), denying Marx's ideas : "the worker will be gentrified but no bourgeois proletarianized".
23.     Ibidem
24.     Title in the marging of "Construire", information brochure published by s.a. Etrimo

Fig. 7 – "Do not live without horizons": living in the green, at the fringe of the city but directly connected to the Central Business District. Picture on a promotional folder of C.R.M., terrain pour un ensemble d'appartements dans un parc à Ganshoren, Bruxelles. Source: Bibliothèques et Archives de l'ULB, Fonds De Coster

set up in a park, *assuring the security of children and some rest for retirement*,[25] close to the workplace. Put another way, it has to materialize *the triangle* "housing-work-leisure".[26] The interconnection between living in the greenery and being close to work is the main commercial argument: the expected customers essentially correspond to self-employed persons and employees from the tertiary sector. The publicity is explicit, as showed in a brochure edited by the company *Constructions Rationnelle Modernes* (C.R.M.), developing in the early 1960's a housing complex at the edge of the Brussels agglomeration in Ganshoren designed by the architect Cuisinier. With the slogan *Do not live without horizons, inhabit the 'green spaces' too*, the developer C.R.M. emphasizes, in his advertising brochure, on the interest of the housing situation, directly connected to the urban highway network of the capital. Still according to the brochure, it makes possible *to cross the city nearly without stopping as far as the employment and commercial centres*.[27]

This specific segment corresponds to a very specific geography, which René Blijweert,

CEO of Amelinckx, calls the "short periphery",[28] precisely that peripheral zone where the Brussels municipalities and the central administration aim to build the *Ville Verte*. These mass housing developers will therefore position themselves as the perfect partners to implement the conventional urbanism that Victor Bure calls for.

Conventional urban planning therefore delegates an important part of the production of the city to the private sector. This philosophy was confirmed and reinforced by the 1962 Town Planning Act, which confirmed the dominant role of the private sector in urban development. In particular, this law gives a developer the power, previously reserved exclusively for public authorities, to expropriate land for public interest in order to implement a development plan. Planning and real estate development will from this moment on join together in the same movement through the elaboration of development plans.

The municipality of Ganshoren, in the west of the Brussels agglomeration, is a paradigmatic example of this.[29] In the 1950s, this socialist municipality set up a vast green city development program. The director of

25.    *Idem* 38.
26.    s.n., "Quand le bâtiment va… et quand il ne va pas. Une interview de René Blijweert, administrateur-délégué, directeur général de la s.a. Amelinckx.", Bâtiment (1975) 100 : 61.
27.    Texte repris d'une brochure commerciale de la s.a. Constructions Rationnelles Modernes, Archives de l'ULB, Fonds De Coster

28.    Tom Broes et Michiel Dehaene, "When the market produced housing for the greatest numbers: the short-lived optimism of private property tycoons in post-war Belgium" (International Conference "Optimistic Suburbia". Large housing complexes for the middle-class beyond Europe, Lisbonne, 2015).
29.    For this section : Géry Leloutre et Hubert Lionnez, Ganshoren, entre ville et nature, vol. 52 (Bruxelles: Ministère de la Région de Bruxelles-Capitale. Direction des monuments et des sites, 2013).
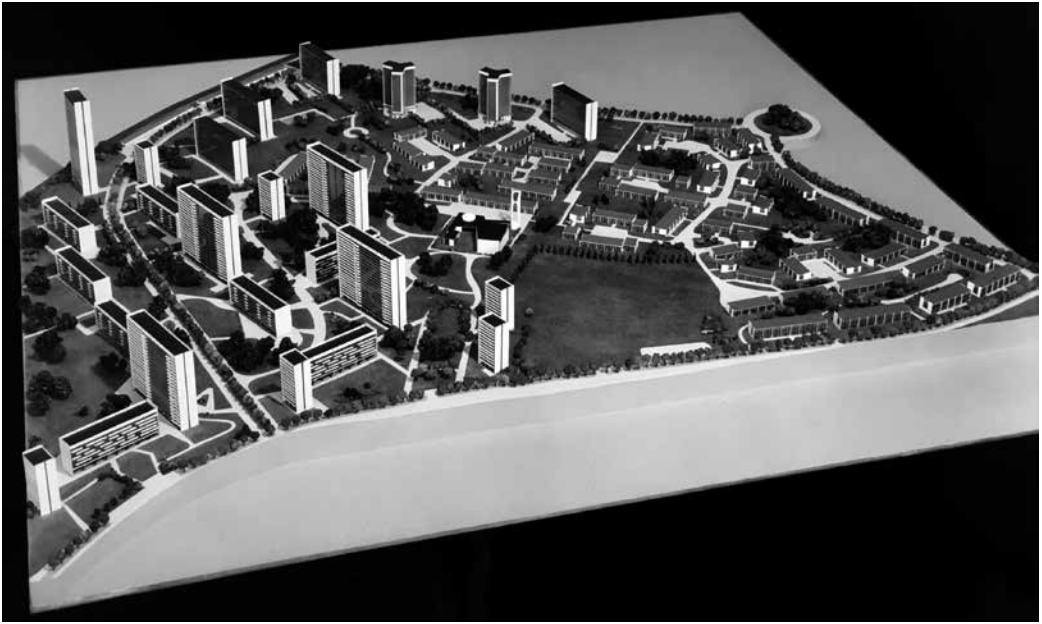
Fig. 8 – Model of the development plan for a Neightbourough Unit in Ganshoren drawn up by arch. Jacques Cuisinier in 1963 for the developer C.R.M. Source: Archives d'Architecture Moderne, Fonds Cuisinier

the Public Works Department, Octave Coene, was close to Victor Bure, and his collaborator had just completed his urban planning training with Gaston Bardet at the Brussels Institute of Applied Urban Planning.[30] A large part of the area to be developed belongs to the local nobility, who, in consultation with the municipality, commits Etrimo to subdivide and build on part of their land around the family castle estate. Collin built there one of his two main De Taeye house complexes in Brussels, next to generic apartment building complexes in a park. Next to this site, the municipality is planning a large agricultural area on either side of a linear park facing the castle. Part of the land, which was in the hands of the municipality, was given to the local social housing company. The design of the development plan for the other part is directly entrusted in 1963 to the developer CRM (Construction Rationelle Moderne, a program in itself), who, in agreement with the public authorities, commissions the design to their favourite architect, Jacques Cuisinier. In 1961, he had just completed plans for three buildings for CRM (those covered by the above-mentioned advertising brochure) on the edge of the site. Cuisinier reproduced the same type of building for the entire district, while leaving space

for a school and a new church, which was built in 1966 by the architects Thomisse and Biessemans. This 'Ville verte', which the press at the time enthusiastically hailed as a 'social residential centre',[31] was only partially realized. CRM went bankrupt in 1965,[32] and Etrimo in 1970. Other companies took over the construction of some of the buildings. Another part was built much later, with a completely different, post-modern vision.

# Conclusion

Conventional urbanism aimed to give an operative dimension to planning through alliances with major property developers. However, these alliances are more akin to sharing the territorial cake than to actual collective work. In Belgium, there is no mechanism, for example, for collectivizing the costs and benefits of an entire urban property development, or for ensuring continuity of execution. The

30.    Charles De Coster, La carrière de Charles De Coster au sein du Service technique de la commune de Ganshoren, 30 octobre 2012.

31.    "Importantes réalisations à Ganshoren", La Lanterne, 12 janvier 1962; "Au ryhtme où les constructions s'édifient dans le vieux Ganshoren, son aménagement sera terminé avant la date prévue", La Lanterne, 24 avril 1963; "Ganshoren gagnera 10.000 habitants en dix ans", La Lanterne, 11 avril 1963.
32.    Mathilde Clerfayt author et Mathilde Clerfayt, "Jacques Cuisinier: étude d'intégration urbaine et de mixité fonctionnelle dans les résidences à appartements de Jacques Cuisinier des années 1950 à 1970" (2019).

**Fig. 9 – Survey of apartments in a park developed in Brussels between 1950 and 1980. Source: Mapping Géry Leloutre, cartographic background © UrbIS**

change of operator has often been accompanied by a change of development plan, which quickly became less like planning than a form of long-term building permit.[33]

On the other hand, these developers have multiplied the typology of isolated apartments buildings in parks. Their production has participated in consolidating the structure of the green spaces of what can now be called the Brussels Green Belt, which forms the edge of the urban agglomeration. This is the paradox. By targeting a clientele that is a priori driven by fiscal incentives to participate in the growth of the dispersed

urbanization that characterises the centre of the Belgian territory, these developers have created a particular market, which has formalized and consolidated the Belgian capital by surrounding it with dense but open districts. Recognizing this makes it possible to insert these private investments into the history of the city and of urbanization, certainly with a relevance comparable to that of the garden cities in the understanding of urban planning in the inter-war period.

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33.    Belgian legislation limits the validity of a building permit from 1 to 3 years before the start of construction. A development plan is on the contrary perpetual (until it is proactively repealed), ensuring total security of the developer's investment. As a result, a large number of plans were linked to a specific real estate operation, often reduced to a single building. This fact is one of the main arguments of those who reduce the modern transformation of Brussels to brusselization, to an erratic destruction of the city. See, a.o. Marie-Laure Roggemans, "La planification de l'espace urbain bruxellois: analyse sociologique des plans particuliers d'aménagement approuvés par Arrêté Royal dans les 19 communes de l'agglomération bruxelloise" (Bruxelles, Université libre de Bruxelles, Faculté des sciences sociales, politiques et économiques, 1975), 148; Evert Lagrou, "La politique d'urbanisation dans le pentagone bruxellois depuis la fin de la guerre. Des travaux à grande échelle aux interventions par parcelles", in *Pierres et rues: Bruxelles, croissance urbaine, 1780-1980: exposition organisée par la Société générale de banque en collaboration avec la "Sint-Lukasarchief" et G. Abeels, 18/11/82-21/1/83.* (Bruxelles: Société Générale de Banque, St-Lukasarchief vzw, 1982), 347.

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# Stuck in the Middle: the Middle Class in the Middle of the Wildness

The contribution investigates the imaginary underlying two new communities born between the 60s and the 70s: Parly 2 and Milano 2. Waving between *difference and repetition* (Deleuze, 1968), the developers build new residential complexes for the middle class multiplying their respective "mother cities": Paris and Milan.

Unlike the novel *La possibilité d'une île* (Houellebecq, 2005), where the protagonists Daniel 1, Daniel 2, Daniel (x) are generated over time, in the case of Parly 2 and Milano 2, the two communities become a synchronic space, another Paris and another Milan and their inhabitants are thus conscious pioneers of a new transfigured reality to be nourished with new imaginaries.

On the one hand, Parly 2 reiterates a well-known question: if the contemporary is a *consumer society* (Baudrillard, 1976), the space identifying a community is the largest shopping center in France (Koolhaas, 2000). On the other hand, Milano 2 underlines how the imaginary of a *society of the spectacle* (Debord, 1967) can only be based on a television community that inhabits the spaces of the national-popular collective imagination.

However the glue among the individuals within the two communities and between the two case studies themselves seems to be embodied by the edenic feature of the wildness which represents the empty space among different artifacts, being capable of building desire, identity and community. In addition, in the enclaves of Parly 2 and Milano 2 the wildness constitutes a dimension where the unexpected break into the small bourgeois cosmos (Ballard, 1988) and at the same time symbolized an open space where *difference and repetition* structure a possible imaginary for the Middle Class' Housing of the future.

**Keywords:** Wildness; Community; Imaginary

< Telemilano. Source: *Milano 2. Una città per vivere*, Edilnord 1976.

# Introduction

The contribution investigates the imaginary underlying two new communities born between the 60s and the 70s: Parly 2 and Milano 2. Waving between *difference and repetition*,[1] the developers build new residential complexes for the middle class multiplying their respective 'mother cities': Paris and Milan. Unlike the novel *La possibilité d'une île*,[2] where the protagonists Daniel 1, Daniel 2, Daniel (x) are generated over time, in the case of Parly 2 and Milano 2, the two communities become a synchronic space, another Paris and another Milan and their inhabitants are thus conscious pioneers of a new transfigured reality to be nourished with new imaginaries.

On the one hand, Parly 2 reiterates a well-known question: if the contemporary society "thinks itself and speaks itself as a consumer society",[3] the space identifying a community is therefore the largest shopping center in France, a paradigmatic example of our new cathedrals sustained by air-conditioning and an expression of *Junkspace*[4] in which *shopping eliminates reality as much as possible*.[5] On the other hand, Milano 2 underlines how the imaginary of a *society of the spectacle* can only be based on a television community that inhabits the spaces of the national-popular collective imagination.[6]

However the glue among the individuals within the two communities and between the two case studies themselves seems to be embodied by the edenic feature of the wildness:[7] it represents the empty space among different artifacts, being capable of building desire, identity and community. In addition, in the enclaves of Parly 2 and Milano 2 the wildness constitutes a dimension where the unexpected breaks into the small bourgeois cosmos, as in the Ballard's novel *Running Wild*,[8] and at the same time symbolizes an open space where *difference and repetition* structure a possible imaginary for the Middle Class' Housing of the future: the Middle Class will be stuck in the middle of the wildness.

# Parly 2: a *ville nouvelle* fluctuating between Versailles and the Junkspace

*Avec Versailles Louis XIV avait déjà souhaité transporter Paris à la campagne. À proximité de ces jardins qu'il a voulu les plus beaux du monde, avec Parly 2 son rêve est en train de se réaliser.[9]*

With these words – "With Versailles Louis XIV had already wanted to transport Paris to the countryside. Near these gardens that he wanted to be the most beautiful in the world, with Parly 2 his dream is becoming reality" – a 1966 Parly 2 advertisement announced the imminent construction of a new city. Clear is the intention on the developers' side to be in continuity with the spatial logic and with the

1.   Cf. Deleuze, Gilles. 1968. *Différence et repetition*. Paris: Presses Universitaires de France.
2.   Houellebecq, Michel. 2005. *La possibilité d'une île*. Paris: Fayard.
3.   "Consumption is a myth. That is to say, it is a statement of contemporary society about itself, the way our society speaks itself. And, in a sense, the only objective reality of consumption is the idea of consumption; it is this reflexive, discursive configuration, endlessly repeated in everyday speech and intellectual discourse, which has acquired the force of common sense. Our society thinks itself and speaks itself as a consumer society. As much as it consumes anything, it consumes itself as consumer society, as idea". Baudrillard, Jean (1970). 1998. *The Consumer Society: Myths and Structure.* London: Sage Publications: 194.
4.   "Junkspace seems an aberration, but it is the essence, the main thing. the product of an encounter between escalator and air-conditioning, conceived in an incubator of Sheetrock (all three missing from the history books). [...] A single shopping center is now the work of generations of space planners, repairmen, and fixers, like in the Middle Ages; air-conditioning sustains our cathedrals". Koolhaas, Rem (2001). 2002. "Junkspace." *October*, no. 100 (spring): 175.
5.   "The essence of shopping is to eliminate reality as much as possible" is a phrase uttered by Rem Koolhaas at the presentation of his essay *Junkspace* and included in the opening of the track "Love at The Mall" from Tempers' 2018 album *Junkspace*.
6.   Cf. Debord, Guy. 1967. *La société du spectacle*. Paris: Gallimard.

7.   On the use of the word 'wildness' instead of the more politically and historically connoted 'wilderness', cf. "Vesper. Rivista di architettura, arti e teoria | Journal of Architecture, Arts & Theory", *Nella selva | Wildness*, no. 3, 2020.
8.   Ballard, James Graham. 1988. *Running Wild*. London: Hutchinson.
9.   Opening sentence of a 1966 television advertisement for Parly 2. Accessed August 28, 2021. https://www.youtube.com/watch?v=wtHpSxyW5hQ&t=53s.

Fig. 1 – Residences into the wildness, Parly 2. Source: Immobilière Jeanne d'Arc, Le Chesnay



Fig. 2 – Residences into the wildness, Milano 2. Source: *Milano 2*, Segrate 2019. Ph. Fabio Mantovani

imaginary of Versailles.[10] However, the new community, no longer an aristocratic one, but a community of consumption, needs to identify itself in another device in addition to the space of the wildness (already present in the gardens designed by André Le Nôtre): a shopping centre that is not the King's palace, but the capitalism's one. The real estate complex consists of 278 buildings which contain 7,500 apartments for a total of about 20,000 inhabitants. In the open space of the wildness there are 8 swimming pools, 7 tennis courts and 3 playgrounds for children as well as of course the Parly 2 shopping center and additional 3 shopping centers nearby.

The construction of Parly 2, developed by the entrepreneur and architect Robert Zellinger de Balkany with Jean Louis Solal and designed by the architect Claude Balik, started in 1966, shortly before the erection of the French *Villes Nouvelles*, with which it shares the cultural, political and economic background tethered to the *Trente Glorieuses* and De Gaulle's V Republic.[11] The SDRIF (*Schéma Directeur de la Région Île-de-France*, an urban planning document) is the result of the urbanisation policy brought about by the imposing technocracy acting with "coups de force",[12] supported also by the President in the name of an interventionist economic policy. Conversely, the developers of Parly 2 exploit the growth of a new bourgeoisie, in order to complete real estate transactions. The developers of the SDRIF aimed at building new cities which whilst being autonomous, would still revolve around the capital; contrariwise, Parly 2 seeks to be both in continuity and in strong discontinuity with it: the new city is throwing down the gauntlet to Paris and it is also a mockery towards the State's power. Here, contrary to the *Villes Nouvelles* foreseen by the SDAURP *(Schéma directeur d'aménagement*

10.    A page in the *Le Monde diplomatique* of October 1966 reports: "Il suffira aux habitants de Parly 2 de traverser la route pour entrer chez Louis XIV. C'est vrai. Louis XIV est le plus proche voisin de Parly 2. Si proche qu'en sortant de notre résidence par la porte Saint-Antoine on est tout de suite au Hameau de la Reine et au Petit Trianon. Tout le monde a bien réalisé l'exceptionnelle situation géographique de Parly 2. Pourtant c'est à peine croyable ! Le parc de Versailles, les bois et les forêts, cette vaste 'zone de beauté' due aux génies réunis de l'homme et de la nature, ce domaine jalousement protégé par la loi, entourent Parly 2". Editorial Staff, "Parly 2 se porte bien !." *Le Monde diplomatique*, October 1966: 7.

11.    Cf. Alduy, Jean-Paul. 1979. "Les villes nouvelles de la région parisienne. Du projet politique à la réalisation. 1963-1977." *Les Annales de la recherche urbaine*, no. 2: 3–78.
12.    Ostrowetsky, Sylvia. 2004. "Les villes nouvelles françaises: Paris et apories. Esquisse d'une problématique", *Espaces et sociétés* 119, no. 4: 26.
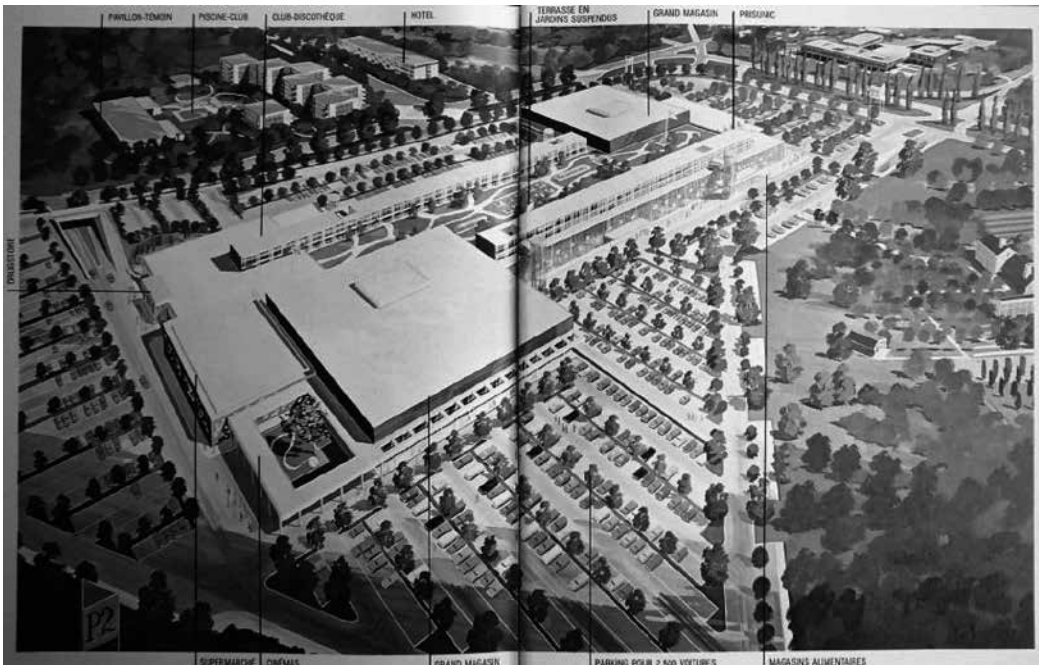


Fig. 3 – Rendering of Parly 2, late 1960s. Source: Archives nationales, France, CAC 199110585/011
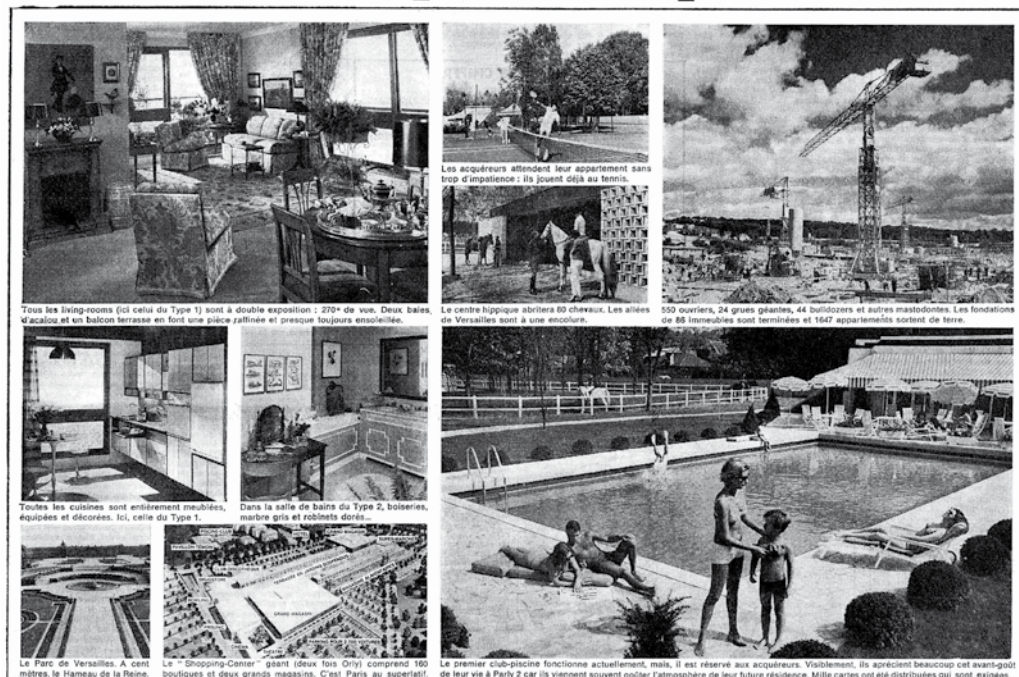
Fig. 4 – First pictures of the flats and the open space for the advertising campaign. Source: Le Monde diplomatique, October 1966: 7



Fig. 5 – One of the swimming pools belonging to some of the residences. Source: Cph Immobilier

*et d'urbanisme de la région de Paris)*, residents already feel invested with a colonising mission (to take charge of a new way of living in a second Paris and to perpetuate the traditions of the Parisian inhabitants in the new colony) and thereby they feel like a community. So, this optimistic suburbia of Parly 2 did not just want to be a new Versailles, but like Versailles itself, a new Paris in which the community could imagine itself within a prestigious context such as the French capital. In fact, the first name of Parly 2 was 'Paris 2', but it had to be changed due the opposition by the Paris Town Council (the Asterix comic book titled *Le Domaine des dieux*, published shortly after in 1971, made directly a satire of this polemic: Julius Caesar refuses that a new real estate complex is baptized 'Rome II'). The name Parly is therefore the combination of the name of Paris and that of the nearby forest of Marly. It was her little sister Elysée 2, succeeding Elysée 1, who launched first the fashion to add the number 2 to an existing place, to name new shopping centers or major real estate projects.

Compared to the architectural design of the *Villes Nouvelles*, for example, the architecture of Parly 2 fights against Ricardo Bofill's impossible historicism and his reactionary and authoritarian language at Les Espaces d'Abraxas in Marne-la-vallé,[13] nullifying fake columns in favour of an anonymous modern language, edulcorated by the landscape. A *sedated*[14] architecture and the abandonment of the architectonical heroic season are the only chance for the residents to live. On the contrary, the *Villes Nouvelles* do not seem to be taking on the responsibility of the end of the *Grands récits,*[15] and they leave no space to the user's identity. In fact, paradoxically, areas like Les Espaces d'Abraxas or Les Colonnes de Saint Cristophe, conceived as symbols

for a new community, leave no space to the individual who panders on their authority. This raises a question regarding the *Villes Nouvelles'* social value.

In this regard, the Parly 2's developer Zellinger de Balkany stated: "Nous avons eu l'idée de créer des logements bourgeois de qualité pour des classes moyennes. Je me sentais aux antipodes de l'architecture des villes nouvelles et des grands ensembles, bien loin des conceptions de Le Corbusier".[16] The paternalistic State tried, although failing, to make different social classes live together. Conversely, Parly 2 declares its desire to be an enclave with no illusions nor ethical implications for the Middle Class, an *enclave haut de gamme* proud to be part of the consumer society; Parly 2 is the first residential Junkspace.[17]

# Milano 2: an Italian dream

*Thinking of Milan 2, I realized the idea of a 'country house in the city', a house that offered many of the comforts of a city, without having to endure the chaos, the smog, and the lack of space. I was convinced that Milan 2 would attract inhabitants not for the accuracy of the finishes or for the delightful appearance of the apartments, for the fact that it satisfied the desire for a different lifestyle.[18]*

13. "On peut également prendre pour exemple le 'théâtre' de Bofill, à Marne-la-Vallée, d'où l'on voit des enfants aux tresses de rasta surgir d'une architecture grecque qui n'a aucun sens pour eux", *ibidem:* 31.
14. "On popular demand, organized beauty has become warm, humanist, inclusivist, arbitrary, poetic, and unthreatening: water is pressurized through very small holes, then forced into rigorous hoops; straight palms are bent into grotesque poses, air is burdened with added oxygen - as if only forcing malleable substances into the most drastic contortions maintains control, satisfies the drive to get rid of surprise. Not canned laughter, but canned euphoria. Color has disappeared to dampen the resulting cacophony, and is used only as cue: relax, enjoy, be well, we're united in sedation... Why can't we tolerate stronger sensations? Dissonance? Awkwardness? Genius? Anarchy?...", Koolhaas, Rem. Op. cit.: 185.
15. On the theory of the end of the 'Grand narratives', cf. Lyotard, Jean-François. 1979. *La condition postmoderne. Rapport sur le savoir*. Paris: Les Éditions de Minuit.
16. Cf. Bertrand, Philippe. 2018. "Parly 2. L'utopie commerciale revisitée." *Les Echos*, April 13, 2018. Accessed August 28, 2021. https://www.lesechos.fr/2018/04/parly-2-lutopie-commerciale-revisitee-1020145.
17. "The synthesis of profusion and calculation is the drugstore. The drugstore (or the new shopping centre) achieves a synthesis of consumer activities, not the least of which are shopping, flirting with objects, playful wandering and all the permutational possibilities of these. [...] It does not juxtapose categories of merchandise, but lumps signs together indiscriminately, lumps together all categories of commodities, which are regarded as partial fields of a sign consuming totality. In the drugstore, the cultural centre becomes part of the shopping centre. [...] The drugstore can become a whole town: this is the case with Parly 2 with its giant shopping centre in which 'art and leisure mingle with everyday life and each group of residences radiates out from its swimming-pool, where the local clubhouse becomes its focus. [...] We are at the point where consumption is laying hold of the whole of life, where all activities are sequenced in the same combinatorial mode, where the course of satisfaction is outlined in advance, hour by hour, where the 'environment' is total – fully air-conditioned, organized, culturalized", Baudrillard, Jean. Op. cit.: 27–29.
18. Ferrari, Giorgio. 1990. *Il padrone del diavolo*. Milano: Camunia: 36; translation by the author.

*It was decided to target that market segments that would have never thought to live outside the city, with proposals focused on some key elements: large spaces, greenery, safety… all presented as a great, great achievement.[19]*

Some of the statements may seem high-sounding, the register appears steeped in rhetoric, but many expressions used by one of the architects, Giancarlo Ragazzi, and the developer Silvio Berlusconi offer the key to understand the architecture of Milano 2, a city built in Segrate, near Milan, in 70's for 10 000 inhabitants with a 340 000 square meters park. Achievement, security, privacy, greenery, large spaces, comfort, a different lifestyle, desire and identity are terms proposed by the architecture and embodied by the new inhabitants. The success of Milano 2 lies in making his inhabitant perceive the coincidence between the lived space and the dreamed one.

Milano 2 is a toponym for a new architecture that does not reveal its authors or its functions, but that is inspired, like Parly 2, by the name of its *mater polis*: it is Milano that generates cities within a historical continuity of coexistence; as Raphael Hythlodaeus tells in the text dear to Silvio Berlusconi, on the island of Utopia "if you know one of their cities you know them all, for they're exactly alike, except where geography itself makes a difference. So I will describe one of them, and no matter which";[20] to better understand this geography similar to DillerScofidio + Renfro's 'Chain City',[21] it is worth considering that a decade later Berlusconi started the construction of Milano 3 and that in 2017 a new Milano 4 was rumored. In this territory without geographical coordinates, where everything sways among infinite numbers, among times that oscillate and confuse, the coexistence of several cities of Milano becomes temporal continuity in search of roots and legitimations. Using the nickname 'Milano' and connoting it historically with a number, allows, in fact, the new inhabitants to fully consider themselves Milanesi as much as the residents of Piazza Duomo.

One of the great innovations of Milano 2 consists in the vastness of the open space destined to greenery – to the wildness; not surprisingly, the emblem of the new architecture is the Ambrosian snake holding a flower in its mouth: a rhetorically green version of the great Milano. Berlusconi, like in the More's book,[22] personally supervises the 'open space' project which aims to make it coincide with the most significant image of the configuration of Milano 2. In the modern architecture, the space among things, from a heroic perspective, has become a void devoid of recognizability which is asked for maximum permeability and minimum resistance. Bernardo Secchi writes: "The 'open space' of the modern city was not thought, coded, theorized as a concrete 'thing' – and therefore in architectural terms as a space to be designed and built with aesthetic purposes: it has been defined abstractly, but only in the negative, like the void resulting from the arrangement of the solids of architecture on the ground".[23] On the contrary, the architecture of Milano 2 gives the landscape of the open space a key role in responding to the identity needs of the new inhabitants. The void between the artifacts thus becomes an opportunity for social aggregation and a place for the community, paying attention to its ambiguous character, to its potential to be conjunction and disjunction. Against the modern character, a continuous and articulated succession of landscape glimpses penetrate the city with controlled gradients, causing a sedated disorientation that does not make the development of the city clear at first glance. The Middle Class of Milano 2 is stuck in the middle of the wildness. The park seems developing seamlessly thanks to the three independent and differentiated road systems, intended for cars, bicycles and pedestrians. The roads for vehicular traffic in fact flow between two grassy banks, two meters below the ground level, disappearing from view. Some pedestrian and cycle bridges overcome the difference in height so that the different paths never cross, guaranteeing the safety of children. The open space is therefore not structured as an incongruous and casual set of the infamous 'green', the panacea for contemporary architecture, but is cared for in its most minute details. On

19.    Interview with architect Giancarlo Ragazzi in Di Ciaccio, Luca. *Utopia di strapaese. Urbanizzazione e potere, da Littoria a Milano Due passando per Disneyland*, master's thesis, La Sapienza Università di Roma. Accessed August 28, 2021. https://it.scribd.com/document/26006380/Utopie-di-Strapaese, accessed on 28.08.202; translation by the author.
20.    More, Thomas (1516). 2002. *Utopia*. Cambridge: Cambridge University Press: 44.
21.    Cf. the installation 'Chain City' by DillerScofidio + Renfro at the exhibition 'Out There: Architecture Beyond Building', 11. Mostra Internazionale di Architettura di Venezia, Venice, 2008.

22.    "And from that fact it appears that the city's founder must have made such gardens a primary object of his consideration", More, Thomas. Op. cit.: 46.
23.    Secchi, Bernardo. 1993. "Un'urbanistica di spazi aperti." *Casabella* LVII, no. 597-598, January-February: 8.

the one hand, in addition to a spatial continuity between interior and exterior guaranteed by numerous balconies, some model apartments – such as the one designed by Saporiti and published by 'Casa Vogue' among others[24] – have 'reforested' walls and expanses of wool moquette (similar to those designed by Nanda Vigo for Gio Ponti's house 'Lo scarabeo') that look like grassy carpets inside a domestic wildness; on the other hand, as in Nam June Paik's 'Tv Garden', the wildness enters the house secretly through the television cables: indeed, the design of technological systems is one of the founding acts of Milano 2. The new city hides the technology of a revolution in its belly; the edulcorated modernity cannot exhibit the muscles of the hidden technique that makes its way. Thus, the total centralization of the technological systems and their invisibility are the principles that characterize the technical services, in order to obtain the maximum efficiency and to reduce the visual presence in the landscape context. The entire distribution network of heating and air conditioning,

electricity, lighting, drinking water and the telephone network is underground, while the high-voltage lines are diverted to the perimeter of the area. To avoid the proliferation of chimneys on the roofs of the residences, three thermal power stations are arranged underground. For a similar reason, 52,000 meters of coaxial cables run through the bowels of architecture. Berlusconi repudiates the mushroom patch of antennas and therefore he centralizes in a single point the reception of the television waves from which the kilometers of cables radiate. In this way, the residents of Milano 2, in addition to receiving national broadcasting channels, can take advantage of a closed-circuit system initially designed for the control and safety of the inhabitants who suddenly become pioneers and actors in the private television space[25] – and forerunners of

24.   Cf. "Quando la grafica rimboschisce i muri", *Casa Vogue*, January-February 1975: 68–71.

25.   "In Milano 2, internal television began to enable mothers to follow their children in all situations, and therefore a centralized television system was born. Yes, from home, closed-circuit television, born precisely with the intention of showing the swimming pool, the gym, the playground and the school, was an extra service for a model and advanced city", Berlusconi, Silvio in Guzzanti, Paolo. 2009. *Guzzanti vs Berlusconi*. Reggio Emilia: Aliberti Editore: 93; translation by the author.



Fig. 6 – Lago and Palazzo dei Cigni. It's possible to see car, bicycle and pedestrian road systems in the bottom left-hand corner. Source: *Milano 2. Una città per vivere*, Edilnord 1976
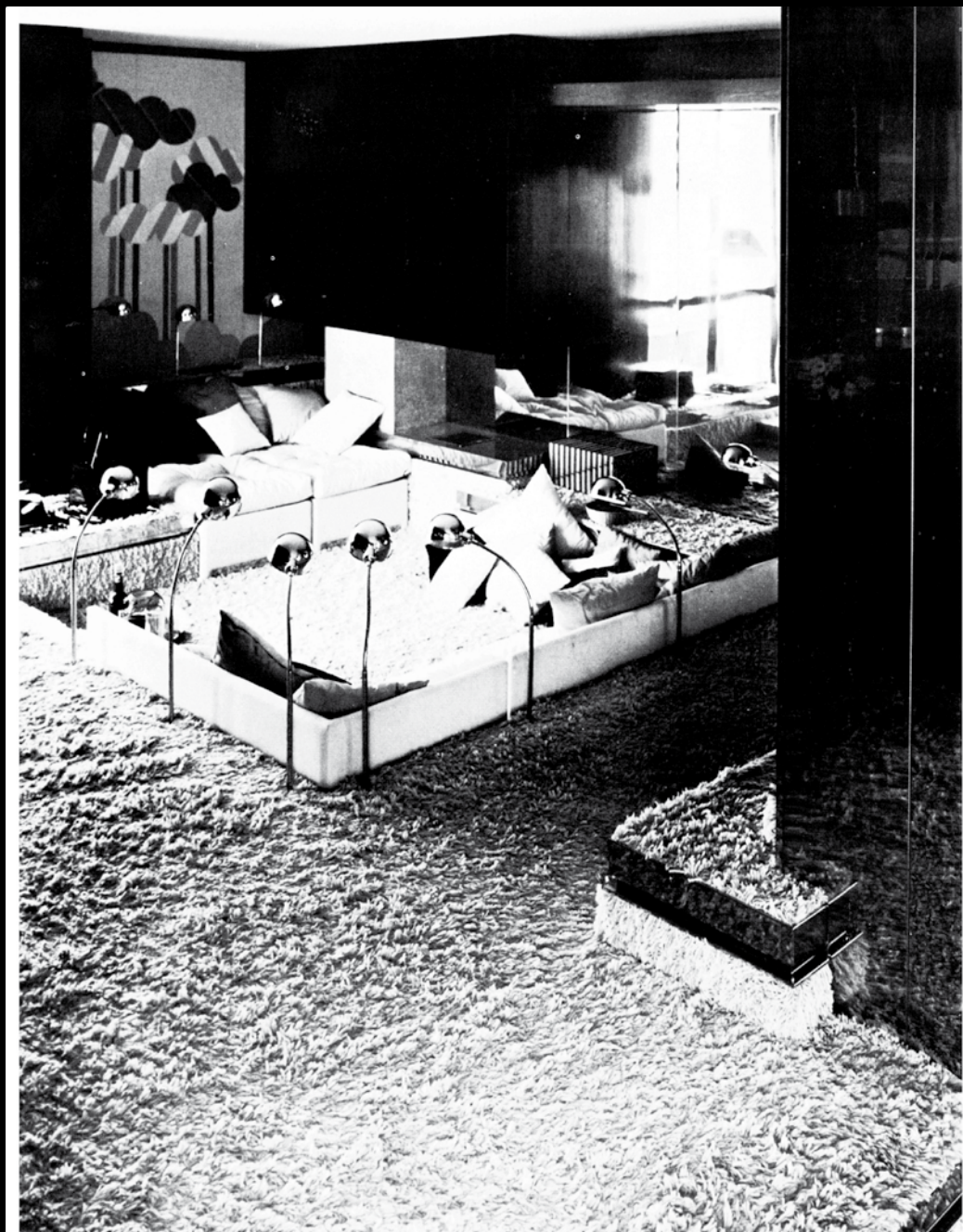
Fig. 7 – Saporiti Apartment. Source: *Casa Vouge*, 1975

Fig. 8 – Telemilano. Source: *Milano 2. Una città per vivere*, Edilnord 1976

Italy's latest cultural revolution made through architectural space, television space and, again, through another declination of Junkspace.[26]

If Daniel Boorstin already warned that "At home we begin to try to live according

to the script of television programmes of happy families, which are themselves nothing but amusing quintessences of us",[27] Milano 2 clearly shows how a total coincidence between real and dreamed life, between the role of the actor and that of the spectator is possible: Milano 2 is based on the imaginary's power, the only way to design a new community. In 1974, to consolidate the community spirit and imaginary of the new inhabitants, Telemilano was born, the first private cable TV in the Milan area with a regular broadcasting schedule. Many residents actively participate in the schedules: they develop and implement the programs themselves. The production studios

26.    "Color in the real world looks increasingly unreal, drained. Color in virtual space is luminous, therefore irresistible. A surfeit of reality-TV has made us into amateur guards monitoring a Junkuniverse... [...] TV-studio sets -garishly monumental- are both the culmination and the end of perspectival space as we've known it: angular geometric remnants invading starry infinities; real space edited for smooth transmission in virtual space, crucial hinge in an infernal feedback loop ... the vastness of Junkspace extended to the edges of the Big Bang. [...] Conceptually, each monitor, each TV screen is a substitute for a window; real life is inside, while cyberspace has become the great outdoors ... Mankind is always going on about architecture. What if space started looking at mankind? Will Junkspace invade the body?", Koolhaas, Rem. Op. cit.: 189.

27.    Boorstin, Daniel Joseph. 1963. *The Image, or What Happened to the American Dream*. Harmondsworth: Penguin: 259.

are located in the Palazzo dei Cigni, facing the lake and the square of Milano 2. The architecture of Milano 2 increasingly identifies itself with the television space and Telemilano assumes the same symbol of the city, the Ambrosian snake with a flower in its mouth: it's the beginning of 'Transmedia urbanism'.[28] The inhabitants therefore begin to identify themselves in the cultural model that the fifth channel offers them, especially in the following years when the network is broadcast outside Milano 2, increasing the sense of belonging to the neighborhood and to a way of life that watched from the sidelines is seen as a dream. Milano 2 reflects the peculiarities of a Company Town. Beyond metaphor, the coaxial cables that run through the bowels of architecture transform the entire city into a television set: the Middle Class living within the perimeter of Milano 2 takes part in a collective dream that she helps fueling. The Palazzo dei Cigni and Casa Vianello (the most famous Italian sitcom) stage a distorted reality for the community of inhabitants, while for the rest of the architectural television audience, a possible elsewhere. In these terms, architecture oscillates between fiction and reality, reacting to the ambiguity of the contemporary by accepting and actively writing the rules of the game. In this way, the imaginary subtended this architecture and this new way of life contributes to the birth of the most recent Italian cultural revolution. Commercial television and the Italian Second Republic were born by the optimistic suburbia of Milano 2, by its imaginary.

# Conclusion

Finally, what do Parly 2 and Milano 2 have in common?

In both cases it is possible to assume a community project.[29] The developers understood that an architecture which is unable to accommodate any form of community is doomed to fail. Of course, in these cases the desired/envisioned community creates private and exclusive enclaves, but that is enough (and perhaps facilitates) to ensure that buildings receive the level of care and sense of belonging necessary to keep them in a good state. In order to accelerate the process of identification with the new architecture by the new inhabitants, both cities rely on the great innovations they both share: the power of the imaginary and of wildness. In this context, the open space of wildness becomes both an opportunity for identification (while the architectural language of all the buildings is uniform, the tree species used are different, and so the design of the landscape to distinguish one building from another) and a sign of privilege; while in Parly 2, there is a sense of continuity between the wildness and the aristocratic story of Versailles, in Milano 2 such wildness constitutes a contrast with the grey, hyper-cemented city of Milan.

As of now, this model of architecture seems to have been assimilated and, therefore, seems relevant for the future of media-class housing. If we think of the new parts of the city built in the last 20 years, the wildness – or maybe a more edulcorated version of the same - is the only rhetorical tool available to a trite architecture in desperate need to enrich its imaginary. The middle class will continue to live stuck in the middle of the wildness.

*I hear her voice*
*And start to run*
*Into the trees*
*Into the trees*

*Into the trees*

*Suddenly I stop*
*But I know it's too late*
*I'm lost in a forest*
*All alone*[30]

28. To further explore the definition of 'Transmedia urbanism', cf. Chong Cuy, José Esparza. Jaque, André. 2014. *Sales Oddity. Milano 2 and the politics of direct-to-home tv urbanism, in Fundamentals. Catalogo della XIV Mostra Internazionale di Architettura*, Marsilio, Venezia 2014, p. 434.
29. "A community was certainly created, which also learned to manage itself, for example with the neighborhood committee. If you think about some of the details that were new at the time, such as the cable TV station, or the central heating system... Here you see the concept of product identification, which is what we were aiming for", Ragazzi, Giancarlo in Di Ciaccio, Luca. Op. cit.; translation by the author.

30. Excerpt from the song *A Forest*, released as a single from the The Cure's second album Seventeen Seconds on April 8, 1980.

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# The phenomenon of experimental neighbourhoods in Russia
## The different approaches of Soviet modernism to the housing problem (1950-1980)

The history of mass housing in Russia can be divided into several particular periods, each distinguished by its own aspects, terminology, and representation. The active growth of middle-class mass housing increased in the second half of the 20th century—the so-called time of the soviet *Khrushchyovka*, an unofficial name for a type of low-cost, concrete-panelled five-storied apartment building developed during the premiership of its namesake. N. Khrushchev's formula included compact mass housing construction and the concept of 'micro-districts' (dormitory suburbs on the outskirts of cities). Speed, functionality and profitability were the primary focus of the new ideologies. Construction was carried out literally 'on wheels', bypassing industrial warehouses. Large-unit concrete 'room-sized' panels were transported and mounted directly from factories. In order to test and choose the type of construction, it was necessary to compare a variety of structural, urban solutions and the organization of the apartments. Thus, experimental neighbourhoods were formed in different parts of Moscow. Rectangular blocks of 5-story houses ringed a courtyard, creating an enclosed space inside. The shape of yards and their size depended on the routes of tower cranes. "Vernacular" mass housing was being formed. Thus, areas were building up. However, one issue was not taken into consideration in the experimental projects. Formation of closed space prevented the possibility of human socialization. Walls were built between people to keep strangers out. An invisible conventional line emerged between the concepts of My Yard, the Yard of Neighbouring Houses and Our Common Street. Experimental neighbourhoods have revealed a lot of defects. In the present paper I want to convey the phenomenon of the "vernacular" aspect ('architecture without an architect') of experimental mass housing in Russia and express the idea that it's not the boundaries and number of houses that create neighbourhoods, but the cross-use activities inside the area, vibrant life and identity and integrity of a territory. A lively and active neighbourhood is safe neighbourhood.

**Keywords:** Experimental neighbourhoods; Building technologies; People

< Mounting volumetric blocks. Source: Ataev. 1967. Technology and Economics of Volume-Block House Construction

# Introduction. How elegance turned into over-indulgence

The architecture of each new period of Russian history can be compared to an antenna device that serves to broadcast the image of the central government and personifies the mode of life in its era. However, it is worth noting that each period is, in its essence, an experiment, resulting from technological development, achievements and experience acquired from 1917 to date.

Housing construction in big cities has been an area of primary focus in terms of development since the first years of Soviet power, but there were no financial, technical or material resources. The government tried to address the housing crisis through the socialization of land and the popularization of communal apartments, but it soon became clear that new housing was indispensable. In the 1920s, the first attempts were made to build residential areas, but the growth of the urban population outstripped the rates of construction. J. Stalin's general plan for the reconstruction and development of Moscow in 1935 involved complex building development and the reconstruction of residential areas. Still, the new ideology in architecture prevented the accomplishment of this plan. The artistic approach became a priority. An "antenna" of Stalinist architecture was being formed, and the famous *Stalinkas* were constructed. It is worth noting that mastering the technology of manufacturing structural elements at a factory (instead of making them on a construction site) was a huge breakthrough at that time. But after the Second World War one of the courses of the fourth five-year plan for the restoration and development of the national economy of the USSR involved standardized projects. That approach completely rejected the idea of individual projects. The housing industry began to shift to a much simpler, less persistent architecture and more economical construction, since the needs of people for living space in the post-war years could not be solved by the ideological Stalinist architecture. The construction of standard panel housing acquired a special scope when N. Khrushchev became the First Secretary of the CPSU Central Committee. On November 4, 1955, the Council of Ministers of the USSR adopted a resolution 'On the elimination of excesses in design and construction.'

This day became a turning point in the history of Russian architecture; it is considered to be the birth of a new architectural trend, which would later be called Soviet modernism. This decree became a manifesto. It was not just a list of instructions or formal requirements. The document described in detail the new principles of architecture and construction in the USSR. Briefly, they can be formulated as follows: quick, cheap, typified construction is good, and individual projects with expensive decorative elements are unacceptable. "Soviet architecture must be distinguished by simplicity, austerity of form, and economy of solutions," was written in the document. Thus, it seems clear that the demand for living space gave impetus to the development of new technologies.

# Time and experimentation

With the coming to power of N. Khrushchev, the production of panel houses began to develop actively. The task of the party was to develop, by the fall of 1956, experimental projects that allowed for a sharp reduction in the cost of residential construction that in turn would lead to its accessibility among the working people. This is how the famous *Khrushchevka* first appeared. It was time for Khrushchev's "antenna". It was decided to use vacant land for large, inexpensive residential areas—'micro-districts' (dormitory suburbs on the outskirts of cities), instead of conducting expensive construction in the city center.

### Part 1. The first experimental districts

The centre of the first truly large-scale experimental construction in Moscow was the *Novye Cheryomushki* area. It was there that, from 1956, the leading design and research organizations of the capital started proposing new developments. In a short period of time, 4 experimental districts grew in the micro-district: the ninth, tenth, eleventh and twelfth. These areas were formed with the aim of studying the manufacturability of the new structures and test the prefabricated elements before the start of the mass construction process. Each of the 4 districts became a sort of phenomenon in the design and construction of that time. They gave impetus to the development of new construction technologies.

Fig. 1 – *Novye Cheryomushki*. Source: ArcGIS. GIS application

## DISTRICT NO. 12. LARGE-BLOCK HOUSING CONSTRUCTION (1956-1957)

In its time, one of the most important types of industrial house-building was large-block construction. There are two types of large-block structures. The first is a structure of two rows of blocks and the second is a structure of four rows of blocks.

In the postwar period, Moscow lagged behind Leningrad and a number of other cities in this type of construction. Elimination of the lag began in 1956-1957. As a result of the generalization of the construction experience of the 12th district, the nomenclature of large concrete blocks was fully formed. All of the above led the designers to adopt the use of lighter materials in large-block housing construction more widely—expanded clay aggregate concrete, cellular concrete, and slotted heat-efficient silicate products.

## DISTRICT NO. 11. LARGE-PANEL HOUSING CONSTRUCTION (1958)

The construction of large-panel houses was a new, more refined stage in the development of prefabricated housing construction. Compared with large-block houses, the prefabricated elements, walls and partitions,



Fig. 2 – Large-block housing construction. Source: Retro View of Mankind's Habitat

were larger. During the construction of the 11th block the so-called 'from wheels' installation was tested for the first time in Moscow, when 'room-sized' panels were transported and installed immediately from the factory, bypassing warehouses. This contributed to an increase in the technical level of construction, significantly reducing labour costs and the buildings' construction time. Speed and economy became the postulates of the experiment. According to the Research Institute of Moscow Construction, houses built in the 11th district were the cheapest residential buildings of such design built in Moscow. At the same time, they turned out to be the most technologically advanced in production and assembly.



Fig. 3 – Prefabricated panel construction. Source: TsDKFFA of Ukraine

In tum, the urban planning of the district made it possible to transfer tower cranes from one object to another, avoiding disassembly. The rectangular forms of five-storey buildings ringed the courtyard, and the shape of the courtyard depended upon the paths of the construction cranes. Thus, in the course of construction, a kind of "vernacular'' phenomenon of experimental mass residential areas was formed. "Vernacular" in the sense that, although a large body of professionals were involved in these projects (urban planners, architects, engineers, and others), authorship was diluted as it was a State program of global scope, with emphasis on collectivism and not on individualism. However, the creation of closed spaces hindered the possibility of human socialization. People got used to the barriers that the buildings themselves formed, protecting them and their children from the dangers that might lurk in neighbouring yards. As a result, closed dormitory areas were formed as well as the following concepts: My

Yard, the Yard of Neighbouring Houses and Our Common Street in Our District.

### DISTRICT NO. 9. OPEN PLANNING OF THE DISTRICT AND SMALL APARTMENTS (1958-1959)

In contrast to the experiments described before (the 11th and 12th districts) that were still of local character, the 9th district is distinguished by a wide search in various directions. It was vital to develop projects of apartments for one family, to check the principles of open urban planning and development of the district, to develop and introduce new progressive structures, and to test new service facilities housed in detached buildings.

In total, 16 five-storey residential buildings were built in a district with an area of 11.85 hectares in 22 months. The design began at a time when the question of creating new types of apartments for single families was brewing. These types of small apartments had to be developed taking into account more progressive industrial structures made of precast concrete, while reducing the cost of living areas. The task was one of the main ones in the experiment in the 9th district. Therefore, in all 16 residential buildings of the district, various layouts of apartments are provided, which were to be compared with one another.

In addition, an open urban planning was tried and for the first time the residential part of the district was separated from the non-residential one. Simple in configuration, with a geometrically clear number of houses, with the allocation of shops and blocks of utility services in separate buildings, and taking into account simple transport links — it all simplified the construction process and made it possible to carry out construction work regardless of landscaping. The district excluded any through traffic. People left cars in a parking lot near the micro-district and walked home along the pedestrian paths. This would seem unacceptable to a modern driver in Russia, but the solution was an innovation, although it did not persist. Urban planners of that time understood that it was necessary to develop convenient pedestrian networks along which there would be points of attraction, because they thought a living neighbourhood — due to human activity, not car activity — was a safe neighbourhood.

Experiments in *Novye Cheryomushki* in 1956-1959 received a positive assessment from the government and part of the population, and thus it was decided to focus experimental construction in 1961-1963 on the territory of the 10th district.

### DISTRICT NO. 10. VOLUMETRIC CONSTRUCTION (1961-1963)

The site allocated for development, adjacent to the previously built 9th and 12th experimental districts, had a small projected district park on the other side. Because of these conditions, the planning of the district was solved in a relatively narrow strip and its geometric outline does not resemble the usual compact solution to the 'micro-district'. But despite the fact that in terms of urban planning there were not any new tasks, it corresponds to the then accepted principles of open urban planning, landscaping, definition of courtyards, placement of children's institutions and service networks. We can see that it follows the standards of the mass residential developments.

One of the main tasks of the experiment was the testing and development of standard designs of residential buildings of the unified series II-32, intended for mass construction throughout Moscow. The task was to develop a unified residential section, the layout of which would satisfy the necessary household requirements. For the purpose of testing, a housing estate of five houses with different façades, entrance groups, panel colours and textures was created. This was an essential step, because these experimental residential buildings determined the architectural and artistic image of almost all future Moscow districts.

Also, new progressive design solutions were tested. First of all, these included houses made of enlarged volumetric elements. Architects understood that the erection of this building was the way to further the industrialization of housing construction. Calculations showed that about 75% of labour costs in the erection of large-panel residential buildings were accounted for by manual labour and on-site assembly, while only 25% fell on the factory production of parts. Therefore, it became obvious that further industrialization of residential construction required transferring as much work as possible to factory conditions. Thus, in the 10th district they began to test a wide variety of volumetric construction possibilities.

Volumetric blocks were designed to be structural and act as box girders supported by four points. Blocks were uniform in size and shape. All work on finishing and equipping blocks, consisting of two rooms, took place at the factories. Later the finished apartments were delivered to the assembly site. All houses were assembled using a modernized portal crane. The first experiments in house building from volumetric elements showed that the labour intensity of the construction of these houses is almost 2 times lower than during the installation of conventional large-panel buildings, used in the 11th district. Now more than 80% of labour costs occurred at plants. As a result, the need for manual labour decreased.



Fig. 4 – Mounting volumetric blocks. Source: Ataev. 1967. Technology and Economics of Volume-Block House Construction

In turn, the architectural solution of the housing estate was designed entirely in the spirit of the times, without any excesses. As all the buildings, due to the construction technology used, did not have balconies or any elements of decoration, the main emphasis in the design was transferred to the ground floor, where spatially developed entrances alternated with attached terraces. The inner area of the housing estate was filled with the more usual small forms of landscaping to dilute the severity of the built form resulting from the decisions taken.

It is worth mentioning one of the interesting tasks of the 10th district. The architects should have created a project of a "house of the near future", which would be in accordance with accepted standards and would have helped to develop a sense of collectivism and fellowship in the people. One of the possible proposals on this theme was the experimental 'New Life housing estate' for 1,500 people. It consists of several apartment blocks of the sectional hotel type and a one-block tower with apartments for small families. All the buildings are connected on the first floor by a service pavilion, which can be entered from the street or directly from each building through light corridors located in the basement of the buildings. The proposed organization of the housing estate allowed everyone to go straight from their apartment to the cafe, sports hall, library, etc. without going outside. Of course, this did not mean that all the needs of residents could be met without exception; only the basic everyday needs of residents were met in the 'New Life housing estate'. This kind of organization was supposed to promote the active social activities of all the residents. This example illustrates the active role political ideology played in the conceptual design of the time. The idea of a communist community of the not-too-distant future was the muse of the architects.

The 10th district served as a promotion of technical innovations, representing, in fact, an achievement of that time. And volumetric construction originated in *Novye Cheryomushki* has become recognizable all over the world in 60 years. The results of the experiments carried out in the capital were replicated throughout the country. However, in the pursuit of cost-effectiveness, the simple human factor was not taken into account. There was no place for individuality in the project designed for the standard inhabitant. It was in pursuit of technology and speed of installation.

## Part 2. NER. Model of interaction 'Human—Environment'

By far the most famous architectural product in post-Stalin Russia is the *Khrushchevka*, but Soviet architecture of that period was not limited to one brand of Khrushchev Modem. It was also a time of active search for alternatives to mass urban development. One such alternative was the 'NER. New Element of Settlement' project, which proposed a scheme for the future settlements of a post-industrial society. In 1960, a group of students of the Moscow Architectural Institute (MArchI) graduated with the topic of diploma being centred on a new urban planning concept, developed on the example of the city of Krytovo in the Krasnoyarsk Region, Russia. The group of nine architects (Alexei Gutnov, Andrei Baburov, Andrei Zvezdin, Stanislav

Sadovskii, Ilia Lezhava, Nikolai Kostrikin, Elena Sukhanova, Zoya Kharitonova and Natalia Gladkova) created a communist city built on social justice. They absolutely did not consider themselves utopians, but they knew that only the system could provide such large-scale change. They actively criticized the state of Soviet urban planning, arguing that "today, the city is not fulfilling its primary purpose to be an organic living environment", and believed that the intensive development of industry would lead to irreversible changes in the functional structure of the settlement, such as the mixing of industrial and residential areas and the lack of a clear scheme of urban traffic, and thus the outline plans of cities would not be able to organically regulate the influx of population. In their book 'NER. On the Way to a New City', the architects write:

> [...] the micro-district as the main struc-tural unit of a modern settlement does not reflect the complexity of the social, economic and technical problems that can potentially arise. As a result: unsatisfactory sanitary and hygienic conditions, transport difficulties, large losses of time, fragmen-tation of people and an extraordinary overcrowding of buildings. Conclusion: it is necessary to find a structure that organically meets the social and economic functions of the new settlement.
> (Gutnov and Lezhava, 1966, 9).

Even then, a team of students talked about the city as a structure that includes complex multi-level parameters of 'probabilities', about the concept of 'environment' as a place of habitation and activity, and about the role of the Person in the context of the non-stop development of technologies. It was a project about the dynamics of relations between Human and City, or rather between Human and the Environment. The philosophy of the project was that design interventions that change the environment affect the behaviour of its inhab-itants, later resulting in new transformations of the environment, since competent design and management of city development should be carried out on the basis of observation, analysis and forecasting of the subtle relation-ship between Human and Environment. Can it be considered a utopia?

In 1968, the Italian architect Giancarlo De Carlo invited a group of Soviet architects to the Milan Triennale; they were asked to present their plans for an ideal communist city in a section devoted to 'transformations of the physical environment'. De Cano later wrote an introduction for NER's influential publication, The Ideal Communist City. He wrote that in its radical proposal the NER attempted to offer a spatial agenda for Marxism, drawing on both the Communist Manifesto and the constructiv-ist avantgarde of the 1920s.

In contrast to the NER, the traditional conception of the socialist city was inextricably linked to industrial production. In practice, most new buildings in the Soviet Union were formed around industrial enterprises. But the new NER city was based on creative com-munication in a classless society in which the city was no longer dependent on an industrial center, but formed around a communication center independent of economic characteris-tics. The main message was to see the city as a complex living organism full of subtle intercon-nections and ideas, in which cells are born and eventually die. Their understanding of the city was a breakthrough. This led to a change in the status of architectural form: it was conceived as temporary and mobile—its birth implied its inevitable destruction. This approach was the beginning of a later understanding of archi-tecture as a process or as an environment. The form lost its relevance because it hindered the organic processes of the dying city.

In fact, early in their careers, members of the group were fiercely attacked for neglecting the connection between industry and the city. But the NER group emphasized that the industrial city was simply an obsolete form of settlement, not in keeping with the mode of production under communism. Here it is im-portant to clarify that they were still convinced that the mode of production determined the form of settlement, but they tried to find a form of settlement that better matched what they saw as the future mode of production. They envisioned three levels of economic activ-ity under communism. The first is automated production, in which human participation and intervention are minimal and consist almost entirely of running machines, checking equip-ment. The second is educational level, which grows in proportion to the need for technical personnel to manage technical production and, therefore, becomes a vast economic field for the production of professionals. Third, it's the scientific level of production. The authors emphasized that mental labor (scientific work and research) surpasses all other types of human participation. Science encompasses all

areas and all levels of production and controls what is produced. In an era when it was becoming fashionable to build science cities, and physicists, not lyricists, were the heroes of the times, such visions of a future driven by scientists were not uncommon. The idea that research and educational institutions could become the backbone of an urban organism was also quite acceptable. Simply put, the NER proposal is a vision of a post-industrial society where industrial production ceases to be dominant and the typology of human settlements becomes more complex. Thus, the NER concept was formed around the fact that it was not new technologies in housing construction that became a path towards a new city, but society.

The team dreamed of applying this philosophy to Moscow, but, unfortunately, time was not on their side. 'The period of stagna-tion' began. L. Brezhnev became the new head of the USSR. The era of the Khrushchev 'thaw',[1] when in the USSR for some time people still had hopes for the expansion of social free-doms, ended.

## Part 3. 1960-1980. Toward understanding comfort

During this period, more attention was paid to the construction of high-rise buildings, as well as the introduction of improved housing structures. Brezhnev's "antenna" was formed. *Brezhnevka* became the new version of *Khrushchevka*. However, the housing problem remained urgent. Nevertheless, the structure of the city was practically settled by the 1980s, and almost all the territories included in Moscow from 1959 to 1962 were developed. It was during these years when the understand-ing of comfort began to form. At first, it was about transport accessibility, but later people acquired a desire to have the required number of nearby kindergartens and schools. In addi-tion to the layouts of apartments and the ex-perimental series of houses, the infrastructure of the district also began to play a vital role, although many residents were often just glad to have received the long-awaited living space. And, as the trend shows, people gradually began to understand that architecture should still be more individual and focus on the needs

of each individual user. The transformation of these values well illustrates the transformation of Russian society. Therefore, experiments in mass high-rise residential construction continued point by point, but with a focus on comfort.



**Fig. 5 – *Severnoe Chertanovo* district.**
**Source: TsDKFFA of Ukraine**

Thus, the experimental housing estate *Sevemoe Chertanovo* was the most ambitious, but unfortunately also the only experimental housing project of the 1970s. The project was supposed to become a tourist attraction: it demonstrated how Soviet citizens would live under victorious communism. Thus, one of the features of the 1960s-1970s era in housing construction was the idea of a 'house with services'. This concept originated in the 'New Life housing estate' in the 10th district of *Novye Cheremushki*. But *Sevemoe Chertanovo*, unlike *Novye Cheremushki*, was a whole district of detached landmark buildings, so services were not in residential buildings, but in separate buildings: there was a shopping center, a cultural center with a cinema and a library, schools, kindergartens, a gym and a swimming pool. But there were also services directly in the buildings—a post office, sales of basic goods, and storage facilities for seasonal items. Another important concept of the Soviet modernist era in urban planning was functional zoning. In the district, residential buildings are located at the top of the hillside, and public buildings closer to the ponds. The space be-tween them is given to pedestrians, car entry is made from the back side of the houses and the plan suggests using underground space for a residential road and parking lots. The develop-ers have tried to completely separate pedestri-an and car flows. In addition, the district fit the aesthetic concept of Soviet modernist archi-tecture. The composition of the ensemble is

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1.   The Khrushchev Thaw refers to the period from the mid-1950s to the mid-1960s when repression and censorship in the Soviet Union were relaxed.

complex but functional, using new typified elements. All residential buildings were designed as frame-panel: seven-meter long panels were used for the first time in the construction of the houses, and the rough concrete surfaces of the façades met the spirit of the style. Also, for the first time in domestic practice, the planning of the apartments was supposed to be open, so the partitions inside were made lighter. And what today is commonly referred to in Russia as Soviet modernism coincides in time and image with what is known outside Russia as brutalism. For example, the terraced risalits in *Severnoe Chertanovo* resemble the acclaimed 'Habitat 67' in Montreal, Canada, designed by Israeli-Canadian architect Moshe Safdie, which created a striking image by means of typified modular construction. This was one of the main tasks for the authors of *Severnoe Chertanovo*. However, the main thing that was implemented in the experimental 'micro-district' was a unified system of servicing the houses with underground garages, pneumatic garbage disposal and a system of sensors that control the work of the engineering systems of the building and transfer the data to the central control room. Here the architects recalled both the architecture of the 1920s and Le Corbusier's Unité d'Habitation in Marseille: some of the buildings stand on pillars, while the ground floors of others are combined with public floors without apartments, where, according to the architects' concept, residents could hold festivals and collective meetings, or simply hide from the weather when moving between the buildings. As a result, it became possible to walk from one end of the district to the other, virtually without going out into the street.

> *In all the houses, the ground floor is considered a recreational area without apartments, but I haven't noticed people gathering and socializing here. Nevertheless, the ground floors are always bright, cosy, and full of plants, but the potential of the space is not used to its full extent because of the low level of self-organization of the local residents. But in my opinion,* Severnoe Chertanovo *is the best district in the whole Moscow: although it's a residential area, it is absolutely atypical, because it was conceived as an architectural experiment. When it was built, it was assumed that such districts would become mass-produced and would appear in all Russian cities.* (Ivanov, 2016.)

The experiment came during the collapse of the USSR and was not further developed in Moscow. Not all the innovations conceived in the project could be implemented, and the nine 25-storey towers were just a reworking of the typical panel buildings. But this experience has shown how to create in a limited area at the same time a dense and spacious building with an effective ensemble solution.

1985 is considered the year of the end of the era of Soviet modernism.

# Conclusion. The image of Russia.

The formation of the image of the periphery in Moscow and the architectural image of Russia as a whole, that has become recognizable throughout the world, was influenced by the rapidly growing demand for living space in the post-war years. The history of the country, with its planned economy, knew no other way to satisfy this demand except to increase the volume of mass construction in a short time and with minimal investment. It was this need that became the impetus for technological progress.

Today, there are signs of a gradual degradation and wear and tear of the development of the periphery, which for the most part is composed of the architecture that originated under N. Khrushchev. His architectural-building revolution has left behind contradictory results. A conscious bet on the standardization of design processes and in typified construction to solve the short-term problem of providing cheap housing for millions of people, has



Fig.6 – The peripheral character of Russia in the 60s-70s. Source: AP Photo/ Novosti

generated social problems. Residents of both *Khruschevkas* (five-story buildings) and *Brezhnevkas* (nine-story buildings) are used to erecting the borders of Their Yard, they have not communicated much with the residents of Neighboring Yards, and it is difficult for them to organize themselves to solve any urgent domestic tasks. Consisting today mainly of high-rise buildings, dormitory 'micro-districts' form a boring, depressing urban environment that has a negative effect on people's behavioral attitudes. Not only is this problem not being solved today, it is only getting worse. The outskirts of large cities and the suburbs of megacities are being actively built up with 20-30-story buildings with small apartments. In essence, they cause the same problems as the American suburbs based on single-family detached houses. And there are certainly similarities between both kinds of periphery, such as lack of qualified public spaces, dependency on car mobility, lack of public facilities, undeveloped sense of community, etc. In Moscow, this process is accompanied by significant investments in improving the urban environment in the city center, leading to an even greater imbalance and polarization between the city center and the outskirts. At the same time, the periphery has a unique potential, preserved in the structure of micro-districts, which needs further development today. It is necessary to stop thinking of cities with a single center and focus on open networks of distinctive neighborhoods, with convenient pedestrian links along which all the necessary points of attraction and food provision would be located. A lively and open city is safe city.

In conclusion, the phenomenon of mass housing development in Russia, which has its origins in experimental districts, has proved that a path towards a new city is not achieved through new technologies in housing construction, but through a comfortable urban environment, created for human beings. It is important to remember the role of the Human and his relationship with the Environment in the context of the nonstop development of technology.

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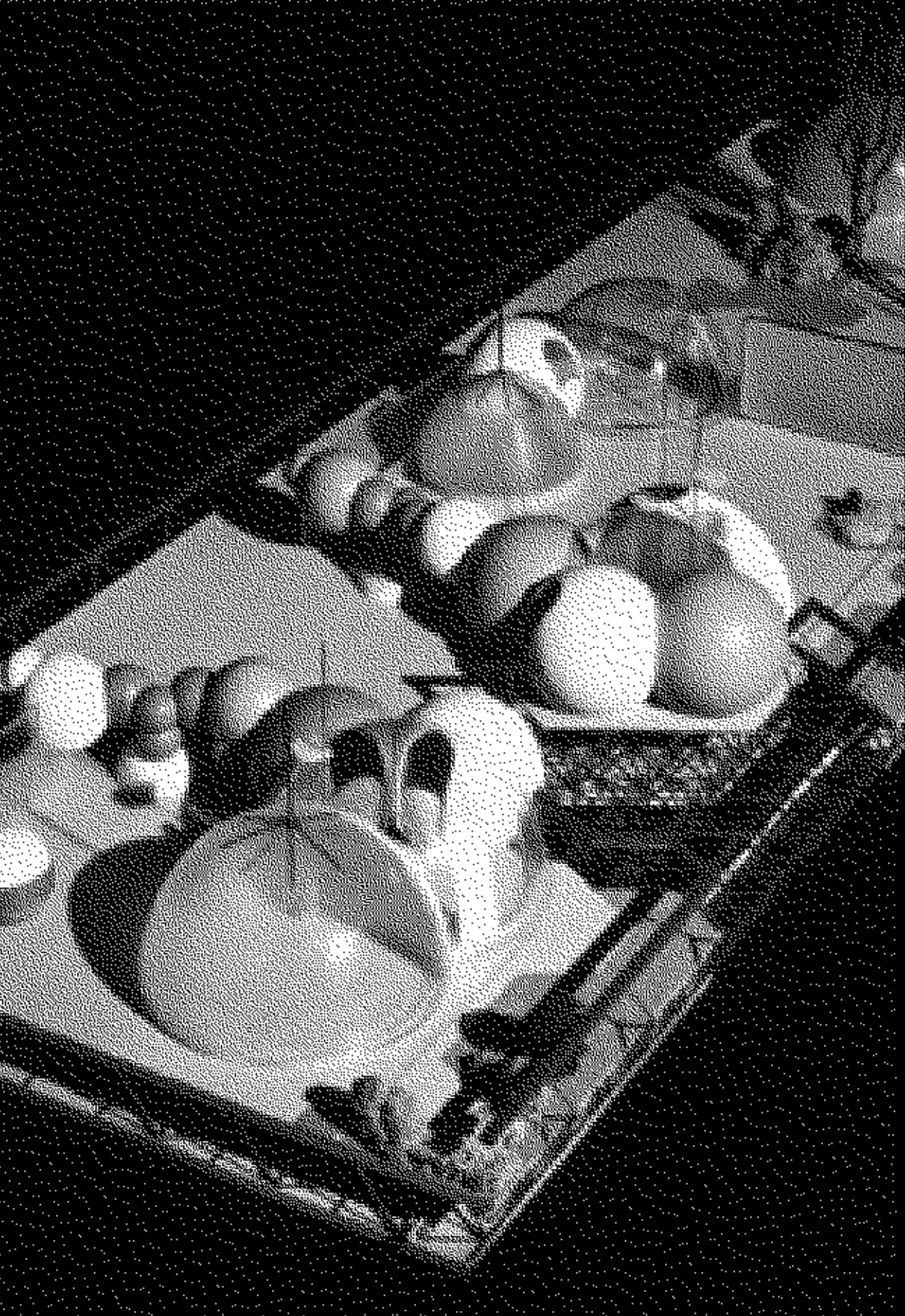
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# Takis Zenetos's "Electronic Urbanism" as adaptation to social structure: Tele-activities as actor of change

  Takis Zenetos was enthusiastic about the idea of working from home, and believed that both architecture and urban planning should be reshaped in order to respond to this. He supported the design of special public spaces in residential units, aiming to accommodate the inhabitants during working hours. This paper argues that Zenetos's design for "Electronic Urbanism" was more prophetic, and more pragmatic, than his peers such as Archigram and Constant Nieuwenhuys. Despite the fact that they shared an optimism towards technological developments and megastructure, a main difference between Zenetos's view and the perspectives of his peers is his rejection of a generalised enthusiasm concerning increasing mobility of people. In opposition with Archigram, Zenetos insisted in minimizing citizens' mobility and supported the replacement of daily transport with the use advanced information technologies, using terms such as "tele-activity". Zenetos was convinced that "Electronic Urbanism" would help citizens save the time that they normally used to commute to work, and would allow them to spend this time on more creative activities, at or near their homes. The main interest of "Electronic Urbanism" lies in the fact that it not only constitutes an artistic contribution to experimental architecture, but is also characterized by a new social vision, promising to resynchronize practices of daily life. An aspect that is also examined is the relationship of Zenetos's ideas and those of the so-called Metabolists in the 1960s in Japan, including Kenzo Tange's conception of megastructures. Zenetos's thought is very topical considering the ongoing debates about the advanced information society, especially regarding the social concerns of surveillance, governance, and sovereignty within the context of Big Data. His conception of "tele-activities" provides a fertile terrain for reflecting on potential implications and insights concerning home-office conditions not only within the context of the current pandemic situation but beyond it as well.

**Keywords:** Takis Zenetos; Electronic urbanism; Home-office; Tele-work; Cybernetics; Social vision

< Secondary School model [detail]. Source: Project launch notebook, 2008 - CITIC Construction, provided by IPGUL - Instituto de Planeamento e Gestão Urbana de Luanda. (Source: Carita, 1998 ?)

# Introduction

Takis Zenetos's "Electronic Urbanism" was based on systematic speculation concerning the development of electronic applications in the realms of "tele-management," "tele-work" and "tele-services."[1] Zenetos started developing his ideas regarding the autonomous living units designed for "Electronic Urbanism" in 1952, when he was still a student at the École de Beaux Arts in Paris. He continued to expand and modify his vision until the year of his suicide in 1977. He presented aspects of the project—from large models including several buildings to prototypes of furniture—on several occasions, such as the Exhibition of the Modern Housing Organization in Athens in 1962, and at the first Construction Exhibition at the Zappeion in 1971. Studying articles in scientific magazines of the time, such as Science, Zenetos prophesied the accelerating mutation of the living units in the cities of the future, and designed flexible systems for both buildings and infrastructures. (Zenetos, 1969a, 116)

Zenetos believed that "tele-education," "tele-research" and "tele-management" would help citizens to gain access to information and knowledge on an international scale, and to reduce the importance of the distance between places of work and residence. In the first issue of Architecture in Greece, Zenetos published an article under the programmatic title "Problems of Construction in Greece: The City of the Future." During the following years, he also published a series of four articles under the title "City Planning and Electronics" in the same annual review in 1969, 1970, 1973 and 1974. All these articles were elements of one broad study. Zenetos was convinced that "Electronic Urbanism" would provide "a system of light, three-dimensional supporting structures, containing vertical garden-cities and dense networks of improved telecommunications media (mainly for tertiary industry processing), freeing man from the daily necessity of transporting his body as an information-carrier to the actual location of

the processing." This would become possible through the design and construction of a "continuous equilibrium cable-truss." More prosaically, the city would consist of a continuous, three-dimensional grid of stretched cables along which "the community [would] install the service networks and improve or replace them as technology evolves." (Zenetos, 1973a, 112-113) In the article entitled "Town Planning and Electronics," published in the fourth issue of Architecture in Greece in 1972, Zenetos included a number of diagrams and plans of the suspended city, underscoring one of the main aims of the project: achieving the co-existence of urban structure and nature. (Zenetos, 1970)

Zenetos was a member of the International Association of Cybernetics, and attended numerous congresses on the subject, such as the International Congress of Cybernetics held in London in 1969 (Rose, 1970). During the late 1960s, two articles centred on the relationship between architecture and cybernetics were published in Architectural Design: Christopher Alexander's "Systems Creating Systems" (Alexander, 1968) and Gordon Pask's "The Architectural Relevance of Cybernetics." (Pask, 1969) Both texts had an impact on Zenetos's thought. At the same time, he was an avid reader of the writings of the American mathematician and philosopher Norbert Wiener and of the magazine Science, often cited in City Planning and Electronics: Parallel Structures (Zenetos, 1969b). To better grasp the impact of cybernetics on Zenetos's thought it would be useful to bring to mind that "the 'cybernetic' concept was used by Wiener to refer to the systems which can self-regulate their behavior due to their capacity to process information they receive from their surrounding environment and whose action has an impact on the environment". (Cifuentes Quin, 2016, 17)

The main interest of "Electronic Urbanism" lies in the fact that it not only constitutes an artistic contribution to experimental architecture, but is also characterized by a new social vision, promising to resynchronize practices of daily life, through the use of electronic communication systems that would allow for the transmission of data and information. Among the references used by Zenetos in the article "Town Planning and Electronics," published in the seventh issue of Architecture in Greece devoted to the themes "Leisure time, recreation, tourism," (Zenetos, 1973a) are Norbert Wiener's Cybernetics,

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1. See also Marianna Charitonidou. 2021. "Takis Zenetos's Electronic Urbanism and Tele-Activities: Minimizing Transportation as Social Aspiration." Urban Science 5(1) (2021). https://doi.org/10.3390/urbansci5010031; Marianna Charitonidou. 2020. "Takis Zenetos's Conception of Remoteness: Tele-operations as Socio-Technological Transformations." Img Journal 2(3), 148-171. https://doi.org/10.6092/issn.2724-2463/12253; Marianna Charitonidou. 2020. "Città e casa del futuro di Takis Zenetos. Risincronizzare la vita quotidiana." FAM 52-53: 63-68.

*or the Control and Communication in the Animal and the Machine* (1965), Athelstan Spilhaus's "Ecolibrium", published in *Science* (1972) Nicholas Negroponte's *Architecture Machine: Toward a More Human Environment* (1973), and "Mobile Home Report", published in *Architectural Design* in 1972. In his articles, Zenetos also refers to Peter Cook's *Experimental Architecture* (1970), Robin Middleton's "Disintegration" (1967), as well as to the work of Richard Saul Wurman (1971). The latter chaired the 1972 International Design Conference in Aspen, which was focused on the interaction between government, transportation, schools, and social services. Among Zenetos's references in the first of his series of articles, "City Planning and Electronics," is Marshall McLuhan's *Understanding Media: The Extensions of Man* (1964).

# Takis Zenetos's social vision and the replacement of transportation by communication devices

Zenetos's social vision concerning new practices of everyday life was based on the replacement of transportation by communication devices. Zenetos argued repeatedly that the term "transportation" would have a different meaning in the future. He paid special attention "to the need for man's transportation to the very place of tertiary activities which, for the most part, consist of the transmission and processing of information." (Zenetos, 1969a, 116) In February 1972, in an editorial of *Science* entitled "Old Cities, New Cities, No Cities," the question was raised: "Why cannot people live wherever they wish and congregate electronically?" (Seaborg, 1972) A year later, Zenetos introduced his article "Town Planning and Electronics," published in the seventh issue of *Architecture in Greece*, devoted to the theme "The education of the architects," with this same question, paying special attention to the idea that "[m]an desires, and has a right to acquire, a 'home' in a quiet environment close to nature and at proximity to his place for work and the various public services." (Zenetos, 1969a, 113)

Taking as his point of departure the idea that "[t]echnology properly used may be the only short-term answer to the city's problems because it will take time to check population growth," (Seaborg, 1972) Zenetos argued that "[t]he remoteness between living and working areas is increasing while the urban texture is gradually being "disemboweled" for the improvement of the transportation system, which will lead, in the end, to no-where." (Zenetos, 1969a, 112) Zenetos's position on this is of great significance, because it shows that he was opposed to the fetishization of speed, which was still dominant during the early seventies. His critique of the reliance of cities on transport was very apparent in his following 1973 articles: "Myths of Low-Density Living", published in *Architectural Design* (Zenetos, 1973b), and "The Metro Does Not Solve Any Problem", published in *Economy Postman*. (Zenetos, 1973c) In the former, Zenetos sustained that "social life cannot develop… [in a] non-urban environment", (Zenetos, 1973b, 247) while in the latter he argued that "[t]he metro de facto alienates people from the urban environment." (Zenetos, 1973c, 24)

Zenetos was convinced that reducing the dependence of citizens on commuting would offer them variety and flexibility in terms of employment. He also proclaimed that such solutions would create more opportunities, and would enhance communication and collaboration between citizens on an international scale. He believed that, thanks to "tele-education" and "tele-research," the citizen, having eliminated the hours normally spent on transport, would be able "to devote himself to culture and advanced science." (Zenetos, 1969a, 116) Zenetos paid special attention to the notion of time, as is evidenced by the paper he presented at the Fifth Panhellenic Architectural Congress in Athens in 1966, where Constantinos A. Doxiadis presented a paper as well. Takis Zenetos, in his paper, he focused on his idea of a new master plan for Athens (1974). Takis Zenetos, in his paper, he focused on his idea of a new master plan for Athens, supporting the "uniform distribution of activities throughout the 24 hours, [and] the abolition of the coincidence of the working hours." (Zenetos, 1967, 80) This brings to mind Bolshevik economist Yuri Larin's advocation, at the Fifth Congress of Soviets in May 1929, "for what became known as the *nepreryvka*, the 'continuous working week.'" (Wood, 2016; Schwarz, 1931)

Zenetos believed that distributing the "use of the facilities throughout the day-night cycle" would help "avoid rush hours and dead periods." In order to make this possible, he proposed the design of "multi-purpose systems," aiming to host the activities of various sectors. This would allow continuous use of the "facilities and regional centers [which would] [...] give [cities] [...] the necessary liveliness." (Zenetos, 1967, 80) In an interview with Andreas Alexandropoulos, published in *Economy Postman* on 2 April 1970, Zenetos underlined that "[c]ountries where there is a population explosion or isolation of centres of activity due to geographically long distances [...] will sooner or later have to deal with their impasse by electronic methods." (Zenetos, Alexandropoulos, 1970, 7) Zenetos remarked in his article entitled "City and House of the Future", published in Economy Postman in 1972, that the planning of the cities of the next generation should be based on the intention to reduce interventions in the natural environment as much as possible. (Zenetos, 1972)

Zenetos envisioned a society inhabited by two types of citizens: the "nomads" and the "farmers." Each of these types corresponded to a different kind of living unit: the "nomad" would live in ready-made units and the "farmer" in "tissue elements that receive (individual) home and garden elements (even vegetable garden)." Zenetos claimed that in the future, the "farmer" would be the dominant type and not the "nomad" (Zenetos, 1973). Two terms that Zenetos often employed in his texts were those of "tele-operation" (*τηλε-ενέργεια*)—which, according to its Greek etymology, means operation from a distant location—and "tele-activity" (*τηλε-δραστηριότητα*). Zenetos's conception of "tele-operations" and "tele-activities" brings to mind *Nine Chains to the Moon*, where the author refers to a "world wide dwelling services network" (Buckminster Fuller, 1938). Useful for better grasping Zenetos's conception of "Ecumenopolis" is his article entitled "Ecumenopolis: Toward a Universal City" published in Ekistics in 1962 [28]. Zenetos's critique of the prevalence of transport infrastructure, which was dominant in the architectural debates of the seventies, and of the expansion of cities, was at the antipode of Constantinos A. Doxiadis's conception of "Ecumenopolis" (Doxiadis, 1967; 1962), which focused on how to devise a "different approach" to the City of the Future, treating infrastructure as a skeleton of a body

covering the entire globe and resulting from the balance between settlements, production, and nature.

Apart from the contrast between Zenetos and Doxiadis's conception of the role of transport and infrastructure, Zenetos's stance was also in opposition with that of Constant Nieuwenhuys in the sense that the former foresaw "solutions encouraging the minimum movement of man, [while] Constant [visualised]... an urbanisation of the earth which will promote continual nomadic activity" (1964). This contradiction between Zenetos's and Doxiadis's vision is also highlighted by Panos Dragonas and Lydia Kallipoliti, in their recently published article entitled "Silence Murmur: Detached Bodies and Cities in Takis Ch. Zenetos's Electronic Urbanism", where the authors mention that "the two men confronted each other in public [...] during a conference in 1966 on the problems of Athens' urbanisation". They refer to the Fifth Panhellenic Architectural Congress in Athens. At that conference Zenetos presented his "Electronic Urbanism", while Doxiadis presented his "Ecumenopolis". According to Dragonas and Kallipoliti the disagreement between the two men could be explained through Zenetos's rejection of "the deterministic predictions of population growth", which becomes evident in his declaration that "it is unacceptable in design to accept as permanent data, elements which are completely fluid" (Dragonas, Kallipoliti, 2020, 18).

According to Zenetos, the living units corresponding to the needs of the "farmer" would prevail in the near future since, thanks to "the perfected means of tele-communication—tele-work—tele-information," "the importance of the place of residence" would progressively disappear. Zenetos was concerned about providing the inhabitant of his envisioned cities with the "freedom of isolation [combined with the] ... opportunities for social contacts and events of maximum influence." The bubbles that appear in many of Zenetos's drawings and physical models for this project were the "envelope of 'organs' serving the different functions of everyday life" (Zenetos, 1972, 10-11) (Fig. 1 - Fig. 3).
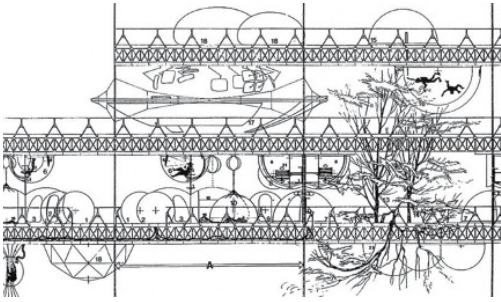
Fig. 1 – Takis Ch. Zenetos, section showing a partial view of the urban space grid of "Electronic Urbanism". Source: Takis Ch. Zenetos Archive
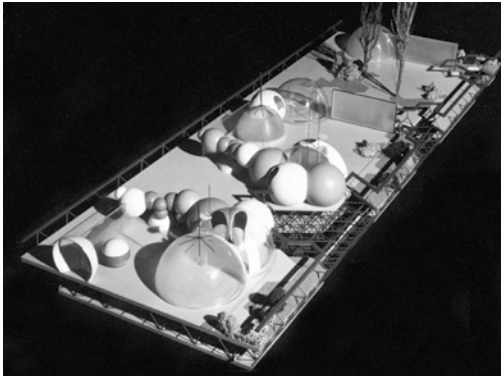


Fig. 2 – Takis Ch. Zenetos, physical model for "Electronic Urbanism". Part of a level, 1971. Source: Takis Ch. Zenetos Archive
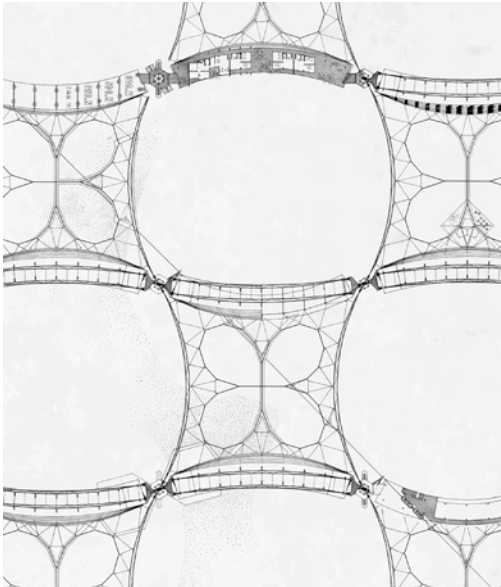


Fig. 3 – Takis Ch. Zenetos. Plan of the urban grid (1962). "Electronic Urbanism". Source: Takis Ch. Zenetos Archive

# Takis Zenetos's conception of all-purpose furniture

In 1967, Zenetos, as part of "Electronic Urbanism," conceived the so-called "posture chair," "[a] mobile spinal agent of the body for every use, equipped with a remote control for tele-activities and a control center for optical-acoustic contacts, which will aid in the execution of tele-activities" (Zenetos, 1972, 10-12) (Fig. 4, Fig. 5). As Lydia Kallipoliti has underscored, Zenetos's main concern was "how electronic devices and hardware developments would physically affect the urban corporeal body." (Kallipoliti, 2014, 679) Zenetos' "Spinal Body Carrier," Michael Webb's "Cushicle" and "Suitaloon" (1966-1977), Warren Chalk's "Bathamatic" (1969), and David Greene's "living pod" (1965) (Greene, 1999) shared certain aspirations. Their main common concern was the creation of micro environments. This brings to mind Zenetos's remark that the "term housing does not mean home, of course, but
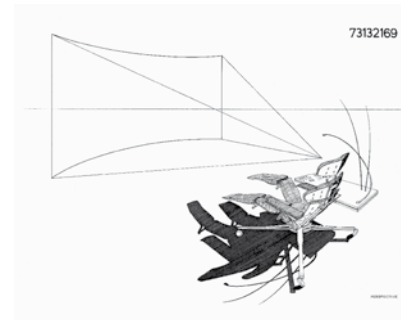


Fig. 4 – Takis Ch. Zenetos, physical model for "Electronic Urbanism". Part of a level, 1971. Source: Takis Ch. Zenetos Archive



Fig. 5 – Takis Ch. Zenetos, physical model for the "all-purpose furniture". Source: Takis Ch. Zenetos Archive

sets of various operated protected macro and micro environments." (Zenetos, 1972, 10).

Peter Cook described the "Cushicle" and "Suitaloon" as follows: "we get close to something very like man-as-a-bat, where the skin of the enclosure is dependent upon a system of vertebrae that respond very directly to the nervous system of the person within." (Cook, 1970, 55) Furthermore, Cook, in *Experimental Architecture*, relates "Cushicle" to "a return to a biblical gesture, with the idea that one can 'take up one's bed and walk.'" "Cushicle" was based on the idea of taking up "one's whole life-support and communications gear and enclosure (and the bed) and walk[ing]". For Cook, "Suitaloon," which had many similarities with "Cushicle," but included "a system of pipes worn around the body," was "infinitely more sociable" and was based on the "idea of the environment as a suit." (Cook, 1970, 116-117) In the case of "Suitaloon", as Hadas A. Steiner remarks, "biology was not technology's unifying principle as Moholy-Nagy conceived, but rather its primary motivator." (Steiner, 2008, 92) Zenetos was sceptical vis-à-vis the use of bubbles, even if many of them may be encountered in his drawings and physical models. Characteristically, describes his bubbles as follows:

*The typical elements of the living space are not 'bubbles,' such as they appear in some drawings. The bubbles are simply indicative of skins protecting the various 'organs' of everyday life, and they can be permanent or instant (alternate use during the day-night cycle), or assume any other shape or size—e.g., rigid or pneumatic balloons, polyhedrons, eventually "dilatables," depending on what will be available on the market (always, however using the minimum possible weight and quantity of raw materials). The skins could also be completely eliminated in the case of people needing no more than a simple visual or acoustic insulation, which can be achieved through special earphones and eye spectacles.* (Zenetos, 1974, 124)

In "City and House of the Future," Zenetos also refers to the "posture chair", de-scribing it as a "mobile vertebrate body of all uses with remote control." Zenetos incorporated in this project his design for an all-purpose furniture, including the design for the so-called "posture chair," which was distinguished in October 1967 with an honourable mention at the

InterDesign 2000 competition, for which he manufactured a 1/1 prototype of the chair. This competition focused on furniture that would be used in the year 2000. It is worth mentioning the fact that Zenetos described this chair as "a second human body-support." What this entailed was not so much biological as logistical, and Zenetos paid special attention to the accommodation of activities such as "telephone-contacts, telephone-work, telephone-manipulations," to use his own expressions. Zenetos described it as "an 'orthopedic' seat padded on human limbs and joints [enveloped by a] surface [consisting]… of a sum of small hemispheres, allowing minimal contact between the lying body and the support." (Zenetos, 1972, 12)

The "posture chair" would be located in a capsule providing the opportunity for several audio-visual operations. In this cell, the individual would be completely isolated and would be able to concentrate and relax. Furthermore, this same cell would include "any means [of] extending…[one's] physical potential." One of these means would be a "wall-screen TV with the possibility of 'active participation' of the viewer [offering]… an infinite number of tele-activities." The high-precision colour 3D image of this wall-screen TV would be "supplemented […] with the transmission of smell and touch 'information,'" and would offer the possibility of changing environments by "tele-traveling." Through the screen, the inhabitant would be able to "watch or participate in spectacles, visit a house of friends (on the other side of the earth), do shopping." Zenetos claimed that the "free time that will result will give a new dimension to relations between cohabiting individuals, which will be heard by the quiet contemplation of the essence of things." (Zenetos, 1974, 123)

## "Electronic urbanism" vis-à-vis the shifts in social structures

The main aim of Takis Zenetos's "Electronic Urbanism" was to minimize intervention on the ground level, on the one hand, and to achieve the "coexistence of the natural element with a high-density urban environment," on the other. Zenetos took

into account city-dwellers' desire to inhabit a dense and vivid environment offering them "any kind of service in the shortest possible distance." (Zenetos, 1972, 11) It is important to highlight that, for Zenetos, "[t]he tele-activities … [would offer] local communities the opportunity to re-organize themselves in terms of social and cultural objectives." (Papalexopoulos, Kalafati, 2006, 21) Zenetos's reorientation of city design and living units means that working from home results in the re-structuring of society. More specifically, he conceived "Electronic Urbanism" in conjunction with a shift in social structure, that is to say in conjunction with "an unprecedented mobility in its structure and in the independence of its members", (Zenetos, 1972, 11) to borrow his own words. Yona Friedman's "Ville Spatiale" and Zenetos's "Electronic Urbanism" shared the intention to enhance mobility and flexibility, and this is evident in the ways they de-signed their suspended city. Friedman, in "Towards a Coherent System of Planning," notes that his main objective was to conceive design methods for infrastructure that would host living units, offering "the mobility of units," and the "possibility of any grouping and regrouping of a cluster of units." The most significant meeting point of the thought of Friedman and Zenetos was their shared notion that architectural and urban design could promote the "free utilization of the earth level and the space under the structure." (Friedman, 1964, 372)

The questions Zenetos addressed through his work on "Electronic Urbanism" were already present in his reflexions during his studies at the École des Beaux Arts in Paris. This makes us wonder what the role of the Parisian scene was within the development of his ideas, and particularly of the design strategies that led to the "individual living units" of the city of the future. Zenetos's interest in "individual living units" was not only at the heart of the reflection developed in his City Planning and Electronics: Parallel Structures, but also at the core of his graduation project at the École des Beaux-Arts in Paris, completed in 1953, and of his "Cable City" project for a suspended city (*ville suspendue*), designed in 1961 (Fig. 6 - Fig. 8). The title of his graduation project — "Micropolis: Unité d'habitation autonome" — demonstrates his fascination with the re-invention of the notion of the living unit. Zenetos's "Electronic Urbanism", which consisted of a network of individual living units spread over a vast infrastructural

domain, presents many affinities with various projects of suspended megastructures, such as the utopian urban network over Paris designed by Yona Friedman, the Plug-in City by the British group, Archigram, and the New Babylon by Constant Nieuwenhuys. In the 1964 issue of the journal Archigram, one can see the Plug-in City by Archigram, New Babylon by Nieuwenhuys, and a sketch of a floating megastructure by Zenetos. In the page featuring these drawings, it reads:

> *Within the big structure, almost anything can happen. This is in effect, the brief from which Plug-in City develops. In T.C. Zenetos's city project (detail of which is shown bottom left) there is a system of trays slung within a wire network. Constant, in a part of New Babylon (bottom right) uses a close-knit diagonal net to establish platforms and building-objects. The big structure in Plug-in City is at the other end of the scale in that it incorporates lifts and services within the structure tubes. It controls the discipline of the whole city, but on a very large scale.* (Anon, 1964)

As Dimitris Papalexopoulos and Eleni Kalafati highlight, Zenetos challenged Archigram in the sense that he "pursues a more modern concept of space, in which new technologies are rationally incorporated, [and] [t]he plug-in is not designed separately from the 'connected'." (Papalexopoulos, Kalafati, 2006, 14) Although these projects have affinities as far as their morphology is concerned, they differ in terms of vision. More specifically, what distinguishes Zenetos's approach from those of Archigram are his social concerns, which becomes evident in his following statement: "Man desires and has the right to acquire a 'home' in a quiet environment, close to nature and close to his place of work and the various public services." (Zenetos, 1973a, 113) The special attention he paid to the impact of "Electronic Urbanism" on society's structure is evidenced not only by the insistence on the impact of urbanism on society's mutation, but also by his reference to the works of sociologists, such as American urban sociologist Gerald Dale Suttles, and especially in *The Social Construction of Communities*. (1972)
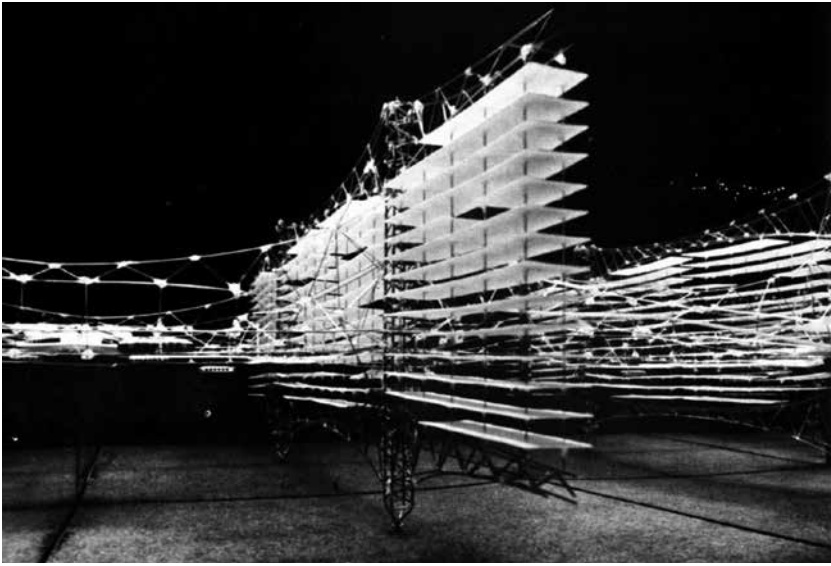
Fig. 6 – Takis Ch. Zenetos, physical model for the "Suspended city" ("Ville suspendue"), 1961.
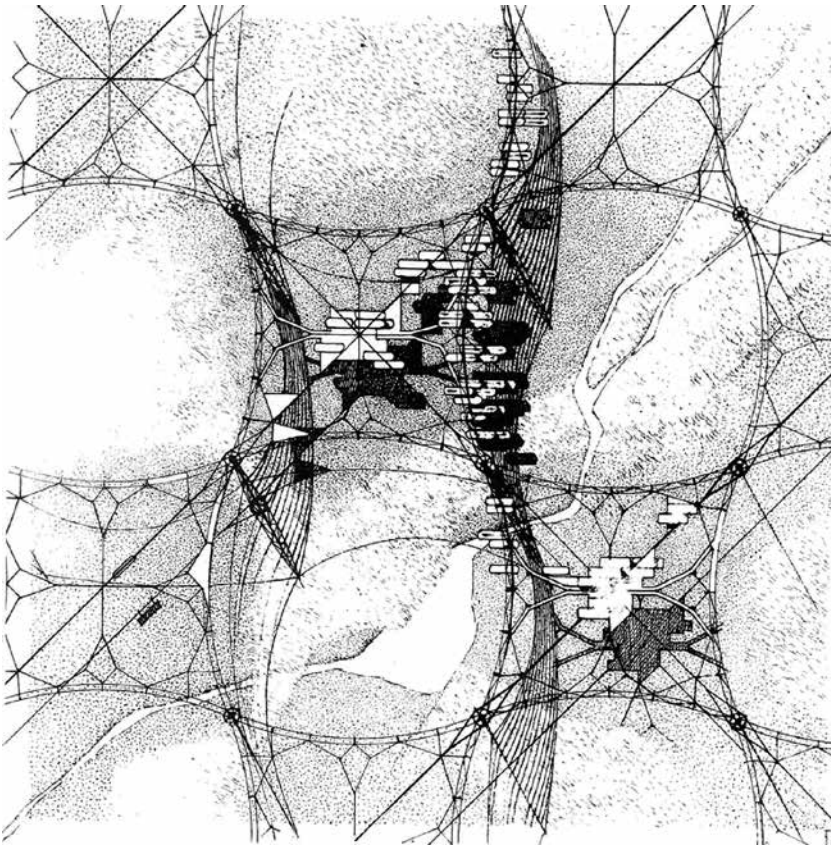Source: Takis Ch. Zenetos Archive



Fig. 7 – Takis Ch. Zenetos, general plan for the "Suspended city" ("Ville suspendue"), 1961. Source: Takis
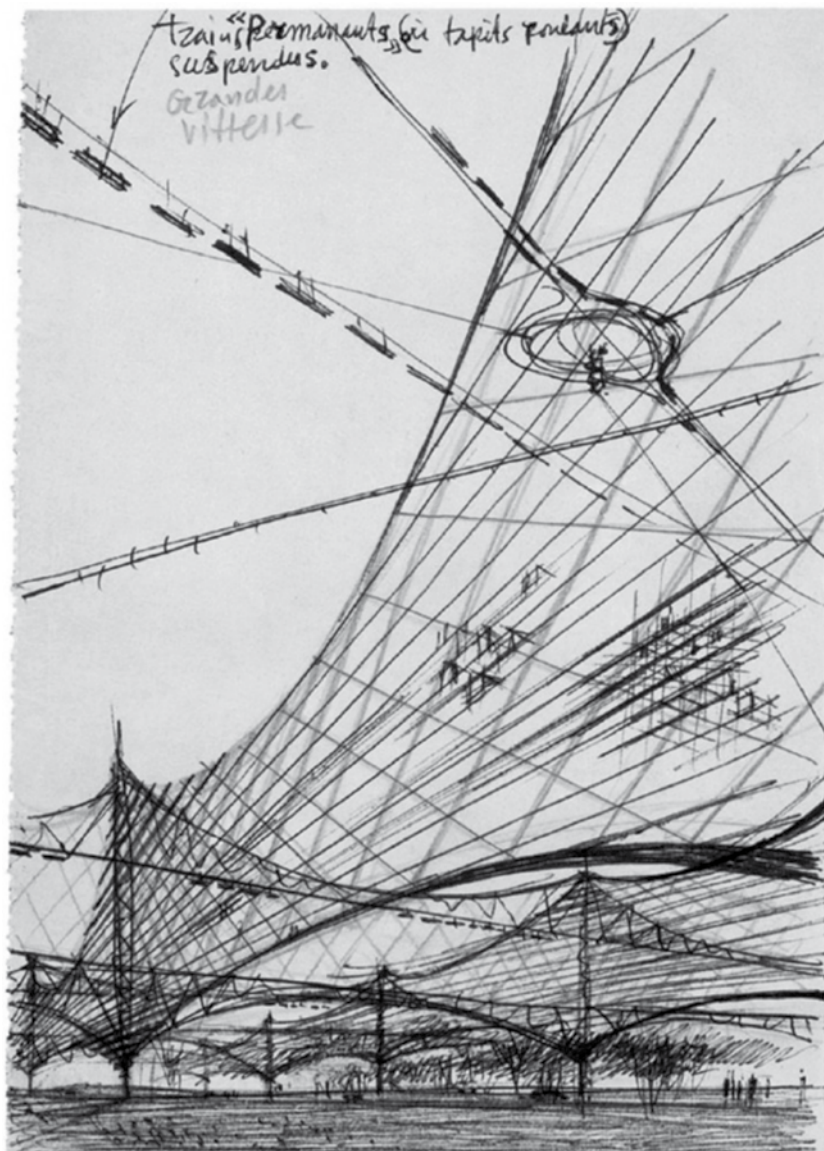Ch. Zenetos Archive

Fig. 8 – Takis Zenetos, sketch for the "Suspended city" ("Ville suspendue"), 1961. Source: Takis Ch. Zenetos Archive

# Takis Zenetos's electronic urbanism versus metabolists' megastructure

Apart from comparing Zenetos's vision with the views of his peers in Europe concerning the use of advanced technologies for the design of megastructures of structures extending above the existing urban fabric, it would be thought-provoking to juxtapose his approach to that of the so-called Metabolists in the 1960s in Japan including Kenzo Tange's conception of megastructures. As Tomoko Tamari remarks, in "Metabolism: Utopian Urbanism and the Japanese Modern Architecture Movement", "the Metabolists sought to promote the idea that the city could be regarded as a supra-individual organism which could generate its own autopoetic momentum/force". Tamari also notes that the "Metabolists sought to establish a higher and more influential social status for architects who could reinvent the concept of modern architecture". (Tamari, 2014, 203) Zenetos's ideas as those of the Metabolists are closely related to the contradictions between concept of megastructure with a central administration system and the citizens's autonomy. A common point between Zenetos's approach and that of the Metabolists is their concern about the social aspects of architecture, which is not at the centre of Archigram's work. Zhongjie Lin relates the social concerns of the Metabolists to a "revival of Marxist ideology in Japanese intellectual circles" (2016, 608) during that period.

To grasp the key issues of the Metabolists's approach it would be useful to bring to mind the etymology two terms: *metaborisumu* and *shinchintaisha.* The former, as Tamari highlights, refers to metabolism, while the latter refer to "the function of metabolism". These terms served to express their understanding of the city as "an organic entity which has the function of metabolism". (Tamari, 2014, 206) According to Raffaele Pernice, "'Metabolism' refers to the biological phenomenon of the cellular metabolism, as the result (summa) of chemical changes that convert the nutritional elements in energy and the chemical complexes in cellular material". (Pernice, 2004, 362) As manifesto of the Metabolists is considered *Metabolism: The Proposals for New Urbanism*

(Kikutake, Kawazoe, Otaka, Maki, Kurokawa, 1960), which was presented at the World Design Conference in Tokyo in 1960.

Both Zenetos and the Metabolists conceived the city as a building. In this sense, they shared their interest in the megastructure. However, Zenetos very often underscored that he was supporting an architectural and urban planning approach based on the design of as light as possible structures. During the late 1950s and the early 1960s, the Metabolists designed several projects that could be compared to Zenetos's "Electronic Urbanism". Among them I could refer to Kiyonori Kikutake's "Tower Shaped Community" (1959) and "The Marine City" (1963), Kisho Kurokawa's "Helix City" (1961) and "Agricultural City" (1960), Arata Isozaki's "City in the Air" (1961) and Kenzo Tange's "Plan for Tokyo 1960". A characteristic of the megastructures of the Metabolists that is close to Zenetos's conception of living units is the insistence of the synthesis of an assemblage of jointed-together units. Another affinity between Zenetos's approach and that of the Metabolists is their understanding of the cities as organic processes and self-organising resilient systems. (Eken, Alpar Atun, 2019, 362) Characteristically, they declared in their manifesto:

> *We regard human society as a vital process – a continuous development from atom to nebula. The reason why we use such a biological word, metabolism, is that we believe design and technology should be a denotation of human society. (*Kikutake, Kawazoe, Otaka, Maki, Kurokawa*, 1960, 3)*

Both Zenetos and the Metabolists were enthusiastic about the incorporation of advanced technological devices in their architecture. Zenetos as Kenzo Tango very often used a "bio-informational language" and "biology, symbiosis, cyborgs, cybernetics, and prosthetics" were at the centre of their thought and discourse (Wigley, 2001, 106). Zenetos and the Metabolists placed particular emphasis on the exploration of architectural and urban design strategies that provide the possibility of architecture and urban planning to adapt to the shifts in the social structure of the city. Similarly, Cedric Price's approach to design was characterised by an understanding of architecture as part of an extensive social and environmental system, or ecology, that influences the inhabitants' mutual interactions and their relationship with their physical

surroundings (Herdt, 2017). This becomes evident in several of his projects as, for instance, the Inter-Action Centre (1970–1977), which is a completed project for a community centre commissioned by Ed Berman and the Inter-Action Trust. The vision on which the Inter-Action Centre was based on the intention of the architect to enhance the interaction between material resources, technology, and individual action. Cedric Price was particularly interested in the design of solutions promoting flexible, pre-fabricated, and short-life housing, and in what he called "life patterning" potential within broader social, economic, and historical contexts.

A paradox that characterizes the approaches of the Metabolists and has been high-lighted by Tamari is the fact that "[a]lthough they embraced people's autonomy and freedom in the future society, their major concept, megastructure, was accompanied by the idea of a central administrative system where professional architects could play a key role in designing and controlling urban life" (Tamari, 2014, 214). We could claim that this tension is also present in Zenetos's work. According to Raffaele Pernice, the Metabolists "promoted the architecture of mega-structure by Metabolist group [because they mistrusted] […] the policy of government and local administrations in facing the chaos of the cities[, on the one hand, and due to their belief in] […] the possibilities given by the new technologies" (Pernice, 2004, 362). A seminal book that is useful for comparing how different architects and architectural groups conceived the notion of megastructure during the 1960s and the 1970s is Reyner Banham's *Megastructure: Urban Futures of the Recent Past* originally published in 1976 (Banham 1976; 2020). Archigram's early years were also characterised by an enthusiasm for megastructures. However, they might have realised that their designs relied on the existence of "a team of trained experts to manage and operate the cranes, trains, and other infrastructural ap-purtenances that accommodated [the] […] inhabitants' ludic wishes" (Gannon, 2017, 182), and, they progressively left behind their optimist towards megastructures.

# Reinventing the relationship between nature and technology

As Simon Sadler remarks, both "New Babylon and Plug-in City were…devised to prompt circulation and accelerate the city-in-flux." (Sadler, 2005, 60) The same issue of *Archigram* in which Zenetos's sketch was included was devoted to "Metropolis" and featured drawings by architects such as Yona Friedman, Hans Hollein, Arata Isozaki, Paul Maymont, Frei Otto, Eckhard Schelze-Fielitz, Paolo Soleri, and Kenzo Tange (Steiner, 2008, 95). Comparing Frei Otto, Yona Friedman, and Takis Zenetos's conception of the city of tomorrow's living units and their relationship to tele-working and home-office conditions is useful in order to better grasp what was at stake during this period, as far as the conception of the relationship between nature and technology is concerned. Zenetos was sceptical vis-à-vis Mies van der Rohe and Le Corbusier's understanding of living units, and blamed them for failing to establish architectural and urban design strategies capable of going beyond the division between interior and exterior conditions. This brings to mind Tristan Tzara's elaboration of the term "intra-uterine architecture" as a reaction against Le Corbusier's "machine for living". (Tzara, 1936) In *Takis Ch. Zenetos, 1926-1977*, the Greek architect underscores his disapproval of his predecessors' understanding of living units:

> I did not imitate Mies van der Rohe, much less Corbu who, while giving interior space a unity, created a definite boundary between interior and exterior, thus making handsome boxes. My own effort has been to integrate the interior with the environment, with no clear dividing line between the two. For the sake both of the resident himself and the man in the street. (Zenetos, 1978, 6)

This reimagined osmosis between nature and technology is related to a new conception of both health and hygiene. In the case of Zenetos's conception of "Electronic Urbanism," this becomes evident in the way he conceptualized the "private hygiene cell", which included a "catholic shower" spraying, but also in the way he conceptualized the nutritional functions of the citizens of this superstructure.

More specifically, Zenetos, in his endeavour to holistically address the various aspects of daily life in his re-invented society, also included the re-invention of inhabitants' nutritional habits, conceiving and even designing a "laboratory for the composition (and decomposition) of consumer goods." Some other elements also related to issues of health and hygiene are his conception of an "air screen of controlled density through refraction particles of various radiation groups," "gym equipment for bodily exercise," and a "support for plant climbers." (Zenetos, 1974, 126)

Frei Otto founded the Institute for Lightweight Structures (ILEK) (Institut für leichte Flächentragwerke) at the University of Stuttgart that same year, in 1964. Its German nickname was Spinnerzentrum. Four years earlier the biologist Johann Gerhard Helmcke cofounded a research group under the name "Technology und Biology." Frei Otto collaborated with biologists Ulrich Kull and Johann Gerhard Helmcke for "Occupying and Connecting", which was published in 2009 but was written in 1964. This work constituted an endeavour to envision "a new way of looking at town planning as a field" through a close analysis of "the processes of occupying and connecting in nature and technology." In order to translate their observations into design tools, Otto, Kull, and Helmcke focused their analysis on the "nets, paths, connections, [and] nodes […] that run all through our natural and technical environment, creating it and influencing it." (Otto, 2009, 6) As Daniela Fabricius highlights, "[f]or Otto and Helmcke the world of nature and technology became subsumed under a general understanding of structure." (Fabricius, 2016, 1261) Otto's intention to envision technology and nature as an osmosis is apparent in his conception of the so-called Ökohaus (literally Eco-House), which was a green vertical cocoon he designed in the early 1980s. Characteristically, Otto remarked in 1984 that "[e]ach man can create [his]…own individual environment."[2]

Frei Otto's article "The City of Tomorrow and the Single-Family House" ("Die Stadt von Morgen und das Einfamilienhaus") is particularly useful for understanding his conception of the living units of the city of tomorrow. In this article, Otto underscores that "[t]he creation of climates favourable for life is…the main task of every designer of the environment." (Otto, 1956, 647) The concern about climatically controllable environments was also at the core of Zenetos's thought, as becomes evident when he remarks that the "entire environment (meaning the climatically controlled space) will be 'separated' from the out-doors with air screens containing reflection particles of adjustable density, ensuring the desired degree of insulation from sun radiation." (Zenetos, 1974, 124)

The fact that both Zenetos and Friedman very often employed the term "parallel city" invites us to wonder what are the common points between Zenetos's Urbanisme électronique and Friedman's "Ville Spatiale." Yona Friedman was interested in providing "continuous flexible space." In "Towards a coherent system of planning," he remarked that "we need to find a system of physical planning, that yields to transformation if it becomes necessary." (Friedman, 1964, 371) Friedman's intention to conceive a system able to respond to mutations brings to mind Zenetos's conception of architecture and urban planning as actors aiming not only to respond to, but also enhance the transformations of, the structure of society. In another article, also published in *Architectural Design*, entitled "Towards a Mobile Architecture," Friedman recognized the role of digital technology for tackling the problems related to urban planning, remarking that "[m]ost of the complicated problems of today are resolved by electronic computers." He was interested in reshaping the role of "agronomists, production engineers [and] urbanists", who, for him, were the "technicians of everyday life." He wished to coordinate "the technicalization of society, and those extant sentimental or human binds which are affected by this technicalization." (Friedman, 1963) Yona Friedman's concern about the necessity to conceive architectural solutions able to adapt to the shifts of society becomes evident when he uses the term "mobile urbanism" in order to refer to the strategies based on "the search for techniques allowing the construction of large units within which an infinite flexibility is required; techniques allowing the provision of supplies (water, energy, sewage disposal) capable of rapid alteration and reutilization; techniques using elements, inexpensive, simple to erect, easy to transport, reusable" (Friedman, 2015, 48).

2. Frei Otto. 1984. Note on a Drawing Entitled "What Is It?". Available online: http://www.the-offbeats.com/articles/building-together-the-okohaus-frei-otto-collective-improvisation/. Accessed on 14 January 2021.

The publication of Yona Friedman's "Ein Architektur-Versuch" in *Bauwelt* played an important role in his relationship with Frei Otto, since the latter wrote to Friedman after reading it. (Friedman, 1957) Thanks to a letter he had sent to Alfred Roth, Friedman had the opportunity to attend the tenth Congrès internationaux d'architecture moderne (CIAM) in Dubrovnik in 1956, where mobility was one of the topics addressed within the framework of the exchanges on the Habitat, the main theme of the congress. In "The Settlement Revolution," a statement he presented at this congress, he underlined the importance of the users, claiming that "[s]ettlement problems cannot be solved by others than by the effective users." (Friedman, 2015, 379) Friedman's concern about the "effective user" is related to a significant mutation of the epistemological scope of architecture and urban planning, which cannot but be understood in conjunction with the re-invention of home-office conditions. Within this context, architecture and urban design strategies are called to respond to distance working, and to the needs related to "tele-work", "tele-communication", and "tele-education."

Yona Friedman's manifesto "Mobile architecture," published in 1958, should be interpreted in connection with this new epistemological scope of architecture and urban planning. Friedman, who lived in Paris from 1957 on, founded the Groupe d'études d'architecture mobile (GEAM), which existed from 1958 to 1962. Among its members were Paul Maymont, Frei Otto, Eckhard Schultze-Fielitz, Werner Ruhnau, and D. G. Emmerich, all of whom are frequently referenced by Zenetos. As Dimitris Papalexopoulos and Eleni Kalafati remarked, Zenetos, in his correspondence with Frei Otto, criticized Yona Friedman, and believed in solutions based on lighter structures than those proposed by Otto (Papalexopoulos, Kalafati, 2006). Rem Koolhaas's following remark, in "Bigness or the Problem of Large", is useful for understanding Zenetos's critique of Friedman:

> *Europeans had surpassed the threat of Bigness by theorizing it beyond the point of application. Their contribution had been the "gift" of the megastructure, a kind of all-embracing, all-enabling technical support that ultimately questioned the status of the individual building: a very safe Bigness, its true implications excluding implementation. Yona Friedman's urbanisme spatiale (1958) was emblematic: Bigness*

> *floats over Paris like a metallic blanket of clouds, promising unlimited but unfocused potential renewal of "everything," but never lands, never confronts, never claims its rightful place criticism as decoration.* (Koolhaas, 1995, 504)

Zenetos's intention to design light structures and not megastructures is evidenced by his claim that the "structure of the city and the house of tomorrow will have to be ephemeral and, as much as possible immaterial." Characteristically, he noted: "Even after the 'tele-operation' of tertiary production has been established, the urban grip will have to be continuously adapted to allow for social structure mutations and improved service systems." (Zenetos, 1974, 124)

# Conclusions

Takis Zenetos' critique of the prevalence of transport infrastructure, which was dominant in the architectural debates of the seventies, and of the expansion of cities, was at the antipode of Constantinos A. Doxiadis's conception of "Ecumenopolis", (Doxiadis, 1962; 1967) which focused on how to devise a "different approach" to the City of the Future, treating infrastructure as a skeleton of a body covering the entire globe and resulting from the balance between settlements, production, and nature. Besides his interest in the broader aspects of urban planning, Zenetos paid particular attention to the complexity of the psychological and physiological needs of citizens within such conditions, as is evidenced by his "all-purpose furniture" design. Zenetos's chief concern was to allow users to become as creative as possible. His flexible superstructures are characterized by an integration of nature in the built environment. Furthermore, he understood technological innovation as a means permitting socio-political changes. His insistence on the significance of immaterial architecture was based on his conviction that "the man of the future [would]...make it possible to use immaterial systems for the cre-ation of his environment." He believed in the force of "simulated situations" and in the capacity of thought tele-emission to "materialise...desired situations" (Zenetos, 1974, 125). His main concern was to design in a way that would extend humans' natural abilities as much as possible. Regarding the social implications of Zenetos's vision, it would be useful to shed light on his

remark that "[e]ach consumer's 'credit potential' will be determined by a quotient of several coefficients, in order to avoid class segregation—which in fact would be reduced to the minimum…by constant education, the use of biocorrective media to im-prove the defective idiosyncrasy of different persons." This remark indicates that he believed in a direct connection between biology and social behaviour. This also implies a specific understanding of health. An echo of the current situation of the pandemic breakout and the need to sterilize one's body and the indoor environment can be found in Zenetos's suggestion that inhabitants "[o]n their return to the living spaces…would discard their coveralls at the 'entrance cell,' to enter the 'controlled environment' after being spray-cleaned." (Zenetos, 1974, 124-125). This demonstrates that Zenetos was especially interested in taking advantage of advanced technology in order to create climatically controlled environments. Additionally, he insisted on the fact that humans would be able to do their daily activities naked. This goes hand in hand with his intention to provide the conditions of the cleanest, and most controllable environments possible.

To reconsider and evaluate Takis Zenetos's historically, it would be useful to place it within the history of the exchanges between architectural discipline, on the one hand, and cybernetics and automation, on the other. Some key insights on this are presented by Socrates Yiannoudes in *Architecture and Adaptation: From Cybernetics to Tangible Computing* (2016). Takis Zenetos's thought is very topical considering the ongoing debates about the advanced information society, especially regarding the social concerns of surveillance, governance, sovereignty within the context of Big Data. His conception of 'tele-activities' provides a fertile terrain for reflecting on potential implications and insights concerning home-office conditions not only within the context of the current pandemic situation but beyond it as well. Regarding this issue, it would be interesting to relate Zenetos's thoughts concerning the shifts thanks to the home-office conditions to Aaron Benanav's key arguments is his recently published book entitled Automation and the Future of Work. An interesting distinction highlighted by Benanav in the aforementioned book is that between the "realm of necessity" and the "realm of freedom". A remark of Benanav that could be related to Zenetos's concern about "free time that will result will give a new dimension to

relations between cohabiting individuals" is the following:

> *The reorganization of social life to reduce the role of necessary labor is not, therefore, about overcoming work as such; it is about freeing people to pursue activities that cannot be described simply as either work or leisure.* (Benanav, 2020, 91)

Relating Zenetos's views to the current debates around automation discourse and architecture would help us realise to what extent his visions are relevant within the current context. In order to contextualise Zenetos's enthusiasm regarding the liberation of the citizens thanks to the extensive use of advanced technology devices and the elimination of transportation during their daily life within the current conditions of our control societies we could relate his ideas to Alexander Galloway's reflections in *Protocol: How Control Exists after Decentralization* [91] and in *Laruelle: Against the Digital* (2006). Galloway explores the connections between Gilles Deleuze's understanding of control societies (Deleuze, 1992) and cybernetics. Adopting Deleuze and Galloway's perspective, one could interpret the freedoms to which Zenetos paid tribute as expressions of a society of control within the context of which citizens "are liberated as long as they adhere to a variety of prescribed comportments" (Galloway, 2014, 106; Krivý, 2018). Despite the dangers that big data control societies entail, an ensemble of urban planning methods that are dominant today engage in order to provide a "collaborative development of urban planning and hence urban infrastructure". These tendencies, sharing Zenetos's optimism towards the flexibility offered by technology, are based on the conviction that big data offer citizens the possibility to "make connections […] in a more visible way and acquire more insights about the ubiquitous presence of digital and data technologies in the city" (Ersoy, Chaves Alberto, 2019, 377).

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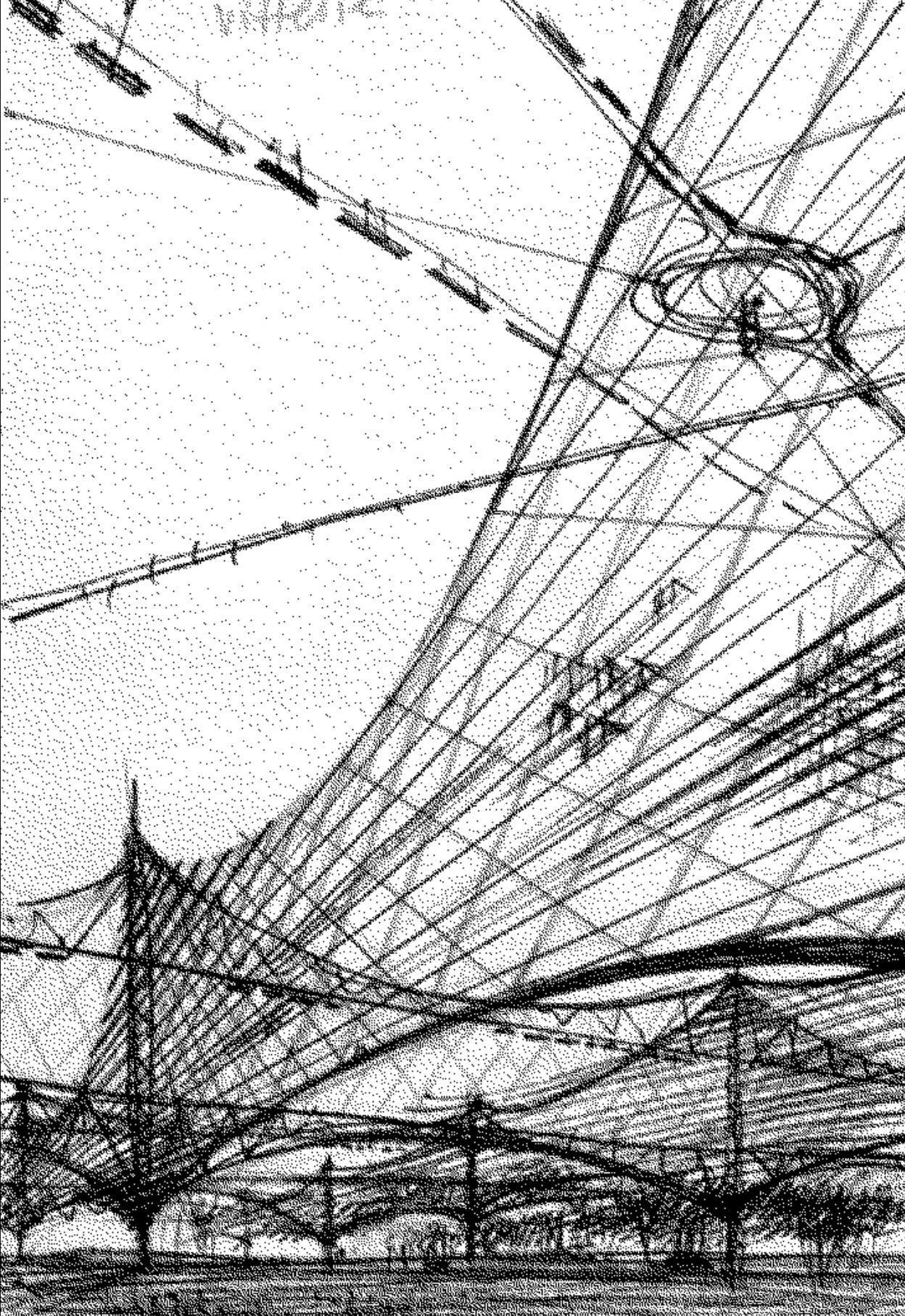Pask, Gordon. 1969. "The Architectural Relevance of Cybernetics". *Architectural Design* 7(6): 494-496.

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# Face: Technical element used as an aesthetic device

**The façade, technical element used as aesthetic device, is a component that has a double nature.**

**This paper proposes an understanding of the façade, seen as the face of four major office buildings in Lisbon. The study of tertiary character buildings, that portray the corporate image of different companies, emerges as an object of choice for this reflection. It is in this architecture that the façade is shown with its full splendor, as the unifying element of the project, giving it a strong character and relating clearly the technical and aesthetic parts of the work.**

**The buildings studied in this thesis were constructed between the 70's and the early 80's. Each project was chosen because it achieves the theoretical notions exposed, becoming essential to understanding the subjects analyzed.**

**Keywords:** Façades; Tertiary buildings; *Brise-soleil*.

## Introduction

*The façade summarizes the entire project: because from it comes the constant ability to surprise.* (Mateus, 2012, 11)

Face.
External shape, appearance, beauty. Expression of an era, intention of an architect, an image that defines a building.

The outer face of a building, defined as one side of a spatial geometrical shape, designated as the main façade, the most richly ordered and where the main entrance appears, acquiring today totally different forms of earlier times.

Responsible for the iconic image of a building, the face allows the work to be imposed before the city and its surroundings, earning his own place as a spectatress as well as the main character. According to its characteristics, it conquers one voice through its presence, changing for a moment the place in which it operates and the lives of those who enjoy it, physically or visually.

Face.
Technical element used as an aesthetic device, an inherently dual nature component.

< Façade of the building headquarters. Source: www.zap.aeiou.pt

To think about the face is to think not just about the point where it relates to the exterior and the interior, the far and the near, but also the space in between.

As Venturi (1925-2018) refers, "architecture as a wall between the inside and the outside becomes the spatial registration of that resolution and in his own drama "(Venturi, 1995, 119). To talk about the relationship between façade, the face of a project and its building is to speak about the whole architecture. Mechanism used to delimit space, the façade resulted from the balance between technical constructions that were being developed and the use of new materials.

With the design of the Crystal Palace by Joseph Paxton (1803-1865) in 1851, the first step was taken to a new architecture. A fascination for transparency and open space applied to this project resulted in the dematerialization of the architectural elements.

Architecture was defining new values.

The traditional notion of the wall was being modified through the use of glass sheets, thinner and thinner, applied in iron structures. The diffusion of new construction solutions and materials permitted the technical advancement of architecture, allowing the wall to remain a constructive need. However, the façade didn´t disappear.

It changed, being differently understood and exploring new possibilities. Regarding this it is important to understand; why the façade? What is its character today?

This paper aims to understand the façade from its formal point of view, constructive and aesthetic, resulting in its relationship with the user. In the words of Mies van der Rohe (1886-1969):

*The technology has its roots in the past, dominates the present and aims the future. The technology is much more than a method; it is a world unto itself. Where technology reaches its true materialization, architecture transcends. Architecture wrote the story of times and named them. Architecture depends of its time. It is the crystallization of the inner structure, the slow unfolding of its form. This is why technology and architecture are so closely linked.* (Rohe, 1993, 6-7)

Thus, the analysis of tertiary character buildings that represent the corporate image of different companies emerges as preferred object to this discussion. It is in this architecture that the façade is shown in all its splendor, as an element that unifies the entire building and gives it character. It is the main feature of the project, linking the technical and aesthetic sides irrefutably. It is the face of corporate companies.

The Modern City.

Called into question since the 1950s, due to being unable to organize the city as a finite object, had its end as a consequence.

This change in the way of building cities was the basis for understanding how the Portuguese city has evolved until the 1980s. Was also important to understand how the modern city erupted. Thus, we receded to 1870s, a time which marked the US statement as the most modern trading and business center of this period, the image of a new power.

The use of metal structures in buildings provided their growth in height, releasing the wall as a structural element. This new process has been used mainly in large buildings of Chicago offices, emerging as a clear architecture of this time. Development, new technologies and new materials, all fused to lead to the Second Chicago School of Mies van der Rohe. One of the great examples of this architecture of Mies was the Seagram Building (1954-1958), essential to understand how the office buildings function and what their characteristics are.

Portugal was also invaded by the new technologies such as the automobile, the telephone and television. It's in the 1970s and early 1980s, between economic and political crises that have destabilized the country, which lay the projects studied in this paper. Thus, to understand the different projects, it was necessary to understand the situation of the Portuguese case and how it might have influenced the way of doing architecture.

We enter the sphere of the four faces.

Fernão Simões de Carvalho told his students "you must run the world and see what is done in other places" (Carvalho, 2013). As architecture students it is important to see, know and also enjoy what architects have to offer us with their buildings.

With the integration of four case studies, four different faces, it was important that such choices allowed me to understand the projects as maybe others didn't know it. It was important to know the city, enjoy the surroundings, discover the users of the space, touch the materials. They all belong to the city of Lisbon, thus enabling an easier and deep knowledge of each work.

Each project was chosen per materialize with great clarity the theoretical concepts described, becoming each one essential, independently from other factors. It's as if the face of each other, its own face, was the own oriental line.

All the rest was left to discover.

# The Façade

### The façade and its constituents – definition

*Projecting inwardly as well as from the inside out, creates necessary tensions that help making architecture. As the interior is different from the outside, the wall – the point of change - becomes an architectural event. Architecture happens with the meeting of the inner forces and outdoor use and space. These inner forces and environmental are, simultaneously, both general and specific, generic and circumstantial. The architecture as wall between the inside and the outside becomes the spatial register of that resolution and its own drama.* (Venturi, 1995, 119)

To project involves setting limits on an empty space. These limits use different dualistic concepts as the inside and the outside, the open and the closed, the light and the shadow, public and private, that when materialized will characterize the finished structure.

The wall described by Venturi as the changing point, viewed as a component that separates the interior and the exterior, becomes the main element in this relationship between concepts. It is the boundary assumed as a space limit, as a connection, because it is seen as a meeting place.

This architectural element "is the threshold at which the light becomes an understandable material, moldable, malleable and, paradoxically, the place from which the light also turns into mystery" (Costelo, 1997, 2).

As part of this work it is important to note that the wall will be understood as a façade, describing only the outer walls of the buildings in question.

According to the "Terms of Art and Architecture Dictionary" by Jorge Silva and Margarida Calado, the façade is defined as:

*Outer face of a building. It can be said with rigor prior face, katerak face, the front face of a building. But the term always refers to the prior or main face, one that is more in sight, the most richly ornamented and where the front door appears.*

*It was said in the XVII century, in this sense, the frontispiece of a palace. Frontage or frontispiece is generally the same name given to the front façade, which faces the street. In common language is only the main façade. The others are: lateral façades and prior façade.*

*The set of all the façades and their plastic composition will in volume, the character and shape of the building. That composition of the façades is made by treating the plan, the surfaces, the volumes, the materials and its textures, and color.* (Silva, Calado 2005, 160)

The "Great Dictionary" by Cândido de Figueiredo explains, in a simplified way, that façade is the main or front side of a building. The word comes from *facha*, which means the same as face, referring back to each of the flat surfaces of an Olido - the face of the building.

Although the primary objective of the façade consists on the contact with the outside, bringing air and light, the increasing use of glass walls did not, by itself, meet the requirements related to the comforts required by modern life. Thus, varied elements appear which focuses in filtering and protection of the glass walls, of solar energy and the outside noise, not forgetting the thermic aspects and privacy, by reducing the transparency of the glass. One such element is the known *brise-soleil*.

It is also important to understand the designation of the *brise-soleil*, which according to Jorge Silva and Margarida Calado, it is defined as:

*Architectural element with the aim of inter-cepting the sun's rays. Its use goes back in time, but the kind of horizontal or vertical plates or, mobile or fixed (and the specific name of* brise-soleil*) is a systematization created by Le Corbusier for one of its 1933 projects.* (Silva, Calado 2005, 310)

To think about a façade promotes the reflection on the technical and constructive aspects, also covering the various elements and systems set up to answer it, working together to achieve a very particular aesthetic character. Still, it is important to consider the evolution of this element, linking it with archi-tectural thoughts of each period, in its most abstract aspect, but also in technical advances and consequently with the use made of the new materials that allowed the emergence of an architecture of various appearances, which seeks to reveal through his image the ever-changing world.

## The façade and the New World – new demands

*In the sixteenth and seventeenth centuries, when the first modern scientists performed their experiments, they had no awareness of what would come from their ideas. They did not exercise any influence over the use of what the man would do with them. Now we have science, technology and industri-alization and all are accepted as part of the active existence. The question is what to do with them. This is the human factor of the problem.* (Rohe, 1993, 24)

The rectangular window as a conventional image, regularly displayed on the façades, resulted of a balance between construction techniques that were developed and the comfort requirements. The type of construction used at the time, from masonry walls, didn't bear large spans, in addition to the comfort of interiors not being guaranteed in situations in which it was chosen to design larger openings to the outside.

At the same time, together with the evolution of construction techniques, the glass industry conceived bigger elements and with best results. The traditional notion of wall

was being dematerialized through the use of glass sheets, increasingly finer, implemented in iron slim structures. However, despite the initial uplift demonstrated by visual and conceptual potential of these structures, soon it was understood that it was not possible to generate conditions allowing the creation of comfortable interiors, in fully glazed buildings, especially during the warmer months.

The modernist ambition of full transpar-ency of the façades with glazed walls, resulted that the comfort requirements of the interior spaces were almost guaranteed exclusively by glass surfaces, being the system made of multi-ple glass panes one of the most used options.

In the 1970s decade low-e components were used (low emissivity material), which when juxtaposed to glass, allowed to filter solar radiation, enabling absorption by the glass of 90%, which results in considerable reduction in heat propagated to the interior. These glasses, composed by the low emissivity components, can be found in the DGADR[1] building whose study appears further.

It should be noted that the thermic resistance of the glass does not consequently reduces the emission of light, being also essential to obtain appropriate levels of light intensity. However, it is important to consider the cost factor.

It is therefore crucial to understand that when the drawing of an opening or glazing is carried out, there are several factors that must be considered. Different solutions meet different goals, starting with the right illumi-nation of interior spaces, improving heat and sound isolation, and controlling the energy performance of the building. A resolution that has been achieving good results, without the need for expensive technology, is applying shading passive systems in façades which prevents excessive solar radiation and normal-izes brightness levels.

One example is the *brise-soleil* mentioned before. These systems, when they are visible, determine formal logics that can acquire a huge aesthetic force, also being an example, the façades of different buildings studied in this paper.

1.  DGADR - Direção-Geral de Agricultura e Desenvolvimento Rural. Directorate-General of Agriculture and Rural Development.

Thus, we understand that the definition of a space as an essential element in the architectural dialog has undergone changes, becoming an increasingly dynamic factor in the context in which the project is part. The façade no longer interferes with the outside only, is now seen as an element that determines the relations between the interior and the exterior, leaving the concept of protection and passing a sense of interaction between spaces.

This constant working relationship goes beyond mere formal issues, being developed by the imagination and experience of living spaces. To understand in all its dimensions as the architecture determines a relationship with the outside through the façade, it's necessary to recognize that man's relationship with these realities is in constant evolution and transformation. It is consequently essential to describe the historical path that explains the dynamics that today define this relationship.

# The Modern City

### The 1970's and the American context – Chicago School vs Second Chicago School

The modern city, as we know it, was being called into question from the 1950s onwards. With World War II, the ideals of the Modern Movement had in its genesis the viable solution for the reconstruction of cities. Such applications were taken from a Charter (called the Charter of Athens), conceived in 1933 at the IV Congress of the CIAM, with the theme of the functional city. The ten CIAM carried out between 1928 and 1956, allowed the discussion and dissemination of the modern city, based on a rational and scientific perception of architecture.

The first disapprovals of the modern city arose through the analysis of the functioning of the new neighborhoods, built from the generalization of the rules of the Charter of Athens, not considering the context and social environment for which they were intended. The main focus of the new ideologies was the

man of medium height, being "LE MODULOR"[2] by Le Corbusier (1887-1965) the emblematic figure, becoming a unique model of Man.

Social criticism was interested in variants, small multiple groups, the exception rather than the rule.

The 1970s are distinguished by the global energy crisis, tracing the end of economic development that followed World War II. A new power would mark this century - the United States of America. The possibility of using metallic structures in construction, the invention of the telephone and the elevator, and the need to create its own language, allowed the idealization of a new scenario for the development of the way to design cities and buildings.

To understand the growing development of this new power, we go back in time to the 1870s, a time that marked the affirmation of the United States as the most modern trade and business center of this period.

In 1871, a great fire destroyed much of the city of Chicago. The need to rebuild the buildings after this tragedy translated into a new architecture for commercial and business spaces, combining technology with the use of iron and glass.

What was done right after the fire became known as the Chicago School. It was understood that through the use of metal structures in buildings, it was possible to provide their growth in height.

Between 1950 and 1980, the Second Chicago School was created, having as its founder the architect Mies Van der Rohe, author of the Seagram building, in which the principles that guide the architecture of this period are present.

The basis of a building was recognized by the architect as being the structure of the building. This view of the building allowed the ordering of space and form to start with the structure, and not the other way around. Mies

2.  LE MODULOR - Between 1942 and 1948, Le Corbusier developed a measurement system that became known as the "modulor". Based on the gold ratio, Fibonacci numbers and also using average human dimensions (within which he considered 183cm as the standard height), the Modulor is a sequence of measurements that Le Corbusier used to find harmony in his architectural compositions.

van der Rohe, in his way of seeing architecture, was aware of the perennial meaning of his buildings, being able to integrate themselves into the architecture of the future, surpassing their time.

With the possibility of freeing the structure and working with the free plant, it was possible to impose substantial changes to modern projects. The architect considered that the structural skeleton freed the building's interior for any kind of spatial arrangement.

*Some people say the Seagram is a bronze building. They don't refer to it as a glass building because it has a lot of metal. I think there are glass buildings there, but they appear when someone gets past this problem.* (Rohe, 1993, 70)

Between 1954 and 1964, the use of the commercial typology of reticular structure is easily identifiable. The Seagram building, seen as the synthesis of glazing projects, at that time became one of the symbols of the International Style. As Werner Blaser (1924 -) found:

*Residential buildings were considered tests whose experiences proved useful in the construction of administrative or commercial buildings. These office buildings had their typologies adopted worldwide, thanks to the economy of materials and the flexibility of distribution.* (Blaser, 1977, 138)

The preference for high-rise buildings for the use of laminated steel structures is obvious, as they allow for faster assembly, the ability to integrate larger spans with smaller sections of columns and beams, resulting in the desired spatiality.

The Seagram project creates a paradigm of tall buildings, thus completing van der Rohe's search that started in the 1920s in Berlin, with the glass skyscraper projects.

### The 1980's and the Portuguese case – Political crisis and Tertiary City

The architecture of the 1980s is experiencing a moment of delicate enthusiasm, as it is based on a scenario marked by a crisis of values. The fall of ideologies and utopias, a new interest in different cultures and a look at history as a source of learning are the main image of this time.

In the Portuguese context, this period is of great relevance, as explained by Jorge Figueira (1965 -), "for a peripheral culture like the Portuguese, the crisis of centralizing models creates prosperity" (Figueira, 2009, 9).

The turning point in Portuguese architecture arises from the urban growth of the 60s and changes in the framework of international architecture, corresponding to the end of political ties and the beginning of the individual's liberation. It is important to point out that the fall of the Estado Novo[3] took place in 1974. However, to explain the extent to which this revolution, known as the 25th of April, influenced the architecture of this period, it is worth taking a brief step back to the period prior to 1974.

The 1950s and 1960s, extremely marked by the Estado Novo regime, spread between two sides: the extreme censorship of a government already in disrepute and the opening to international artistic currents.

With the 1950s, major structural changes emerged that altered Portuguese society. Industrialization, the abandonment of the rural environment, emigration, opening to Europe and the colonial war stand out. In short, the industrialization and tertiarization of the economy spurred the growth of the active population in industry and services.

The military coup of April 25th, 1974 brought a festive atmosphere. It should be noted, however, that this period between 74 and 75 gave rise to economic difficulties, directly affected by decolonization, revolutionary disturbances and the very lack of definition of economic policy.

Throughout the 1970s there was a great change in the Portuguese society. The city center was increasingly occupied by commerce, leisure and services that served the metropolitan area. Progressively, the areas of this center dedicated to housing were replaced by tertiary activities or were left unoccupied due to high prices.

The city at that time is lost as a place and starts to serve only as a support for tertiary

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3.   Estado Novo, meaning New State, was the dictatorial, authoritarian, autocratic and corporatist political regime of the State that operated in Portugal for 41 uninterrupted years, from the approval of the Constitution of 1933 until its overthrow by the Revolution of 25 April 1974.

activities, increasingly dependent on new technologies such as television, radio and the automobile. A new city flourishes.

> *Currently, throughout the city's network, but with a major focus on downtown areas and main axes, large buildings for tertiary or administrative activities are already being disseminated without any apparent criteria. Contemporary cultural positions have been pointing to a time of transition and reformulation of concepts, making it important to reflect and rethink the city, putting in perspective all the actions that concern it. Let us rediscover in Lisbon the uniqueness of its scale and the relationship between the various architectures. This will be your future.* (Pereira, 2001, 47)

The Tertiary City thus emerged with the country's economic liberalization from the 1970s onwards, and it is the private sector that is largely responsible for the transformation of Lisbon's image in the 1980s. The center of Lisbon undergoes one of the biggest transformations the city has ever seen. This phenomenon is only possible with the increased demand for land in the old city, due to its centrality and easy access, by large offices of commerce and services companies, forcing the population to look for housing in cheaper peripheral areas. Thus, new large-scale buildings appear on the volume and profile of the avenues.

In 1980, in an attempt to decongest the traditional center, centralize the tertiary sector and promote greater control over the city's growth, a business center was established on Avenida José Malhoa, where large corporate headquarters were also established.

This new tertiary area of the city was dominated by large economic groups, having been designed by some architecture studios that during the 70s specialized in this field. An example of this is the atelier of Conceição e Silva, of which Tomás Taveira (1938 -) stands out as the driving force in Portugal of the new international post-modernist current. This new current is considered by the architect as a style where "ornament and anthropomorphism, color and symbolism, rhetoric, constancy, multivalence and eclecticism, contribute within a rigorous method" (Taveira, 1982, 23), surpassing modern architecture.

# Four faces

This paper intends to understand how the technical elements are used as aesthetic devices. Thus, it was necessary to study four of the examples from my city, which best integrate the technological and aesthetic aspect of its façades. The Franjinhas building, the former BES headquarters building, the D. Carlos I building and the DGADR building, all initially designed as office buildings, which reflect well the mentality and architecture of the 1960s to 1980s in Portugal.

The topics discussed above were essential for understanding these buildings, from the design and conceptual aspects, to the technological characteristics and choice of materials.

## Franjinhas Building (1965-1969)

*This building is dangerous and risky. Dangerous because it will unfortunately have epigonal followers who will "unleash" to make vertical flaps parallel to the street... Risky because the proposal, as unexplored in smaller dimensions, may not be formally controlled, and as a result result too conflicting for the city environment. We need more dangerous and risky buildings!* (Broadbent, 1970, 192)

Nuno Teotónio Pereira, born in Lisbon in 1922, was the author of the project for the Commercial Building on Rua Braamcamp, popularly known as Franjinhas. Graduated from the Escola Superior de Belas Artes de Lisboa in 1948, he made the first translation into Portuguese of the Athens Charter, a manifesto that sought to solve the problems of urban life in the traditional city.

Non-conformist of the Estado Novo's architectural policy, which led him to be persecuted and imprisoned by the PIDE,[4] Nuno Teotónio Pereira is an example of the constant struggle for the cause of Architecture as a driving force for the development of societies. He won several awards, including the Valmor[5] award with the Franjinhas Building.

4. PIDE - The International and State Defense Police was the Portuguese political police between 1945 and 1969, responsible for the repression of all forms of opposition to the political regime of the Estado Novo
5. The Valmor and Municipal Architecture Award aims to reward the architectural quality of new buildings built in the city of Lisbon.

Franjinhas, the name popularly used to designate this building, emerged in the late 60s in honor of the game of plates projected for the façade, like the fringes of the friendly dog Franjinhas, popularized in the children's TV series at the time, the "Carrossel Mágico".

Located at the intersection of Braamcamp no. 9C and Castilho no. 40, the Commercial Building on Braamcamp street was designed between 1965 and 1969, by Nuno Teotónio Pereira and with the initial collaboration of Braula Reis (1927-1989). Eduardo Nery (1938-2013) also played an important role as the artist responsible for the bas-reliefs, murals and pavement that decorate the building.

The building, of commercial and tertiary character, was conceived in such a way as to satisfy the demand for such facilities. The design of this building was based on the acceptance of a compact block, as the surrounding area tended to become.

The building is visibly divided into two zones: the offices and the lower zone. The first zone is equivalent to a large surface area of the façade, regular and closed, and the second zone, which creates contact with the street, seeks to break the marginal plane by opening the establishments installed there to the public space.

The accesses and circulation of this building were designed considering the different programmatic needs of the property. Thus, the entrances placed at the ends of the building allow direct access from the street to establishments as if it was a continuation of the public road, giving this space a public character. This set of distributions is also used to access the upper floors.

There are fourteen floors that make up this building. From the entrance floor, corresponding to the first floor, there are ten floors above and three floors below, with only one floor without direct access to the public road.

The ground floor and the first sub-basement, with direct access to the street through the galleries, are also made up of several establishments. The second sub-basement serves as private car parking. From the second floor up to the ninth, the building is composed of open space offices. The top floor, taking advantage of the roof, was designed in such a way as to be able to incorporate the doorman's house.

The densification of the façade is achieved through suspended reinforced concrete plates, prefabricated and produced in the construction site. Its purpose is to create a transitional space that takes us away from the bustle of the street and the strong presence of the façades that face it. Another objective was to expand the interior space, extending it a little further to the plane of the plates, surpassing the glazing of the windows, which gives the sensation of greater visual relief. These plates also have the ability to protect the façade from direct sunlight, reducing heat entry.

The regularization of light inside the workspaces is only achieved through the "efeito janela", as Teotónio Pereira called it. The "efeito janela", consisted of placing the concrete slabs lower in relation to the glazed opening of the windows, with a continuous tear remaining on top. The concrete slab that intersects the
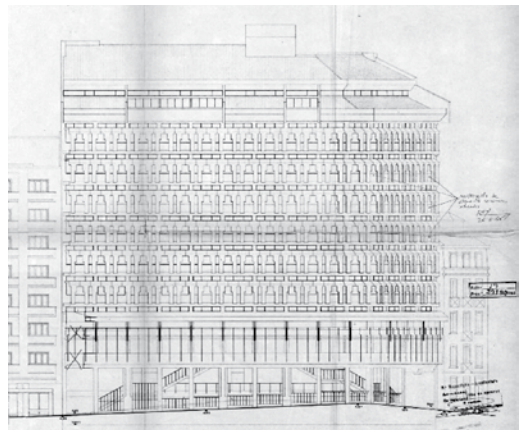


Fig. 1 – Façade, 1965. Source: NO. 54898 Process 39190 - Lisbon, 1965 [Lisbon Municipal Archive]
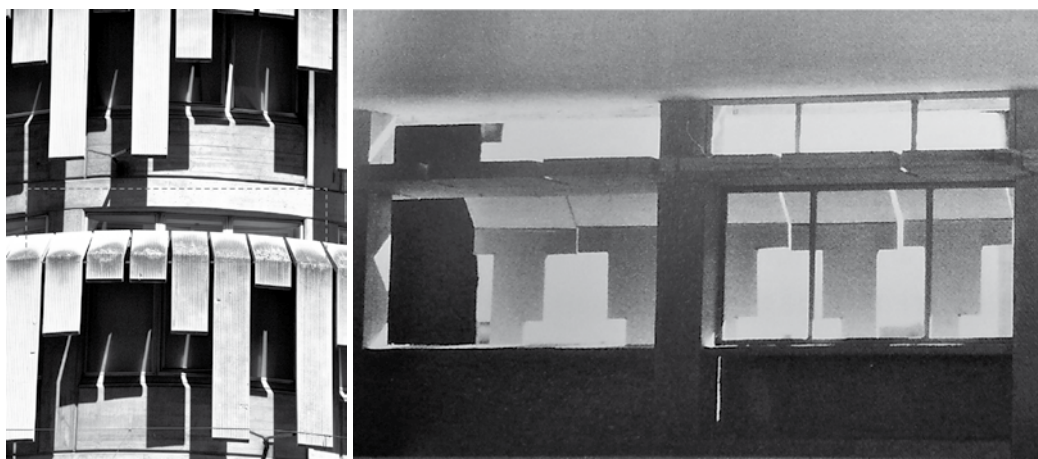
**Fig. 2 – Test model that represents the detail of the intersection of the windows with the concrete fringes. "Efeito janela".** Source: Pereira, Nuno Teotónio. 2004. *Arquitectura e cidadania*. Lisbon: Quimera

interior space becomes a light reflector, which allows sunlight to be cast onto the ceiling and then reflected to the back of the room. In collaboration with LNEC,[6] the architect was able to offer a uniform level of luminosity essential to the work areas.

It is a strong image that marks a building with a commercial and tertiary character, becoming a corporate image that gave a new face to the companies that established there.

### Banco Espírito Santo E Comercial De Lisboa Building - former headquarters (1972-1978)

*The architect has the obligation to respect the client's financial capacities, which are normally limited, and must be able to make the most of the technical components in order to enhance the building, not only in terms of aesthetics but also in the functioning of the building. Muitas vezes há falta de bom senso nisso. As pessoas têm uma ideia estética muito interessante e bastante bonita, mas depois tem consequências complicadíssimas na questão técnica do problema.* (Veiga, 2013)

Caetano Beirão da Veiga, born in Lisbon in 1946, was one of the architects responsible for the project for the building of the former

headquarters of Banco Espírito Santo e Comercial de Lisboa. The project was conceived in its entirety by architect Castro Freire (1917-1970). GEFEL[7] joined the design team when the architect passed away.

Located at the north-west intersection between Av. da Liberdade and Rua Barata Salgueiro nr 115, the cost of the project was not a concern for the client. BES wanted to build its headquarters building as a strong image of the company, but excavations for the foundations began when the April 1974 Revolution took place, bringing chaos.

The workers revolted and held the directors at the area of the foundations for almost two days. The working class now had the power to decide how the building would be built, condemning the project for its associated costs. A project of alterations was then made, modifying and adapting the workers' requirements to the client's intention.

As this building was extremely complex, one of the systems adopted was the paternoster[8] with the objective of loading the documents that were in the general archive, located in the basement of the building, taking them to the office floors.

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6. LNEC - Laboratório Nacional de Engenharia Civil. National Civil Engineering Laboratory. Technically it was essential to be able to control the light, but aesthetically there was the desire to open space to the city, to what was around it, by framing it.

7. GEFEL – Gabinete de Estudos e Empreendimentos Técnicos. Office of Technical Studies and Enterprises.
8. One of the first pieces of equipment developed to carry out vertical transport, nowadays known as an elevator. The system consisted of a chain of open compartments that moved in cycles, up and down.

Fig. 3 – Façade of the building headquarters. Source: www.zap.aeiou.pt

As the headquarters of a bank, the construction of a gallery at the level of the public road, made it possible to satisfy the need to incorporate a space with easy access. In addition to the gallery area, the building has six floors below ground level and eight floors for offices above that level, making a total of fourteen floors.

Given the tertiary character of the building and the composition of the office floors being in open space, one of the main concerns was the natural lighting of the space. The thickening of the façade is carried out through an external grill in extruded and anodized aluminium, behaving like a static *brise-soleil*. Depending on the reality of the site and considering the solar inclination, the design of the grill was improved, and a study was carried out concerning the spacing of the pieces and the length that they should have.

They wanted to use a bronze-colored aluminium, a shade that they considered to represent the city of Lisbon well. These elements were later fixed to the wall using metal fitting pieces, being also composed of straight, vertical and horizontal modules, and the nodes that aggregate all the pieces.



Fig. 4 – Details of the façade. Source: photos by Mariana Porto Ferreira, 2013.

It is indisputable that the main objective of the façade of the BES headquarters building is related to the technical aspect of the project, protecting office floors from solar radiation. The aesthetic importance attributed to its façade is also evident. The graphic composition defined by small aluminum elements, repeated over several meters, produced an imposing façade, striking and current, which protects an equally majestic building built in marble, of a tertiary character from the 1970s. It is undoubtedly the face of the bank, and that is how it stands before the city.

### D. Carlos I Building (1973)

*The coherence of the urban must be read within a broader cultural network, encompassing anthropological coherence, historical coherence and eventually, also a coherence of a poetic order.* (Tomás Taveira, 1982, 31)

Tomás Cardoso Taveira, born in Lisbon in 1938, was the author of the D. Carlos I building. Graduated from the Escola Superior de Belas Artes in Lisbon, he represents in Portugal the beginning of a postmodernism during the 1970s and 1980s, introduced from pop mechanisms of emphasis on the values of communication and semiotics in the image of the city. For Taveira, the city corresponds to everything that lives in it, and for it to be able to live it needs constant movement.

The projects are thus associated with the spirit of the place and with the imagination of the architect, putting the relationships established with the physical environment into the background.

Popularly called "Totobola" due to the design of its façade, D. Carlos I building was defined in collaboration with the architect Madalena Peres mentioned in the documents relating to the study of colors for this project. The project was commissioned in 1973, on the eve of the April Revolution, being the client Companhia de Seguros Tranquilidade.

It is located on Av. D. Carlos I, bordered by Rua D. Luís I and Av. 24 de Julho. This was still an area with a strong industrial character, strategically located near the Tagus Ri

The industrial buildings that composed this and other zones, were made up of large open areas with large spans, enabling natural lighting, being its simple spatial configuration and its construction system prepared to receive large loads. The materials mainly used were iron and steel.

Thus, and in accordance with the post-modernist architecture practiced by Taveira, the façade of the D. Carlos I building was designed containing a metallic structure, which indicated a historical continuity.
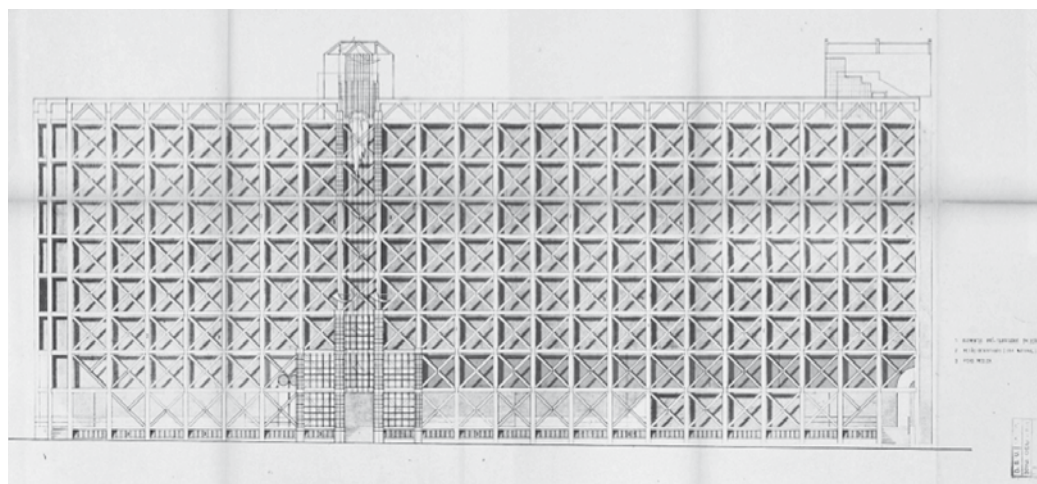


Fig. 5 – West elevation of the building, 1983. Source: NO. 60497 Proc 4348-DMPGU-OB-1983 – Page 14. Lisbon, 1983 [Lisbon Municipal Archive]

Its regular façade, seen as a single element that integrated the entire program of the project, divided into the floors assigned to the commercial area (first and second floors) which had large glazed spans, enhancing the establishments through direct contact with the public road. In 1983, with the changes made to the project by the architect, the façade was consolidated and the glazed openings that were previously exposed to the city were hidden by the concrete façade, no longer being possible to highlight the commercial area of the office floors.

This project comprises 14 floors, the entrance floor being used for commerce. The second floor contains a mixed program, with a commercial area and offices. From the third floor onwards, the occupation is made with an office area. Below the ground we have the floors for private parking.

To reduce costs, the façade was built in concrete and painted, in order to contain a metallic color, as if it were a metallic material. The circular pillars are placed from 2.98m by 2.98m, each element "X" corresponding to a floor. Each of these elements contains three glazed frames, each 80cm wide, which acts as sliding windows. In the vertical direction, the first 80cm of the glazing are also divided by frames made of bronze colored glass, totally opaque, which provides privacy for users of the space. No more than 30cm away from the large glazing, this façade allows the passage of hot air, reducing the impact of heat inside the building.

The main objective of the design of this façade was thus to create a homogeneous image, achieved in the last phase of the alterations. In this way, the façade works as an aesthetic device, responding to the architect's



Fig. 6 – Details of the façade and glazing. Source: photos by Mariana Porto Ferreira, 2013

intention to produce an architecture composed of shapes and images.

As one of the façades of commercial and tertiary buildings that marked the 1980s, the D. Carlos I building is another easily identifiable work by the architect Tomás Taveira. Commented by many, its presence is indisputable, continuing to be the mark of an era that brought innovation and color to the streets of our city.

## DGADR Headquarters Building (1980-1983)

*All my constructions are different from one another, but the aesthetic level is a thing of our own, of ourselves. It is a feeling of ours. I, for instance, don't like to hide the materials that I work with, I like to make them visible. The façade is like this because I like it.* (Carvalho, 2013)

Fernão Lopes Simões de Carvalho, born in 1929 in Luanda, was the author of the project for the building of the current DGADR.

Academic studies were completed in 1955 at the Escola Superior de Belas Artes in Lisbon. He moved to Paris to complete his training, contacting with Le Corbusier for the first time.

A business center was defined on Av. José Malhoa, with the intention of clearing the traditional center, concentrate the tertiary sector and foster greater control over the city's growth. This new tertiary zone was visibly dominated by large economic groups.

Located on Av. Afonso Costa no. 3, near Praça Francisco Sá Carneiro in Areeiro, the DGADR building was designed between 1980 and 1983 by the architect Simões de Carvalho, after coming from Brazil in 1980.

The built design is a change to the initial design. In the first, unauthorized project, we can see the design of a vertical sunshade and flower sunshades too.

One of the reasons why the first project was not approved was due to the way it touched the building of classical and monumental architecture, located on the neighboring land. As a historicist building designed by architect Cristino da Silva (1896-1976), the contrast was too obvious.
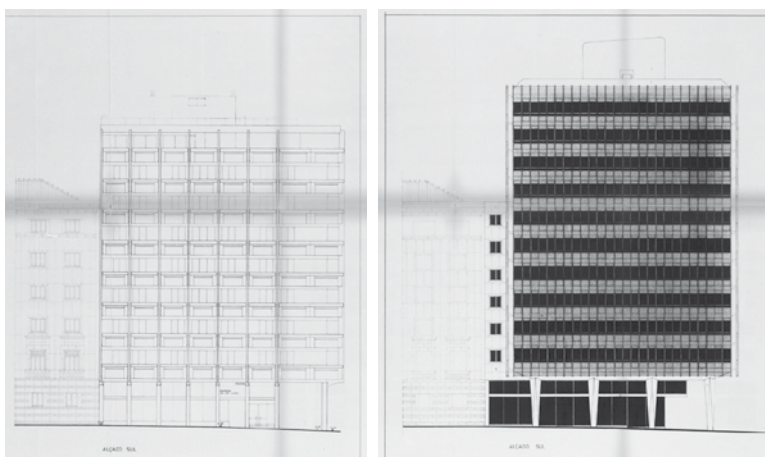
Fig. 7 – Alteration to the initial plan, 1981. Source: NO. 59192 Proc 3082-DMPGUOB-1981–
Page 14. Lisbon, 1981 [Lisbon Municipal Archive]

It was decided to retreat the façade, making the transition from classical building to office building. What was lost with the retreat of the façade was gained in height, by integrating more floors.

The cliente was José Cristóvão, owner of the Abóboda Sociedade de Construções, SARL and IRCRISTUR Lda, having been his company responsible for the construction of the building and all the elements that make it up.

There are thirteen floors that make up this property. On the ground floor, a commercial establishment, the entrance to the office building and the column consisting of the vertical accesses were designed.

The retreat of the glazed façade of the commercial area in relation to the body of the building, located on the ground floor, allowed for the enhancement of this area. The entrance hall to the office floors was separate from the commercial establishment. Access to the private car parking floor was done on the side of the building.

The middle floor contained the upper store of the commercial establishment. The ten floors correspond to office floors, whose main feature is the absence of rigid partitions separating the various functional spaces.

Regarding the module present on the façade, this was designed considering the



Fig. 8 – Detail of the façade and its components. Source: photos by Mariana Porto Ferreira, 2013

interior space. The glass panels that make up the windows are all 2.2m in size, which allows for partitions in the work areas.

Visible concrete, glass and aluminium were used on the façade. The curtain wall frames contain double glazing and plain glass from top to bottom. The front ones are tempered with reflective glass.

The element that stands out, giving the building a dominant image and prominence in its surroundings, is the curtain wall façade made up of delicate glass elements and a vigorous aluminum structure. The need to solve the insolation problem was made through the application of *brise-soleils* composed of reflective glass, which make up the curtain Wall façade. It is 70cm away from the building façade, through the use of the Modulor, and using grid walkways between them, that allowed the passage of hot air without affecting the interior of the building and the work areas.

# Conclusion

The final result of each of the four faces arises from a project intention of the architects who conceived them, particularly as an integral and fundamental part of a process of construction and aesthetic transformation of a subject and, through it, of an entire architectural conception.

The façade, the corporate image, the workspace and the being that inhabits it, build each other, transforming their relationships and establishing new models that will constantly reshape the different ways of inhabiting the space.

Four are the treated buildings and four its architects. Many are the dissimilarities that separate and characterize them, but there are also several common points that bring them together. Architects from different decades have traveled different paths but have a common component, the creation of a technical element used as an aesthetic device. The face of the four buildings.

The façade, crafted according to the objectives of each one, had common principles and intentions: solving the technical problems associated with the project and the character of the building, together with the intention to offer the property a face, an image that characterizes the work. According to these

premises, the way of designing and thinking about architecture provided four different options, assuming four protagonists of the city.

Architects trained by the Superior School of Fine Arts, were always in contact with the different disciplines that organize the various arts courses. Such contact made the artistic aspect of each one, even if unconsciously, exercised. The technical aspect, an aspect also inherent to the discipline of architecture, appeared in constant conflict with the intentions of each artist-architect, being the perfect meeting between the balance of such different activities, the final objective of each work. Simões de Carvalho describes what he thinks about this issue, when asked whether the architect is a technician or an artist:

I'm very much an artist, because I made chairs with painters and sculptors. I think the architect has to be both because only technicians… The architect, if only technician, we'll live in a city without interest. Without beauty, things are sad (Carvalho, 2013).

Thus, we understand that the architect has a duty to use his common sense. His ideas, from an aesthetic point of view, must be conditioned and mutually influence each other from a technical and cost point of view.

It should be noted that the Estado Novo period, of which the first three case studies are part, was characterized by another element that forced the introduction of art into architectural works, reinforcing their technical and aesthetic connection. Called "Conjugation of the Three Arts", the public buildings built by the State were required to include in their general budget 5% for the integration of works of art in the project, with the hiring of artists being indispensable.

The resolution of technical problems was another common point in all projects. As the buildings are of a tertiary nature, the search for well-lit workspaces in a natural way was essential. Thus, the general option taken was the use of glass, which brought another problem, lack of privacy and excessive sunlight. Buildings projected in glass were not intended to close off the views, but rather the resolution of a balance between visual freedom and protection. The façade solved this problem.

With different materials and different designs used in each project, the visual

connection between the interior and the exterior was maintained, protecting the users of the building and offering them a naturally lit space. The technical aspect was put to the test here.

Another problem posed, the customer. This aspect was equally common in all projects, a client associated with a corporate company, being necessary to attribute a strong and striking image that was the face of each project. It is here that the technical aspect finally joins the aesthetic intention.

The image, a reflection of a purpose, allowed us to describe the time. It freed the architect from the technical components associated with the construction of the building, allowing him to go through his imagination, and according to his own conditions, produce an attractive, innovative and creative façade, which provoked curiosity when relating to the surroundings or to the memory of the place. Here the architect found complete freedom to be an artist.

The perfect balance between imagery and technique allowed us to transform a constructive element into an artistic piece. Integrating all the components that allowed such a transformation, different faces emerged that in the end describe similar intentions.

The protection of the buildings' façades, seen as the technical issue that characterizes the four projects, was resolved through the use of an element, the *brise-soleil*, which was reverted in the aesthetic response by the search for a strong identity for the companies. From different materials and design, four *brise-soleils* are obtained which, according to the design intentions, the close surroundings, the memory of the place, the client's objective and the personal taste of the architect-artist, became the aesthetic element that represents all the work. *Brise-soleil* is thus used as an artistic component, which is transformed according to design constraints, protecting the building's façade through its lines and geometric shapes, never losing its aesthetic characteristics.

The mystery was unraveled.

Four different realities, the same problem, with the common sense of each architect being the unifier. It only remains to question how the relationship between the façade and the building will develop in the future, how will man look at this element that represents the face of architecture.

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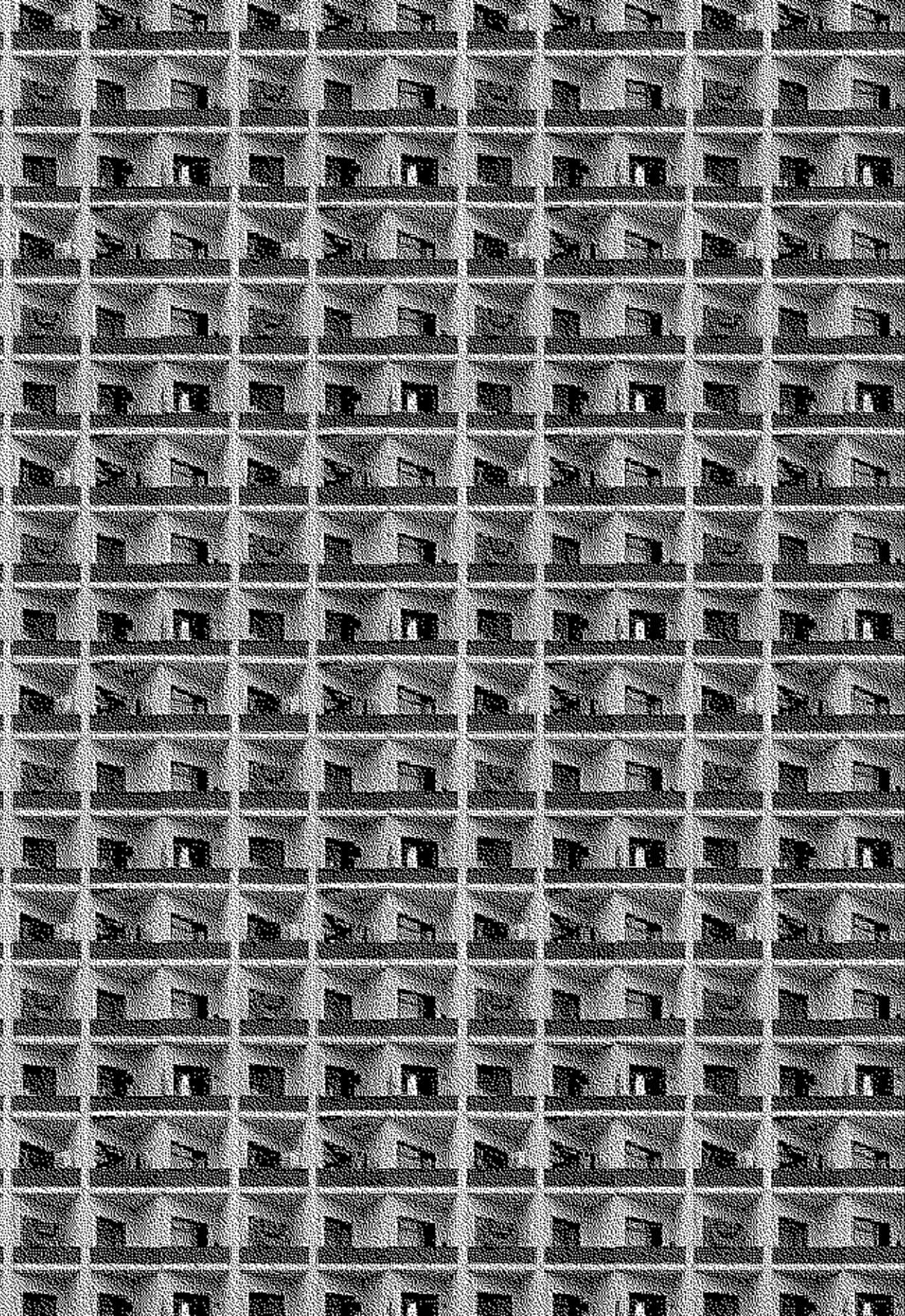
# Wallpapers from the Eastern Europe. A visual research on the façades of post-war mass housing

**Wallpapers from the Eastern Europe is an ongoing visual research that explores the modular quality of post-war façades in mass housing complexes. It is based on a photographic survey across Albania, Greece, Montenegro, Macedonia, Slovakia, and Turkey, in which façades built with precast assemblies have been studied and sampled. The elaborations take the form of wallpapers tessellated with samples that convey period-ical designs. Hence, a seamlessly repeated geometry that could be ideally repeated ad infinitum. The series of patterns presented is open-ended and intentionally non-scientific. The Wallpapers series creates a connection between post-war standardized domestic accommodations, often scattered in concrete suburbs developed under the flag of time-cost efficiency, and unexpected patterned repetitions based on identity vitiation, or weak individuality of the single elements, as Gombrich pointed out in his study on the sense of order. Reproduction devalues complexity, but these photographic series aims to demonstrate that while some build-ings preserved their original facies, others have been allowing unregulated adaptations performed by those who actually live those edifices. First we will introduce the concept of repetition and see how façades and patterns are intertwined; secondly, we will lay out the fundamentals of plane tessellation; then we will analyse some samples of the series and how they can be transformed in wallpapers; finally are the possible variations of the spatial structure and practical applications. Each façade that has been selected for this paper has witnessed momentous urban changes and political shifts. Politics employs façades to communicate messages of change on one end, or self-celebration of certain ideals on the other end. In a short circuit, the very large turns into microscopic fractal, the homogeneous built environment develops in a trivial divertissement, what is made of concrete acquires the consistency of a piece of fabric.**

**Keywords:** Pattern; Façade; Standardization

< Qyteti Studenti pattern, Tirana, Albania. Source: Author

# Introduction

*Wallpapers from the Eastern Europe* is an ongoing visual research that explores the modular quality of post-war façades in mass housing complexes. It is based on a photographic survey across Albania, Greece, Montenegro, Macedonia, Slovakia, and Turkey, in which façades built with precast assemblies have been studied and sampled. The elaborations take the form of wallpapers tessellated with samples that convey periodical designs in the form of patterns. Hence, a seamlessly repeated geometry that could be ideally repeated *ad infinitum*. The series of patterns presented is open-ended and intentionally non-scientific as it is linked to the personal experience and interests of the researcher. In other words, *Wallpapers from the Eastern Europe* has no intention to represent systematically the modes of construction in post-war Eastern Europe, but rather give a subjective interpretation on repetition in the built environment.

The *Wallpapers* series creates a connection between post-war standardized domestic accommodations, often scattered in concrete suburbs developed under the flag of time-cost efficiency, and unexpected patterned repetitions based on identity vitiation, or weak individuality of the single elements, as Gombrich (1984) pointed out in his study on the sense of order. Reproduction devalues complexity, but these photographic series aims to demonstrate that while some buildings preserved their original *facies*, others have been allowing unregulated adaptations performed by those who actually live those edifices. First we will introduce the concept of repetition and see how façades and patterns are intertwined; secondly, we will lay out the fundamentals of plane tessellation; then we will analyse some samples of the series and how they can be transformed in wallpapers; finally are the possible variations of the spatial structure and practical applications.

# Wallpapers and façades

### Repetition

Looking at patterns is what we do to understand and study phenomena. On a more psychological level, our general search for meaning passes through an ordering structure that eventually makes patterns appear (Gombrich, 1984). Recurring events convey a sequence that we are capable to codify and project previsions with. In a classical structuralist perspective, we see a record of events, then a record of time, we understand the structure of a system, and finally is the meaning. But the study of repetitions and patterns is not limited to literary theory. Many have transposed this analysis to the built environment, and in particular Aldo Rossi and Peter Eisenman, although they also combined recursivity with fractured or absent structures (Hays, 2009). The classical definition of pattern is that of "a design composed of one or more devices, multiplied and arranged in orderly sequence. A single device, however complicated or complete in itself it may be, is not a pattern, but a unit with which the designer, working according to some definite plan of action, may compose a pattern" (Christie, 1969, 1). In the text, we will see how the single device can be adapted to architectural geometries and what outcome will result with different plans of action.

*Wallpapers from the Eastern Europe* bring to fruition architectural façades of standardized neighbourhoods, understanding geometrical rules and variations within a square sample. The latter, in turn, is replicated in a seamless visual continuum. The Cartesian obsession at the base of the *Wallpapers* series is inspired by Jacques Tati's 1967 masterpiece *Playtime*, in which post-war Paris is represented as a generic city looking for neobourgeois spaces characterized by "shoddy construction, lack of amenities, and morbid geometrism" (Ockman, 1995, 24). Geometries of the built environment dictate the movements of people. Architecture works as a mould for social behaviours allowing only patterns of orthogonal flights through grid-based layouts. *Playtime* represents the predominance of geometry over improvisation. Repetition makes daily actions part of an urban ritual that is as much nonsensical as hypnotizing is the whole picture of office workers walking in straight lines. *Playtime* has a non-plot, as it represent one ordinary day in a generic neighbourhood of a generic metropolis, cut *in medias res*. One has the sensation that the film can be repeated in a loop for each day of the year. In a way it works exactly like as the single device of a wallpaper, which has a definite meaning in itself but its ends are open and allow another adjacent piece to be juxtaposed in order to extend the visual narration at will.

Uniformity is also at the centre of the scene in which Monsieur Hulot is received at his friend's home. The façade frames floor-to-ceiling windows that allow full view of the domestic space from the street. The scene is shot from the exterior and we can see his friend's neighbours simultaneously. They have the same furniture, wall colours, and layout. The curtain wall functions as a display of shopping windows available for the consumption of the passers-by (Ockman, 1995). *Playtime* is also a film about façades and how their transformation, in terms of materiality and transparency, is a metaphor of the changing post-war society. In the second part, the human factor and that of the architecture switch their role. At the Royal Garden restaurant diners slowly disrupt their geometrical constraints up to the point of a carnivalesque scene, where background music turns into tribal rhythms. This is not a contradiction of the first half of movie, but rather reinforces the cycle of daytime associated with office work and night time in which characters unload their constrictions before another morning in their cubicles. The unfolding of an urban ritual. Keeping valid the association with the tile of a wallpaper, the night at the Royal Garden is what happens at the centre of the motif. The apex of that geometry. But Tati surrounds these wild acts of disruption with repairmen, waiters, and the architect, instantly intervening to fix tables, floors, doors, cladding materials. In the end, everything is supposed to be returned to its original state, in an orderly fashion, like the outer part of the tiles that await another beginning next to them.

*Wallpapers* series show how mass and architecture are intertwined. In other words, how given geometrical patterns dominating in the suburbs are being attacked with modifications by daily usage. Repetition usually fosters a position of power for it creates a unifying identity, a protocol of actions and spaces, which transform groups of individuals into a mass (Canetti, 1973). Each façade that has been selected for this paper has witnessed momentous urban changes and political shifts. Politics employs façades to communicate messages of change on one end, or self-celebration of certain ideals on the other end. This political act, for instance, is the angle that berlin-based video artist Anri Sala used in his documentary *Dammi i colori* (2003) to comment on the transformation of Tirana. The mayor, now prime minister, Edi Rama supported the renovation of the capital's image by repainting the façades of decaying socialist buildings with bright colours. Sala's video recorded the stark contrast between post-riot muddy streets and façade scaffoldings overlapping the new vivid patterns. As Jacques Rancière (2009) pointed out, this intervention on the urban scene, quixotic maybe, aimed at the creation of a sense of community after the conflict. But, most importantly, it was intended as a common ground where to share values aesthetically with the mediation of new patterns on dull façades. Rancière sees artistic interventions in the public realm as strong political acts that visualize what is usually kept invisible. Art and politics share what the philosopher calls distribution of the sensible, which is "the system of self-evident facts of sense perception that simultaneously discloses the existence of something in common and the delimitations that define the respective parts and positions within it" (Rancière, 2013, 7). There is a kind of silent speech attached to aesthetics: things have a voice of their own, like the façade of a building, but then their latent meaning needs to be interpreted by someone in order to make such mute objects meaningful, to be heard; which is the perspective explored in *Parole Muette* (Rancière, 2011). Thus is explained the central role of perception, that of creating new form of interpretations. The aim of the *Wallpapers* series is in this sense offering a new way to look at post-war suburbia.

However, we will follow the same direction but in the opposite way: instead of studying how patterns can be applied on façades, how the built environment can be reinterpreted with artistic interventions, as it has been done in many occasions, here is discussed how façades from the post-war suburbia can be transformed into patterns. Whether from ancient Greece or contemporary Europe, periodical designs follow the same rules and have the same unchanged anatomy over time (Stevens, 1980). Proof is that many studies published in treatises of the 18th century are still applicable today, as we will show at the end of the text, and their generative character is easily adaptable to computational aesthetics, i.e., parametric architecture. As noted by Owen Jones (1856), appreciation of a pleasing disposition of masses was already present in primitive artefacts, as early civilization became accustomed to harmonically balanced forms and colours observed in nature. The formation of patterns then originated from spatial arrangements of masses by weaving, which introduced the first notions of symmetry and repetition. Hence, first is the study of

natural wonders, then the reduction of their complexity to geometrical regularities, finally the use of such geometries on artefacts. In a similar fashion, *Wallpapers from the Eastern Europe* capture brutalist façades, analyse their geometries, and generates decorative motifs.

### Re-elaborations and tessellation

We have already conducted other combinatory experiments with residential plans, analysing how historical domestic typologies can be reinterpreted in contemporary layouts (Gasco and Resta, 2021). This series expands on the idea of visual standardization that is attached to post-war building industry, conducting an empirical reading of a personal experience rather than a systematic study. Scaling down the sample, any domestic unit loses its peculiarity, contributing to a homogenous visual noise, which eventually unfolds in a trivial decorative motif (Fig. 1). Façades, where domestic life is projected, are being resized to the point of a tessellation module.

Given a photograph in which the perspective has been corrected and squared, the first step is that of looking for a sample unit, which is the largest portion of the façade that can be selected and transformed in a geometric pattern. In prefabricated mass housing buildings, it can be easily identified following the joints between precast elements. Its underlying geometry establishes a systematic link between the design of the façade, its visual feature, the compositional rule, and possible generative configurations. The search for a shape grammar outlines "constituent components of a form and their arrangements and relationships. It usually emphasizes the lexical level (vocabulary elements) and the syntactical level (grammars and relationships) of the architectural composition" (Eilouti and Al-Jokhadar, 2007, 8). It is the breakdown of the part-whole relation and the configuration of a self-sufficient geometric construct.

The following step entails the tracing of the sample, redrawing the geometry of the façade as well as its local modification. Namely, different window frames, extensions, exposed infrastructure, hanged laundry, and so on, are included as well. This overlaps a second level of complexity on the base image in order to get a non-uniform, asymmetric, sample image (Fig. 2, Fig. 3). Eventually, the final outcome is the product of a tessellation of extracted
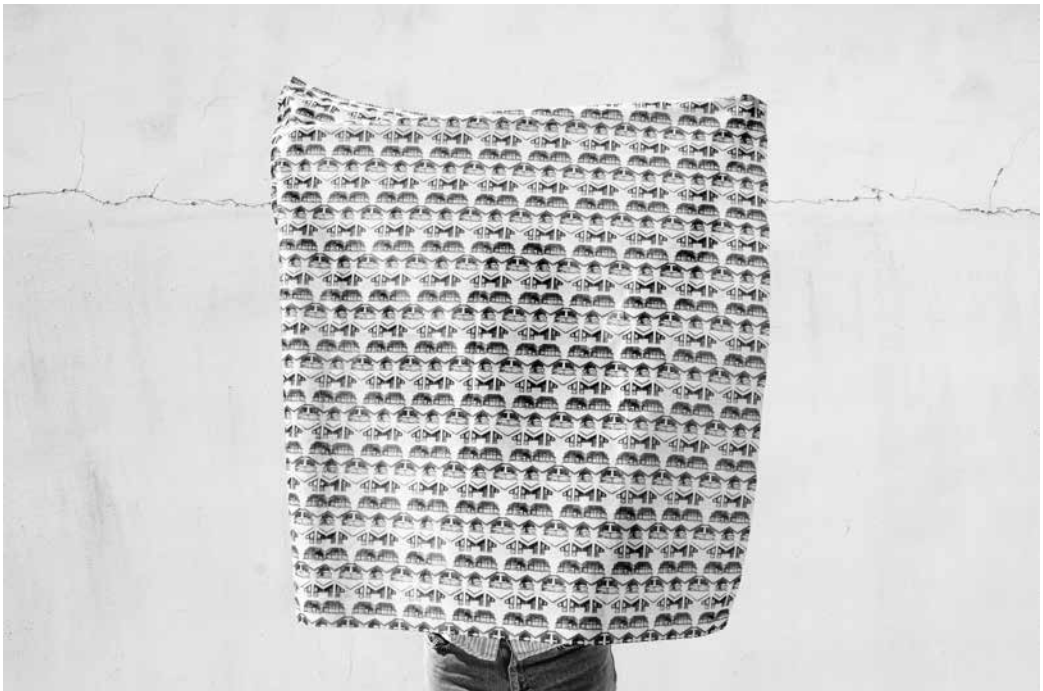


Fig. 1 – Struga façade pattern on polyester cloth. Source: author

motifs that are placed according to the initial spatial structure. Now, many attempts have been made to formalize the aesthetic quality of geometries. One of the first was George David Birkhoff, who defined the aesthetic measure of an artwork as the ratio of order and complexity, in which the first is a measure of structure and repetition, while the second expresses unpredictability and modification (Birkhoff, 1933). George Stiny later studied aesthetic implications of recursive generation of arrangement of shapes in two-dimensional compositions (Stiny, 1976, 1980; March and Stiny, 1985). His work on shape grammar, founded on structuralism and early experiments of computational art, departs from simple geometrical rules applied via increasingly complex syntaxes.

*(1) Find part of the shape that is geometrically similar to the left side of a rule in terms of both non-terminal and terminal elements. (2) Find the geometric transformations (scale, translation, rotation, mirror image) which make the left side of the rule identical to the corresponding part in the shape. (3) Apply those transformations to the right side of the rule and substitute the right side of the rule for the corresponding part of the shape. Because the terminal element in the left side of a shape rule is present identically in the right side of the rule, once a terminal is added to a shape it cannot be erased. The generation process is terminated when no rule in the grammar can be applied.* (Stiny and Gips, 1971, 4)

In this way, a seamless composition can be easily constructed. So we enter the mysterious domain of ornament to which the patterns and images are subjected, as Focillon (1992) maintained in *The life of forms in art*. From an architecture to an elementary motif turned into ornamental theme, forms have their internal rules and can be constructed outside the realm of meaning. Indeed, the French art historian warned on the importance to separate the abstract realm of patterns and the concrete domain of forms. Form is there and not anywhere else, it communicates via its physical qualities, unique qualities, which will inevitably change the perception of an abstract pattern (Focillon, 1992, 62). In Focillon's view, form is alive and always in motion. It has its own history that escapes that idea of being a by-product of a historically determined social context. In Romanesque decoration, for instance, "figures were made to conform to their architectural setting and it was ornamental,

in that the figures were drawn and composed in accordance with ornamental schemes" (Focillon, 1963, 105). Hence, human bodies and ornamental features cold be superimposed. Coming to the art of the 20th century, the most known application of patterns in an artistic research is probably that of Maurits Cornelis Escher, whose work left a long lasting inspiration to numerous international artists (Schattschneider and Emmer, 2003). Escher himself, in 1924, exhibited a printed fabric with one of his animal motifs, but "it was not successful" (Schattschneider and Emmer, 2003, 48), he wrote in a letter.

Against this background, the final step of the *Wallpaper* series is the application and study of façade patterns on different cloths, experimenting the patterns on fabric (Fig. 1, 5-7). An interesting contribution on printed-textile design, and especially on characteristics and classification of surface patterns, is the volume *Geometric symmetry in patterns and tilings* by Horne (2000). The book approaches pattern design with a mathematical thinking, departing from theories about crystalline structures, in order to derive construction techniques. Generally speaking, wallpapers are ditranslational designs in which "patterns which are invariant under linear combinations of two linearly independent translations repeat at regular intervals in two directions" (Schattschneider, 1978, 439). This means that we have a periodic design that is composed of figures translated in a two-dimensional space. Such translation is regulated by a structural framework, called lattice, made of an array of points that are used to position the units. The plane is then divided in parallelograms, a unit cell, which has as variables side lengths and their angle (Grünbaum and Shephard, 1987). In our case, sides are equal and the angle is 90°. In terms of possible variations, as described in Steven's (1980) *Handbook of Regular Patterns*, any asymmetrical tile can be stacked with itself to create seven monotranslational designs, or bands, and seventeen ditranslational designs on a plane.

## Wallpapers from the Eastern Europe

Following is a selection of wallpapers of the series that covers Albania, Macedonia, Turkey, Greece, Slovakia and Montenegro. Additionally, one of the Macedonian patterns, Struga, has been presented as a printed sample (Fig. 1), and one of the *polykatoikia*
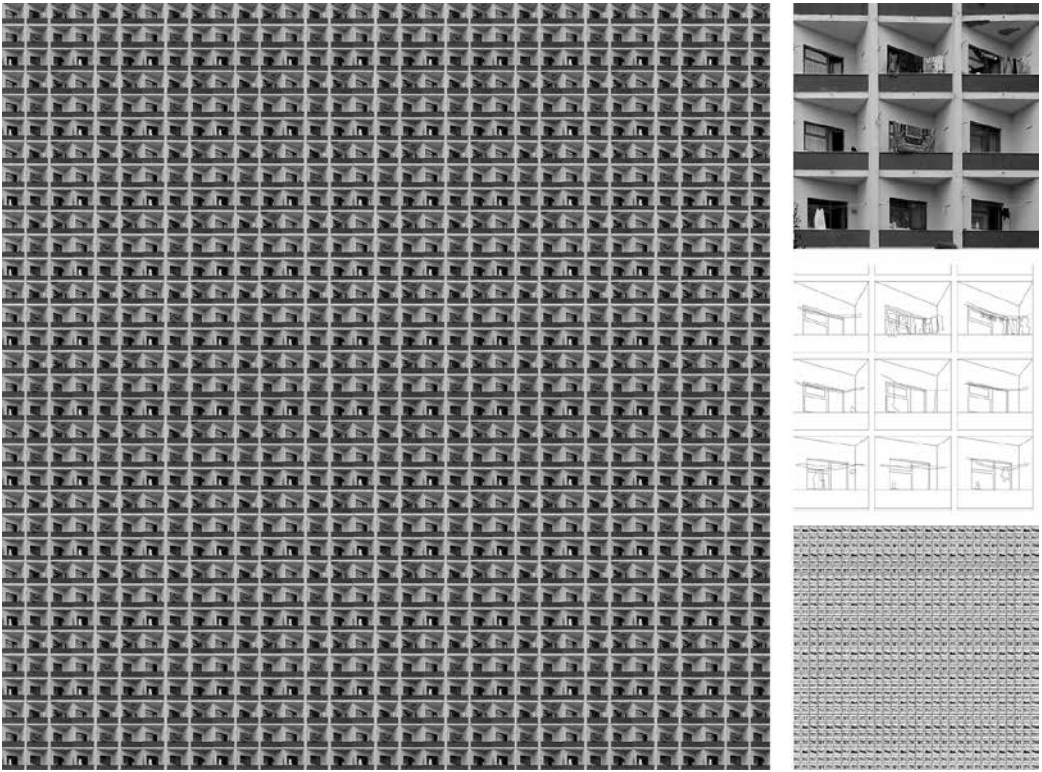
Fig. 2 – Qyteti Studenti pattern, Tirana, Albania. Source: author

patterns from Athens is utilized to show possible variations in Fig. 4.

Wallpapers from Albania have been sampled in Tirana, Durazzo, Valona, and Saranda. Here is presented the elevation of student dormitories in the Tirana Student City, the *Qyteti Studenti* (Fig. 2), which was built under the regime of Enver Hoxha. In November 1990, students' revolution slowly broke out. A group of students living in the dormitories had been lamenting hard conditions in their accommodations, courses and university. On December 8th, there were demonstrations and riots as students wanted to meet the communist leader, Ramiz Alia. In the first days of December 1990, the main square of the *Qyteti Studenti* was full of protesters, banners covered balconies at the *Qyteti Studenti* (Abrahams, 2010). Those thirty drab buildings became the scene of a protest movement that led, in 1991, to the iconic tear down of the statue of the dictator in Skanderbeg square. The façades were wrapped with messages of change. *Qyteti Studenti*, an area of about 25 hectares, of which 6.7 hectares are occupied by informal construction today, is still in use as a dormitory. Six years

ago, Atelier Albania, mandated by the Ministry of Economic Development, organized an international architectural competition to design the master plan and rehabilitation of the area (Atelier Albania, 2015). We have visited and photographed the Student City while participating in the site visit for the competition. The *Qyteti Studenti* is a city within the city, with an atmosphere of a calm village surrounded by a dense urban fabric. Close by, OMA is currently implementing a large residential plan named *Mangalem 21* (OMA, 2018).

Turkish wallpapers have been sampled in Istanbul and Ankara. Here is presented one of the buildings in Çankaya, a large district to the south of the capital, specifically the MESA mass housing (Fig. 3). MESA Mesken Sanayii A.Ş. was established in 1969 and has been building more than 1100 residences of social housing. The Çankaya development is composed of 13 buildings, grouped in four compounds, with an interesting articulation of shifting volumes on a steep slope, designed by architects Uğur Eken and Aykut Mutlu. Blocks A, B, C are dated 1970, and blocks D and E 1971. A different star-shaped block, F type, also

dates back to 1971. Blocks height and typology have variations, averaging fifteen floors. Lower floors include playgrounds, shops, a market, bakery, a primary school, and sport facilities (Mutlu, 1972; Anonymous, 1979). MESA is one of the companies that provided mass housing complexes in a period of momentous increase of accommodation demand in Istanbul and Ankara. Construction employed tunnel form-work systems and reinforced concrete precast façade elements (Eryıldız, 1995). This area of Çankaya offers an open panorama on the city.

Greek wallpapers are mainly concen-trated in Athens, and more specifically on the widespread economical multi-storey typology called *polykatoikia* (Fig. 4). It was introduced in the post-war period to accom-modate rural migrants and refugee moving to the capital. Government could not afford large public housing developments, so it was decided to allow small landowners to rebuild their single-family houses in multi-residence typologies (Knappers, 2020). *Polykatoikia* buildings provide maximum flexibility within a simple reinforced concrete frame, which

commentators consider a direct reference to the Maison Dom-Ino (Aureli, Giudici and Issaia 2012; Aureli, 2014). The *polykatoikia* produced apartment building with repetitive modules on repetitive façades, with very little formal articulations (Dragonas, 2014). However, given the simple structural layout, plans vary locally and can accommodate different uses.

## Variations on the spatial structure

The wallpapers that we have analysed up to this point have been arranged on a simple spatial structure, following a regular grid array with aligned tiles. The same sample is repeated to all adjacent cells without modifications. In order to apply variations to wallpapers, we can transform both the geometry of the spatial structure and the repeating sample motif. In this text we work only on the latter. It is possible to apply four different operations: translation, in which the motif is moved while keeping the same orientation; rotation, in which the geometry has another orientation; reflection, in which the motif is mirrored; glide



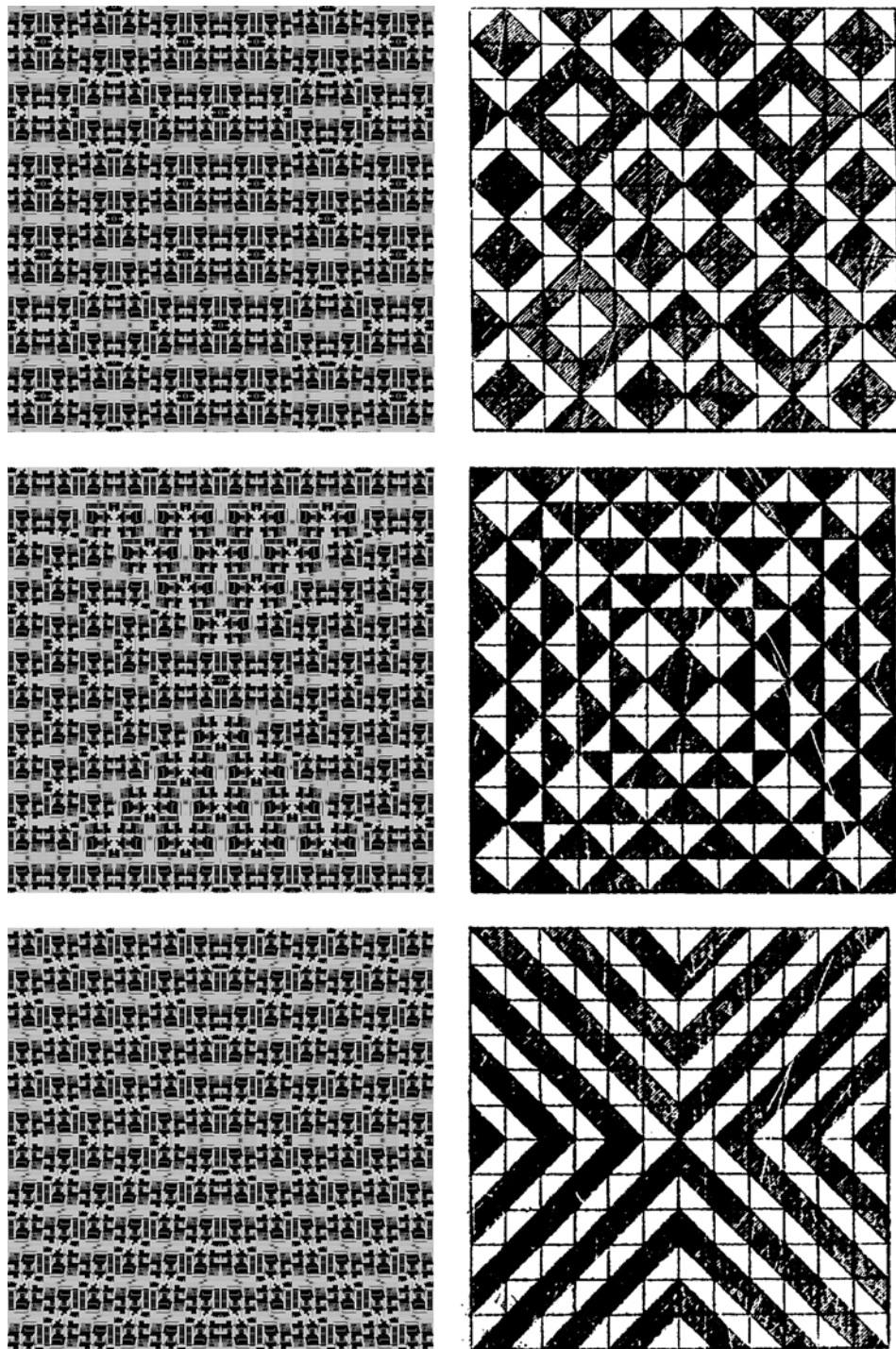Fig. 3 – ME-SA Çankaya Sitesi'ne komşu parseller üzerinde, Ankara, Turkey. Source: author

Fig. 4 – Variations on Truchet pattern n°46, n°50, n°51. Source: author and Truchet (1722)

reflection; in which the geometry is both reflected and translated (Stevens, 1980). The variations presented in Fig. 4 employ the second operation, that of rotation. Tiles have been rotated around their centre, with an interval of 90°, in order to obtain four different versions of the same image: $a$ = 0°, $b$ = 90°, $c$ = 180°, $d$ = 270°. Having previously sampled seamless patterns along the two direction of the plane, matching $a$ with $c$ and $b$ with $d$ will give again a seamless pairing, visually continuous. However, matching $a$ with $b$ or $d$, $c$ with $b$ or $d$, and vice versa, the continuity will be lost as shown in Fig. 4. This is evidently due to the asymmetrical nature of the tile. Now we have for tiles and it is possible to generate infinite pattern of patterns, super patterns. To do that, alternative tiling systems are sourced, in our case, from shape combinations studied by father Sébastien Truchet in 1704 in *Mémoire sur les combinaisons*. Dominique Douat published and extended Truchet's work in 1722 with the title *Methode pour faire une infinité de desseins differens, avec des carreaux mi-partis de deux couleurs par une ligne diagonale, ou, Observations du pere Dominique Douat, religieux carme de la province de Toulouse, sur un memoire inferé dans l'Histoire de l'Academie royale des sciences de Paris l'année 1704, présenté par le reverend pere Sebastien Truchet, religieux de même ordre, academicien honoraire*. The compositions developed by the French Dominican are based on tiles that are not bisymmetric, like our images, in which a simple rotation of 90° affects the appearance of the single unit. In this way, Truchet obtained a catalogue of tessellations with four different rotations of the same tile, a simple square split along one diagonal and coloured black and white (Fig. 4).

His work was made popular by Smith (1987) with an article containing a translated version of *Mémoire sur les combinaisons*. Smith stressed his topological approach consisting only in variations of position and orientation that eventually explore the relation between density and direction. Although Truchet tiling has been widely applied in the field of representation and decoration, very few applications are made in architecture. One is that of stereotomy enhanced with digital fabrication (Varela and Sousa, 2016).

We have elaborated another application of the *Wallpapers* for the ongoing 2020 European football championship, which is taking place in June and July 2021. The football championship is a widespread popular event that polarise media coverage and social media interaction. One of the most natural act, during the tournament, is to expose a national flag to the public street as a sign of national pride. In those countries in which football is more popular, it is possible to see how façades are covered with the colours of the national team. For this occasion, we have created a façade flag based on the stars and stripes layout of a USA flag (Fig. 7). The base tile is another fragment of façade from a mass housing complex in Ankara. The flag has been hanged on different buildings in the same way one would do with his or her own national flag to show a sense of belonging.

# Conclusions

*Wallpapers from the Eastern Europe* series is a visual experiment on façades of post war mass housing complexes. The underlying geometry of large precast assemblies is treated as a decorative motif for experimentations on patterns. In a short circuit, the very large turns into microscopic fractal, the homogeneous built environment develops in a trivial divertissement, what is made of concrete acquires the consistency of a piece of fabric. We have seen how architecture can be analysed and its meaning displaced to be used subjectively. The sign departs from the form to which it was attached, is multiplied in an infinite space, and creates a uniform visual noise that cancels again any singularity.

Fig. 5 – Struga façade pattern on polyester cloth. Source: author



Fig.6 – Struga façade pattern on polyester cloth. Source: author

Fig. 7 – Façade flag during the 2020 European football championship. Source: author

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# Walking wonders
## An atlas of useless structures in two housing complexes in Lisbon

This paper focuses on a set of sculptural objects and architectural structures existing in public places in two large housing complexes: Olivais Norte (1955) and Olivais Sul (1959). It is well known that these two housing estates exemplify the rise and fall of the ideals of the Athens Charter in Lisbon. However, by the time they were built, several authors were already criticizing the dryness of public spaces of modernist urbanism and their incapacity of generating social life.

Accordingly, some experimental teams of architects and visual artists working in these housing complexes designed enclosed plazas and transitional spaces to foster social encounters and play structures for residents to meet and play in the open air.

In a more or less deterministic way, these structures were sought to induce social relationships and active use of public space, which was considered an extension of housing and a platform for social equality.

In some cases, thanks to architects and artists' way of working (interdisciplinary, experimental), their approach went far beyond recreating the traditional playgrounds to create strange urban structures imbued with great poetry and formal ambiguity.

These 'useless' objects – observatories, circular walls, labyrinths – which remain in the territory truncated or ruined are the remnants of an outdated conviction that public art and architecture could shape the relationships between people and contribute to a better future. To a certain extent, they can be described as involuntary monuments that 'define the memory traces of an abandoned set of futures', as Robert Smithson famously said about the monuments of Passaic.

This text intends to contextualize and identify these objects, and it is accompanied by a small Artist Book in the form of a map that charts them in the territory. The Walking Wanders Map is framed in a set of artistic researches carried out in the 20th century in which the act of walking, the use of cartography and taking the space of the city and its suburbs as an artistic medium were central.

**Keywords:** Modern ruins; Involuntary monuments; Subjective cartography

< Sculpted pavement, Praça Cidade de S. Salvador. Olivais Sul. Source: Photo by author.

# Introduction

Anyone who walks through the Olivais (Olivais Norte and Sul) in Lisbon is faced, here and there, with small built structures, with no other apparent function than inviting to play or to simply stay outside. These structures assume great formal and material diversity: from simple inscriptions on the pavements to architectural constructions in concrete or masonry. These structures, most of them truncated or ruined, were intended to counteract the monotony of mass housing or compensate for the scarcity of interior space in 418 homes, prolonging people's time outdoors.

This communication intends to map and contextualize these structures built in Olivais Norte and Sul. It is accompanied by a small artist book in the form of a map, the Walking Wanders Map.

After a succinct approach to urban planning in Lisbon in the decades following World War II, when Olivais Norte and Olivais Sul were planned and built, a reflection is made on the specificity of these recreational structures considering the moment of their creation and its current state of existence. The Walking Wanders Map is presented after a brief foray into some of the art movements of the 20th century, in which cartography and walking in the city played a decisive role.

# Postwar urban planning in Lisbon

### Post-war Urban Planning in Lisbon

Olivais Norte (1955) and Sul (1959) were the major residential urban developments built in Lisbon after the second world war, gathering influences from various European experiences. This golden period of urbanism and urban design corresponded to a time of large-scale housing construction, where the strict rules emanated by CIAM in the first decades of the twentieth century were softened.

An increased sensitivity to people's need for socialisation and a new attention to what happens in the housing estates' public spaces was clearly noticeable. Children were an important portion of the population in residential areas, epitomising a yearning for a better society in the post-war world. Renewed attention to the needs of children was evident in terms of urban planning, architecture and public art.

It is telling that the 1959 *Universal Declaration of the Rights of the Child* states that "the child must have full opportunity to play and to dedicate their self to recreational activities, which must be oriented towards the same objectives of education; society and public authorities must endeavour to promote the enjoyment of these rights". The residential areas created in these decades are thought of as lavish in terms of playgrounds if compared to their predecessors. (Lefaivre and Döll, 2007)

In addition, there was also a sensitivity to the use of public space by adults, being these spatial structures understood as facilitators of physical exercise and outdoor recreation, as predicated by the Athens Charter (Le Corbusier and Giraudoux, 1941; Álvarez, 2007), or as spatial containers that could foster and promote social interaction.

Thus, playgrounds, recreational structures, spaces for staying outside were also a means for a social transformation – a wishful miscegenation of people of different backgrounds through contacts made by children and informal interactions between adults.

### Olivais Norte

Olivais Norte (1955) corresponds to the first large-scale application of the ideas of the Athens Charter in Lisbon, taking the sun, vegetation and space as the raw material of its formulation (Le Corbusier and Giraudoux, 1941). Although criticised in some countries, the Athens Charter represented, for the Portuguese context in the 1950s, a radical step forward. Despite the schematic and a priori approach to urban issues, it had the merit of giving critical importance to housing while also considering its relationship with the surroundings, mainly understood as green areas.

For the first time in Lisbon, in Olivais Norte: "... the principle of independence of housing blocks was directly adopted, with all the known advantages of the possibility of convenient orientation, isolation of housing...." (GEU, 1964), which meant a radical break with the space of the traditional city.

Although two criteria were adopted (1 – seeking the "social balance of the cell", avoiding the spatial segregation between types of buildings and rent categories; 2 – implementing the tallest buildings in the centre of the neighbourhood, decreasing as they moved outwards), the buildings were inserted freely on the ground, in the direction of the best sun exposure. These principles of building arrangement on the ground generated a very irregular grid with unrestricted open spaces, which were thought of as neutral spaces and as containers for collective outdoor activities, as the Athens Charter proposed.

The plan for the arrangement of outdoor spaces (public/green spaces) by landscape Arch. Álvaro Ponce Dentinho was thought to correct the inconveniences arising from location and climate and to safeguard the security of pedestrians, providing the unit with abundant vegetation and several spaces and structures suitable for the practice of outdoor activities for different age groups. There is a noticeable gap, however, between what was conceived and what was actually accomplished: the concrete structures that we see today – sandboxes, circular walls... - have probably fulfilled the function of recreational areas, although they do not correspond to the initial projects (Marques, 2012, 263). (Fig. 1).

Nevertheless, other structures have been built on the initiative of architects who have created some of the unit's architectural projects. Among them, one deserves a special mention in the scope of this study because it established a new kind of architectural structure (arch. Nuno Teotónio Pereira, António Pinto de Freitas and Nuno Portas, 1959). It is an experimental project for six rows of four buildings, heavily influenced by organic and vernacular architecture. Here, the concept of transition space was introduced, aimed to mediate between the interior of the house and the outdoor, and was intended to be an inter-generational meeting place. The architects named these architectural structures with a porch and a bench in front of their entrances as "satellites" of the buildings (Portas, 2004, 51). (Fig. 2).

## Olivais Sul

Olivais Sul (1959) was the largest housing complex built at the time in Lisbon as a "semi-autonomous" residential unit in relation to the city (GTH, 1964). Olivais Sul's conception reveals a critical transposition of ideas and solutions gathered in various reconstruction programs in post-war Europe, namely the Athens Charter, the English and Scandinavian New Towns. These included functional zoning, the segregation between automobile and pedestrian routes, a cellular structure, and the neighbourhood unit concept, thanks to which the allocation of schools, small shops and other facilities was systematised, and a generous provision for green public spaces was ensured (Duarte, 2002). A mix of different heights and volumes of the buildings was sought, as the richness and variety of the landscape was considered an essential factor for the wellbeing of the population.



Fig. 1 – Labyrinth. Olivais Norte. Rua General Silva Freire. Source: author

Fig. 2 – Buildings' Satellites – Porch and bench, Rua Alferes Barrilaro Ruas, Olivais Norte. Nuno Teotónio Pereira, António Pinto de Freitas and Nuno Portas archs. Source: author

On the other hand, the plan itself paved the way for a careful and thoughtful revival of the traditional city by proposing an agency of buildings that strongly defined streets or squares in certain areas. In formal terms, the plan already established an ambivalence between the unrestricted green space of the Athens Charter and the presence of areas "within the tradition of Lisbon's public garden" (GTH, 1964).

The sensitivity to the public space surrounding the buildings, which characterises European urbanism after the war, is very evident in the planning of Olivais Sul. Public space design was recognised as too complex to address from a single disciplinary point of view. The working group dedicated to the "arrangement of free spaces" (directed by Arch. Carlos Duarte) was a team with several specialists - architects, engineers, physical education teachers – and also two visual artists: the sculptor Jorge Vieira and the painter António Alfredo (André, 2004; Marques, 2012; Marques, 2016).

An interdisciplinary approach reconciled the solutions found in foreign countries with the study of the nearby reality through surveys performed in Lisbon (Nunes, 2007). A systematic study was carried out on the dimensions of the new playgrounds and recreational areas, taking into account the age groups of users and the distribution of the population (Marques, 2012).

Again, it is worth noting the extraordinary importance given to children in the study of public spaces, along with the belief in the need for the collaboration of artists in urban design. Some of the main references of the team were, for instance, the network of playgrounds set out by the Stockholm Master Plan of 1952 – with the famous playful sculpture for children Ägget (Egg), by Egon Møller-Nielsen –, the playgrounds in Denmark and Switzerland, the collaborative experiences between architects and artists (Frank Dickson, Peter Daniel and the painter Vitor Pasmore, in Peterlee New Town) and the work of the Swiss sculptor--architect Walter Förderer (Duarte, 1965; Duarte, 1966).

If the landscape arrangements were made using three-dimensional models or drawings, the studies of playgrounds and public spaces in the surroundings of the buildings – often entrusted to artists António Alfredo or Jorge Vieira – were made using clay (Marques, 2012; Marques, 2016). This meant that, compared with Olivais Norte, Olivais Sul has a much more varied type of playing structures and a different plasticity in the use of the very materials of the city – pavement, earth, concrete, masonry. Besides architectural structures – circular walls enclosing spaces, sandboxes – as seen in Olivais Norte (Fig. 3, Fig. 4), here a much more fluid understanding and treatment of space appears – sculpted pavements, fountains, water-circuits, observatories. (Fig. 5).

Fig. 3 – Big circular wall, Rua Almada Negreiros, Lisboa. Olivais Sul. Source: author



Fig. 4 – Small circular wall, Largo Primeiro-Tenente João Rodrigues de Moura, Lisboa. Olivais Sul. Source: author



Fig. 5 – Sculpted pavement, Praça Cidade de S. Salvador. Olivais Sul. Source: author

# Ruined play structures

Scattered across the green spaces of the two units, these useless structures that we can hardly name - are they sculptures, observatories, labyrinths? – still exist today, although without active use by people. Deteriorated, truncated, more or less forgotten by the inhabitants of the neighbourhoods, these structures now assume the improbable status of modern ruins.[1]

In the course of accelerated ageing, nature has taken care of them. Lichens, small ruderal plants, are already growing between the cracks in the concrete, generating their own microcosm ecosystem. Some structures are truncated, destroyed or have been replaced by mass-produced anodyne urban furniture. Also, some of them have been complemented with spontaneous informal gardening by the residents.

Associating ruin and modernism is, as we know, an uncomfortable exercise. Conceived as urban laboratories that heralded the future, modern buildings or playgrounds, barely tolerate ageing, the erosion of their materials and the very fast pace at which this erosion happens (Olsen, Bjørnar and Þóra Pétursdóttir, 2019, 7).

In Olivais, while the buildings are fully inhabited, the lack of maintenance of these structures show people's apparent indifference towards them. Nevertheless, these strange urban objects still appeal to an idea of play. They were thought of as open objects that could be appropriated individually or collectively, sometimes inducing games with defined rules (e.g. hopscotch), but generally inviting to free improvisation or spontaneous manifestations of the play instinct (Caillois, 2001, 28).

In their vagueness or functional ambiguity, these artistic and useless structures are places to stay or to play in a non-deterministic way, a kind of activity that could be described as eminently free, separate or isolated from ordinary life; uncertain and utterly unproductive. In fact, free or improvised play produces no goods, wealth, nor new elements of any kind. It is an occasion of pure waste (waste of time, energy, skill) but also and mainly a source of joy,

pleasure and amusement (Caillois, 2001, 5-8).

Is the lack of immediate utility of these structures that justifies their abandonment by people? Is their deliberate non-productivity? Does their formal and functional ambiguity make them unappealing?

More than mere urban objects, some of them could perhaps fit in Rosalind Krauss' famous expanded field diagram, the concept of site-construction: in the positive convergence of landscape and architecture, along with for instance the mazes and Japanese gardens (Krauss, 1985, 284). Somewhere between sculpture and architecture, urban design and landscape, these peculiar structures and interventions questioned disciplinary boundaries and classifications from the moment of their conception.

These useless, non-prescriptive structures contradicted from the beginning the triumphant narratives of modernism, by resisting immediate utilitarianism and easy identification. Now that they have aged they've become almost invisible and do not fit into the usual criteria of heritage (Olsen, Bjørnar and Þóra Pétursdóttir, 2019, 6). In their fragmented, truncated materiality, these aged ludic structures are not the obvious landmarks that illustrate the history of architecture or urban planning in Lisbon; they are rather discrete remnants of a way of thinking about the city and designing its public spaces.

In fact, these objects can be considered to some extent allegories of modernist optimism. Created around sixty years ago for the pleasures of playing and socialising outdoors, these structures now doomed to abandon speak silently about the collapse of the naive conviction of shaping human relationships through architecture, urban design or art public (Benjamin, 2018; Rendell, 2017).

Besides somehow contributing to a critical discourse on modernism and its narratives, these structures also have materiality, a physicality that is still directed towards the body. Their immediate presence, the invitation to play that they still send us, can generate alternative discourses about the past and other readings about space. These structures appeal to a dimension of lived and unconscious memory that is triggered involuntarily in our confrontation with them. Their ambiguity, between the known and the unknown, past and present, their

1.    They are now almost entirely ruined or abandoned (except for the observatories in the Cidade de Porto Alexandre square, in Olivais Sul).

incompleteness and non-linearity, allow material alternative memories that reveal other layers beneath the surface of history (Benjamin, 2018).

# Wandering in the suburbs

Suburban spaces are generally not considered to be places of visit or leisure. Synthetically outlined on tourist maps, it is rarely considered that residential suburbs are worth a visit unless they exhibit eye-catching street art murals (thus attracting a kind of tourism that pursues this new type of colossal images around the world).

The Walking Wonders Map proposes a visit in the antipodes of this visual and disengaged relationship with the suburb: a compilation of non-photogenic spatial structures that still invite to play as a bodily experience. Since the map is not entirely defined, and the streets are only schematically pointed out, its objective is to invite people to wander, not completely adrift but leaving enough room to get lost in the search for these structures. This proposal is part of a vast set of artistic practices that take the space of the city as a raw material, the act of walking as an aesthetic tool, and cartography as a parallel artistic outcome.

Walking in the city is at the heart of western modernity, personified in the figure of the *flâneur*, the wanderer, the detached observer of the industrialised metropolis, or the painter of modern life (Baudelaire, 1993; Benjamin, 2018). However, although the literature on the act of walking refers to the close connection between this experience in the real space of the city and the modes of modern visuality (Solnit, 2001), walking as an autonomous artistic practice asserts itself in the 20th century (Careri, 2002, 20,25).

This process, which started with the Dada anti-art experiences (1921-1924), was continued later by several avant-gardes and neo-vanguards, as many artists took the territory as the main referent in their artistic practices, playing the act of walking a major role.

The initial milestone in this process was the famous visit of the Dadaists to a set of banal or insipid spaces in Paris on April 14, 1921, having as a meeting point the church

*Saint-Julien-le-Pauvre*. This performative visit was intended to be the first in a series of urban excursions to places that, as was stated by the artists, have "no reason to exist" in order to "set right the incompetence of suspicious guides" (Careri, 2002, 72-73; Bishop, 2012, 67). It was a nonsense visit to nonsense places, with nonsense information conveyed by a group of artists to the public who voluntarily joined. It was accompanied by a series of leaflets, flyers, press releases and photographic records.

As a way of imploding the *modus operandi* of art, and rather than creating art objects to be inserted in public spaces, Dada attributed aesthetic value to an event performed by a group of people in a public space. Before this turning point the traditional relationship between artists and the city's space had been necessarily one of "representation of" (painting, drawing, engraving, illustration) or of "direct intervention in" (installation of sculptures, reliefs, mural painting, decoration).

In the Dada visit, no artistic objects were inserted or removed from the space; no depictions were made either. The artwork consisted of bringing that group of artists and their public directly to the site, their walking and their interactions. The Dada visit to the church of *Saint-Julien-le-Pauvre* thus opened to other ways of considering the artist's work in the city and also their involvement in the public realm (Bishop, 2012, 66-69).

After the seminal tourist visit carried out by the Dadaists in 1921 the act of walking was taken up again three years later by the Surrealists, who used the term *deambulation* for their erratic journeys. Unlike the Dadaists, the Surrealists preferred the open countryside, the empty or sparsely inhabited territory. Their *deambulations* were a sort of free, automatic or dream-like wanderings to be led by small groups of people, which they believed capable of revealing repressed memories of space or encountering the unconscious city (Careri, 2002).

After World War II, the Situationists (1956-1957) resume the act of walking as a form of political and aesthetic resistance to passive capitalist consumption. As a part of the so-called construction of *situations* – the creation of new forms of behaviour in the city space and the playful use of non-productive time – the practice of urban drifting emerges.

The *dérive*, or urban drifting, which was described as "technique of swift passage through varied environments", moved beyond the surrealist *deambulation* commanded by chance towards a game with prescriptive rules: "One or more persons indulging in a derive give up, for a greater or lesser duration, their familiar reasons for movement and action, their own acquaintances, jobs and forms of leisure, to release themselves to the solicitations of the site and of the encounters suiting it" (Debord 2009,77-78).

The Situationists aimed to frame these research method in a systematic (albeit) pseudo-scientific discipline which they called *psychogeography of space*, which "could set for itself the study of the precise laws and specific effects of the geographical environment, consciously organised or not, on the emotions and behaviours of individuals" (Debord apud Solnit, 2002, 212).

Among the artists whose work was based on walking and on cartography as artistic practices, the Situationists were the ones who most consistently carried out a critique of functionalist architecture and urbanism, drawing on the emerging discipline of Urban Sociology.[2]

As the Dadaists had done before, the Situationists appropriated the imagery of tourism (the tour, the visit, the travel guide), as in Jacques Fillon's *Description raisonnée de Paris (Itinéraire pour une nouvelle agence de voyages)* (1954), a short text mimicking a travel guide with a series of walking routes in Paris. The Situationists made also extensive use of urban cartography, although in a subversive way, using collage and photomontage, as in Gilles Ivain's *Métagraphies* (1952), or Guy Debord's *Guide psychogéographique de Paris* (1957) and *The Naked City: Illustration de l'hypothèse des plaques tournantes en psychogéographique* (1957).

The latter two, which can be described as psychogeographical cartographies, are made with fragments of maps floating on the page and red arrows connecting them. Whilst recalling the original maps, these fragmentary cartographies suggest perhaps that our perception of the city's spaces is not uniform, regular or allegedly objective as a map is believed to be, or that the unity of the city can be achieved only through disconnected memories (Careri 2002,106).

These were not, however, maps on which the drifts carried out by the artists were represented. They were metaphorical, collage maps referring to the ideas of wandering in a fragmentary city. A more literal use of maps as an evidence of routes actually taken (or intended to be taken) would be made in the second half of the 20th century, by the so-called *Land Artists* (1966-1967), who were addressing places increasingly distant from urban centres: remote landscapes or the forgotten suburbs of big cities.

Although it also had its counterpart in Europe, it is telling that the Land Art movement flourished in the United States of America, where the scale of landscape and of suburbia is one of vastness if compared to the outskirts of Paris, where the Dadaists, Surrealists or Situationists made their *visites*, *deambulations* or *dérives*.

One of the most sensitive artists to the lure of suburbia was Robert Smithson. Like the Surrealists, he was drawn to the marginal and sparsely populated areas on the peripheries. Since 1965 Smithson, sometimes accompanied by Nancy Holt and other artists, made regular excursions to the suburbs, making what he called *site-selection studies* (Smithson, 1996, 60).

Smithson proposed another way of looking the landscape, discarding conceptual and language biases and the common places they favour, through a transformation in the way we perceive the territory. For Smithson "the unknown areas of sites can best be explored by artists" who are able to extract (from it) "certain associations that have remained invisible within the old framework of rational language" in order to engender new meanings (Smithson, 1996b).

Robert Smithson's famous work *A Tour of the Monuments of Passaic* (1967) is a journey to the banks of Passaic River, New Jersey (the artist's hometown). In this "suburban odyssey", in Smithson's' own words, several parallel realities are mixed: a newspaper clipping about an art exhibition, a science fiction book and the detailed account of what he observed in his solitary journey, namely what he identifies as involuntary monuments – a bridge, a fountain, a sandbox – obsolete industrial structures, man-made aggressions to the landscape.

2.    Namely, the influential study of Paul-Henri Chombart de Lawe's *Paris and the Parisian Region*, 1952.

This pseudo-touristic tour to the suburbs, forgotten spaces with structures without identifiable use, is a metaphor for a journey to a time outside real time, a trip to some kind of a parallel, unfulfilled, future (Marot, 2003).

*That zero panorama seemed to contain ruins in reverse, that is – all the new construction that would eventually be built. This is the opposite of the "romantic ruin" because the buildings don't fall into ruin after they are built but rather rise into ruin before they are built. This anti-romantic mis-en-scene suggests the discredit idea of time and many "other out of date" things. But the suburbs exist without a rational past and without the "big events" of history. (...) I am convinced that the future is lost somewhere in the* dumps of the non-historical past (...) Time turns metaphors into things, and stacks them up in cold rooms, or places them in the celestial playgrounds of the suburbs (Smithson 1996a, 72,74)

*A Tour of the Monuments of Passaic* was published in *Artforum* in December 1967 as "The monuments of Passaic" and it was also the subject of an exhibition with the same title at the Dwan Gallery, New York. (Smithson, 1996a) The work assumed the form of a travelogue and consisted of a series of elements: the journey itself, his own writings, photos of the monuments (structures that become ruins even before they are finished), and a fragment of an actual map (in negative) which reports these concrete, identifiable spots in the territory. Unlike the subjective cartographies of
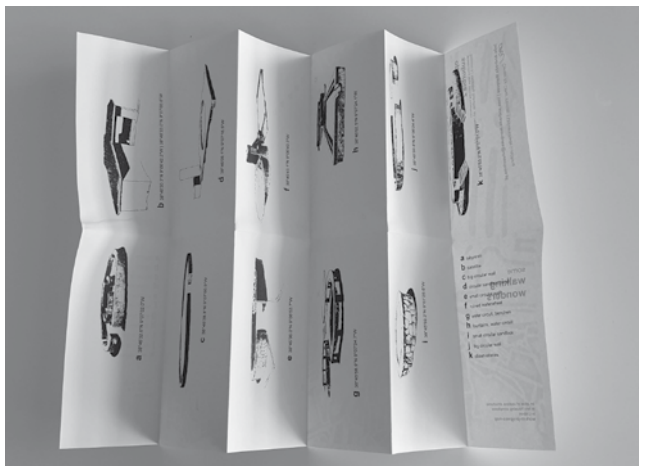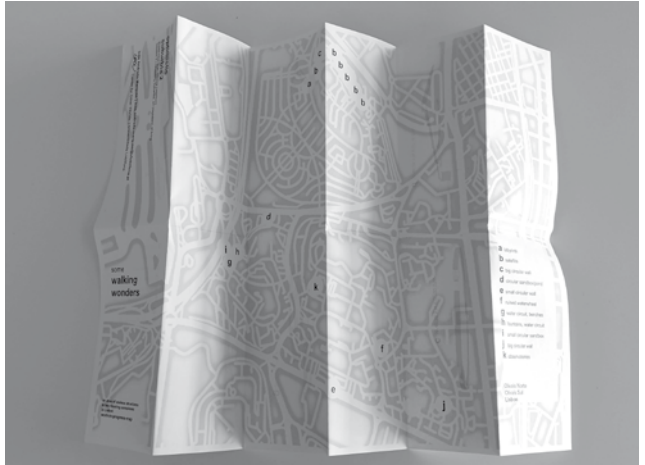






Fig. 6, 7, 8 – Walking Wanders Map. Source: author

the Situationists, Smithson's map suggests the possibility of anyone to travel to New Jersey to make that same path, somehow leaving the *Tour of the Monuments of Passaic* intentionally unfinished.

# Walking wonders map

The Walking Wonders Map has several points of contact with these research and artistic practices. It borrows from the thought of Robert Smithson and the Surrealists the principle that the space of the city or territory is itself a medium, and an immense repository of objects and spaces to be artistically investigated through direct perception.

It is also based on the imaginaries of tourism: it takes the form of a foldable tourist map of Olivais Norte e Sul, a real map on which exact locations can be found. However, it is a very specific map that only charts these urban structures once designed to strengthen the relationships between residents and allow for some moments of play and joy.

It only shows the generic urban structure - the configuration of built-up areas and circulation routes - in which these play structures, renamed according to their appearance – fountains, observatories, labyrinths – are positioned and identified with GPS coordinates. On the back of the map, simplified drawings represent them in isolation from the architectural context and surrounding elements.

The map calls for walking as a non-directed experience. As a *mise en abîme*, the map proposes a playful drift in search of playful structures. It is an invitation to wander in search of them, which will be only completed with the actual journeys of its hypothetical recipients.

There is no nostalgia in charting these structures on the territory. They recall a moment of optimism, of great importance given to children and to a play as an universal right, combined with a naive conviction in the power of art and architecture to build a better world. The Walking Wanders Map is an alternative cartography of these forgotten structures, which were sought to induce a wishful convivial society and can be described as involuntary monuments of a utopian future.

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# The *Cité de l'Amitié*: 1970s pioneering housing ensemble for people with reduced mobility in the Brussels periphery confronted to its future

The *Cité de l'Amitié* is to be considered as a pioneering archetype of the 1970s in a period of radical urban changes and new housing typologies initiated in the 1950s and strongly influenced by the latest tendencies of the Modern Movement. The *Cité* is situated in an outer part of Woluwe-Saint-Pierre (Brussels) urbanized after Second World War following the Scheme for a Greater Brussels designed by Louis Vander Swaelmen in 1929, implanting large *parkways*. Built in 1974-1978 by groupe AUSIA, the *Cité* is halfway between the concept of garden-city and collective housing ensemble, as an alternative to high-rise ensembles. AUSIA made its name with the utopic project of the *Cité de la Lasne*, when a young group of architects surrounded by a multidisciplinary team won in 1968 the triennial Paul Bonduelle Prize issued by the Arts section of the Royal Academy of Belgium. Built on a plot of 3 hectares, 329 dwellings were constructed, 15% of which were intended for the locomotor handicapped and spread throughout the *Cité* with the declared aim of social integration. The housing for the able-bodied is all accessible to the disabled in order to facilitate door-to-door relations. The urban concept is totally pedestrian with main accent on PRM mobility comfort, public space quality and furniture. The roadway is lined with single-family houses, facing 7 apartment buildings (up to 7 levels). The height of the buildings was voluntarily reduced for a more convivial and human urbanism. All dwellings are however built on the same canvas of 6 meter distancing standardized concrete load-bearing walls. The human dimension is reinforced by local building materials such as bricks and slates, artwork and coloured common parts (blue, red, orange, yellow) corresponding to the street names. Having set down this new collective housing typology, AUSIA conceived more comparable ensembles in the Brussels periphery such as *Les Venelles* and student housing on the UCLouvain medicine campus.

Currently under multi phased interventionist renovation involving thermic isolation on façades and windows, redesigning public spaces and pathways, important earthwork, demolitions and new constructions, the *Cité* risks to lose its original social purpose and its architectural, landscape and urban values (materiality, arterial hierarchy, greenery, street furniture). The future restoration of large scale ensembles will question contemporary experiences of renovation and will have to raise the requirements in terms of heritage, contemporary needs, sustainability and urban development, to find the right balance within the framework of a permanent dialogue of values. This paper intends to erase some comparative values by focusing on some recent, ongoing or future interventions on large scale buildings and ensembles from the 1960s-1970s in Brussels (social housing ensemble for PRM *La Cité de l'Amitié*, office building *La Royale Belge*, social housing ensemble *Cité Modèle*, students housing building *MéMé*), to be scrutinized in their task, results and return. To grow heritage strategies and to interrogate compatibility between a defensive heritage position and sustainable solutions for the future of the unprotected *Cité de l'Amitié* and its 1970s-1980s fellows and avatars.

< Model of *Cité de l'Amitié* by AUSIA, 1972. Source: coll. Jean de Salle

# Introduction

The *Cité de l'Amitié* is an utopia that has become a reality, an urban prototype that has become a model thanks to a combination of several opportunities: a young multidisciplinary group with innovative ideas, a dynamic association committed to defending the rights of the disabled, the donation of a plot land, open and constructive 'deciders', a historical context in search of a new, more humanistic modernity, and urban conditions that are conducive to the development of new neighborhoods on the outskirts of the Brussels agglomeration. The conjunction of all of these factors make this unique project fully part of the architectural and societal debates of the 1960s-1970s.

The merits are due to the tenacity and the activism of the National Association for the Housing of Disabled People (A.N.L.H.) putting on the forefront the needs and the rights of people with reduced mobility and centralizing since 1962 the main protagonists who made this particular project possible. Jean de Salle, one the architects of AUSIA, frequented the Association and initiated urban and architectural concepts. The donation of a plot of land to the Association by a generous friend to the cause made the concept concrete. The Association also convinced the official administration of social housing (*S.N.L.*) to finance the project and the municipality of Woluwé-Saint-Pierre to participate to this ambitious innovative partnership.

# Main protagonists

### AUSIA

Group AUSIA (Architectes, Urbanistes, Sociologues et Ingénieurs Associés) was founded in 1966 around the association of three friends: Michel Benoit (1941), Jean de Salle (1942) and Thierry Verbiest (1942-2008) who graduated as architects from the *Saint-Luc School of Architecture* in 1966-1967. In 1968 they won the triennial Paul Bonduelle Prize issued by the Arts section of the Royal Academy of Belgium with the theoretical study for a new town *Cité de la Lasne* of 50 000 inhabitants in the Lasne valley (15 km South-East of Brussels) proposing a new urban model taking into account the errors of the Modern Movement. The *Cité de la Lasne* (Fig. 1) proposes a groundbreaking approach for the Belgian architectural scene: an organic infra-architectural scheme with satellite neighborhoods linked to the center holding all the needed collective functions by a complex system of pedestrian paths, streets covered by dwellings and a new kind of public mobility composed by suspended cradles; car traffic is banned to the outskirts and totally underground.[1]

They revendicate a clear influence of new urban models such as Le Mirail in Toulouse

1.  "Cité de la Lasne. Prix Paul Bonduelle". 1968. *Académie royale de Belgique - Bulletin de la Classe des Beaux-Arts, Book L no. 4-5* (May): 89-119.



Fig. 1 – "Cité de la Lasne. Prix Paul Bonduelle". 1968

conceived in the 1960s by the team Georges Candilis, Alexis Josic and Shadrach Woods, the pioneering Churchill Gardens (Philip Powell and Jacko Moya, 1946-1962) and Lillington Gardens (Roger Westman, John Darbourne and Geoffrey Darke, 1961-1972) in Pimlico (London) characterized by a mixed development of social dwellings (low high-rising buildings and houses), and Scandinavian "soft" (*sic*) modernism. It is to be considered that *La Cité de la Lasne* directly inspired the new university campus town Louvain-la-Neuve, conceived and built by another team and celebrating its 50th anniversary this year. More than an architecture studio, AUSIA must be considered as a reflection atelier, stimulating pluridisci-plinar brainstorming where architects, urban planners, sociologists, jurists and economists are participating toward the elaboration of the project. Contextualism (*back to the bricks*), communitarism, participation, concertation, conviviality, fraternity ("*d'égal à égal*") and humanism are the main characteristics of their prospective approach, in reaction to the 'dog-matic' cold functionalist post-war urbanism. They consider social housing as the laboratory of architecture, and push forward the need for a softer urbanity. The Bonduelle Prize propels this young architect's association on the forefront of the Belgian architectural scene. In a few years they participate and win several international competitions: ULB Campus Brussels, requalification of the city of Como (Italy), urban planning of the city of Bonn and surroundings (West-Germany), residential parc of 2000 dwellings in Anderlecht (Brussels), ZAC Michelet Palladium Le Triangle in Montpellier (France). AUSIA produced mainly social facilities (elderly residencies, foyers, so-cial housing), new neighbourhoods, large scale housing ensembles, offices and urban planning (PPA [plan particulier d'aménagement] Tervueren Avenue [Brussels, 1973], Souverain Boulevard [Brussels, 1975]). Their main projects are in a first phase located in Brussels and around, then increasingly from 1974 on in France. Agencies are created especially for local projects in Lille and Paris; the French ex-perience started with the project ZAC Michelet Palladium Le Triangle in Montpellier in 1974: a large ensemble mixt program with offices, commercial functions, dwellings and a hotel. The architectural association of the group AUSIA split in 1977. Michel Benoit and Thierry Verbiest kept the name AUSIA[2] and installed

definitively in Paris with mainly projects in France and abroad (Lagos Nigeria in 1982, Jeddah Saudi Arabia and Oran Algeria in 1983, Istanbul and Algiers in 1984, Tampa USA and Fort-de-France Martinique in 1985), adopting a postmodern attitude, and still is an important actor on the French architectural and urban planning scene. Jean de Salle (who graduated in urbanism in 1973 at the ULB) founded in 1978 a new agency COOPARCH-RU in Brussels with i.a. Pierre Van Assche, Christian Frisque, Willy Serneels, and developed activities into urban and spatial planning, urban renovation and heritage conservation mainly in Brussels and Wallonia (Europa Nostra Prize 1992 for the rehabilitation of a Victor Horta warehouse into the Belgian Comic Strip Center in Brussels), but also 210 social dwellings with 10 experimental apartments for disabled residents in the Côte d'Or quarter in Créteil (France, 1979-1982).

In the search for a new way of thinking about grouped housing, the AUSIA group brings a new perspective to social housing in which formal and typological research is combined with the concern for redesigning the urban fabric by densifying the interior of the block and in which public space and private built space coexist.

### National Association for the Housing of Disabled People (*A.N.L.H.*)

Louis-Pierre Grosbois: "A disabled person in an accessible facility is an able-bodied person; on the other hand, an able-bodied person in a non-accessible facility is a disabled person."[3]

In 1962, a group of friends made up of able-bodied and disabled people got together to develop the concept of a community house located Rue du Méridien in Saint-Josse-ten-Noode (Brussels); this was to be the basis of a future *Cité de l'Amitié* from 1965 on. In 1966, this group formed the non-profit organization *Association Nationale pour le Logement des personnes Handicapées* (*A.N.L.H.*). The objective is to promote the social integration of disabled people in social life and focuses more specifically on accessibility to improve the autonomy of disabled people. The *A.N.L.H.* col-laborates in the definition of architectural and

2.    Loze, Pierre. 1990. *AUSIA. Michel Benoit & Thierry Verbiest. Architectures*. Brussels: editor Didier Hatier.

3.    Grosbois, Louis-Pierre. 11th edition 2020. *Handicap et Construction. Conception inclusive de l'accessibilité.* Paris: editor Le Moniteur.

Fig. 2 – Cité de l'Amitié in the 1970s-1980s. Source: © coll. Jean de Salle

urbanistic norms together with Jean de Salle and AUSIA. They constitute the basis for the implementation of the legislation concerning the accessibility of people with reduced mobility. Under the direction of the dynamic Jean-Paul De Potter, the Association participates in the constitution of specifications and the creation of explanatory booklets for the use of urban furniture adapted to people with reduced mobility (height of public telephones, width and slope (transversal slope < 2%) of sidewalks and other access ramps, inclination of the access slopes (5% on a length of 10 m), floor materials, shapes and dimensions of the grids and gutters, connection between sidewalk and floor, steps…), to the definition of the dimensions of the elevators, bathrooms, kitchens, bedrooms, garages, parking lots,… taking into account, among other things, the various rotations on the axis of the back wheels of the wheelchairs (Fig. 2). This initiative is the basis of the Belgian legislation in this field and contributes actively to the legislation developed by the European authorities in the years 1970-2000.

# Urban evolution of the Brussels periphery

### Second crown of Greater Brussels

Till the end of the 19th century, the second crown of Greater Brussels (the first crown being composed by the municipalities directly adjacent to the Pentagon, which owns his particular shape to the second medieval city wall (1357-1383)) is mainly rural or forested. Its urbanization is planned by architect and urban planner Victor Besme (1834-1904),[4] who was in charge of coordinating major roads and new urban extensions in the second half of the 19th century. In the interwar, Louis Vander Swaelmen (1883-1929) published his *Schéma pour un Grand Bruxelles* (Scheme for a Greater Brussels) in which he sought to organize the extension of the agglomeration along avenues crossing large green spaces and detailed the third concentric ring of Greater Brussels East, including the municipality of Woluwé-Saint-Pierre. In 1945, the *Administration de l'Urbanisme et de l'Aménagement du Territoire* (AUAT)[5] (Administration for Urban and Spatial Planning) is created under the Ministry of Public works. In 1948 the agency Groupe Alpha is commissioned for the general planning of Greater Brussels, still characterized by a functionalist approach based on zoning and the development of a vast motorway network in the periphery. The road plan was accompanied by the Green Plan developed by the Ministry of Public works in 1958, devised by the landscaper René Péchère, in order to pursue environmental quality into new roads and to define local urban identities. A strong criticism to this urban planning vision appeared at the end of the 1960s and saw the development of several alternatives from which the *Cité de l'Amitié* emerged.

4.    "Dossier Victor Besme". December 2016. *Bruxelles Patrimoines*, no. 21. Brussels: Directorate of Monuments and Sites Brussels-Capital Region.
5.    The AUAT was wound down in 1980 when the powers for urbanism and territorial planning were effectively transferred to the Regions as part of the transformation of Belgium into a federal state.

### Reaction in Brussels

This lack of recognition finds one of its origins into the imposed new urban and architectural typologies in the very historic hart of Brussels directly influenced by the latest tendencies of the Modern Movement. The Jules Brunfaut law of 15/04/1949 founding the *Fonds National du Logement* (National Housing Fund) allows large scale demolition for sanitation reasons of insalubrious historic quarters and the construction of high-rise social housing ensembles. Examples in Marolle quarter in the very historic and popular center of Brussels: Querelle quarter (architects R. Vandendaele, G. De Brigode, H. Baleriaux, J.-H. Baudon, 1968-1975), Brigittines block (architects Charles van Nueten, Gaston Brunfaut, 1953-1972), Rue Haute (architect Charles Van Nueten, 1952-1963), and downtown Rempart aux Moines (architects Group Structures, 1964-1966), all results of the CIAM vision on historic centers. This brutal and authoritarian treatment of the population (expropriation, forced delocalization) and of the historic urban quarters, known as *bruxellisation* or *a-bruxellisation*, is at the origin of associative heritage defense actions and the beginning of 'alternative' solutions based on participation of the inhabitants and a stronger respect for the local needs of the population. It took a symbolic turn in 1969 under the name of *La Bataille de la Marolle* (the Battle of Marolle).[6] Many alternatives with softer approaches on the urban tissue appeared in the 1960's in reaction to the 'excesses' of the Modern Movement. The human orientated and participative approach of AUSIA and the quintessential result in the realization of the *Cité de l'Amitié* is to be situated in this *Zeitgeist*.

### Woluwé-Saint-Pierre (W-S-P)

Till the end of the 19th century, the municipality of W-S-P is essentially a rural entity composed around three villages (Saint-Pierre, Bemel, Kelleweg).[7] The creation of the Tervueren Avenue in 1897 determined the development of new residential areas. After the first world war, the municipality experienced a major urban development boom with the

construction of numerous villa districts. After second world war, the urbanization, still essentially residential, increases rapidly with many villas, apartment buildings and the apparition of a new housing typology encouraged by the local deciders (François Persoons [1925-1981], alderman and later mayor between 1971-1981) grouped or clustered housing developments on land purchased by the municipality itself. These essentially residential and private initiatives gave the municipality a rather comfortable but inhomogeneous urban aspect, with mostly an architecture of low quality. Open to the innovative urban experience of the *Cité*, the role of the municipality is to be underlined as it gave graciously the neighboring plot of land to the *S.N.L* doubling the available building surface and so promoted the construction of the *Cité*. At the same time, the development of a new motorway network, including the proximity of the second Ring Road and the Ring Road, strongly marked the identity of the municipality. Today, this 885-hectare municipality has approximately 42 000 inhabitants.

# Cité de l'Amitié

### Urban context

In 1966, the *Cité de l'Amitié* project was made possible thanks to the donation of a three-hectare plot of land by Mrs. Marie-Thérèse Ganshof van der Meersch to the *A.N.L.H.* in order to be sold to the *Société Nationale de Logement* (*S.N.L.*) (National Housing Society), who agreed to finance this pioneering social housing project. Part of the deal, in 1968, the municipality of W-S-P ceded the neighboring three-hectare plot to the *S.N.L.*, which increased the available surface to six hectares.

Located at the borders of the municipality, at the limit with Woluwé-Saint-Lambert and the Flanders Region (Kraainem), this ancient brick bakery site is delimited by the Avenues Pierre Vander Biest and Perspective and Rue de la Limite. The area surrounding the *Cité* is an urbanized area in the form of isolated architectural ensembles, very different in their structures and forms: the social housing area of the modernist (unprotected!) garden city Kapelleveld (1922-27, 1934), the area of the UCLouvain Campus of Medicine (1970s) (architect Lucien Kroll atelier buildings 1969-1976,

6.    Sterken, Sven. 2013. "Bruxelles, une capitale en mouvement ? 50 ans d'architecture et d'urbanisme". *Bruxelles Patrimoines HS. Le Patrimoine écrit notre Histoire.* Brussels: Directorate Monuments and Sites: 186-209.
7.    Baltjoens, Charles-Henri. 2005. "Woluwe-Saint-Pierre". *Guides des Communes de la Région bruxelloise. Brussels*: CFC editions.

Fig. 3 – Cité de l'Amitié at the end of the works. Source: © coll. Jean de Salle

subway station 1979-1982 protected), the Kraainem mainly residential suburban zone and the Woluwe Boulevard office and shopping area.

### Genesis[8]

The architects were officially appointed in 1968 and proposed the first plans in 1969. The preliminary project was drawn up in 1972 on the basis of a technical document entitled "Architecture and Accessibility". The building permit was issued in 1973. In 1974, a study trip to Denmark and Sweden allowed the architects and the *A.N.L.H.* to familiarize with the most recent advances in accessibility and interior facilities (the research department on disabled people of Goteborg University is at the forefront of this research) and to visit several exemplary projects. The construction of the first phase (329 dwellings) started in 1974. The work was quickly stopped due to the increase in costs caused by the oil crisis and resumed at the end of 1975. A test flat financed by the EEC was presented to the public in 1975. The first dwellings were finally inaugurated in 1978; a second phase in 1979; the project is definitively completed in 1981 (Fig. 3).

### Description[9]

Initially, 600 dwellings were to be built in two phases. Only the first phase was built: 329 dwellings, 15% of which were intended for the locomotor handicapped and spread throughout the *Cité* with the declared aim of social integration. The housing for the able-bodied is all accessible to the disabled in order to facilitate door-to-door relations. The housing for the disabled is specially adapted to their needs: door and window handles at 60 cm, uniform width of 1,5 m of the corridors, space for maneuvering, sliding doors, adaptation of the bathroom (grab bars, lavabo height at 0,80 m, special taps, …) and the kitchen (depth of the cupboards at 30 cm, gaps under the sink and the work table for the legs of the handicapped, storage cabinets 0,30 m deep with the lower part 1,20 m from the floor), better heating system (up to 25 °C), the height of the mail box, the electrical installation, the intercom, the trash chute and the meters are also taken into account. 60 apartments (23 flats, 12 one-room, 10 two-rooms, 10 three-rooms, 5 four-rooms) are adapted to wheel chair residents, of which 20 for severely handicapped residents, of which 10 single-room and 10 family apartments. Those 20 need special medical care and daily attention provided by the local *A.N.L.H.* antenna.

The urban concept opposes the dominant model of separate blocks and revives the

8. Leblicq, Corinne. 1979. "L'amitié *autour* d'une cité." *Habiter* no. 78: 32-37.
De Salle, Jean. 2021. *La genèse et les enjeux de la Cité de l'Amitié*. Interview by Jean-Marc Basyn, April 15, 2021.

9. Van der Heyden, Anne. 1995-1996. *Architecture sans handicap. Analyse de la Cité de l'Amitié*. Master thesis. Institut Supérieur d'Architecture Saint-Luc Tournai.
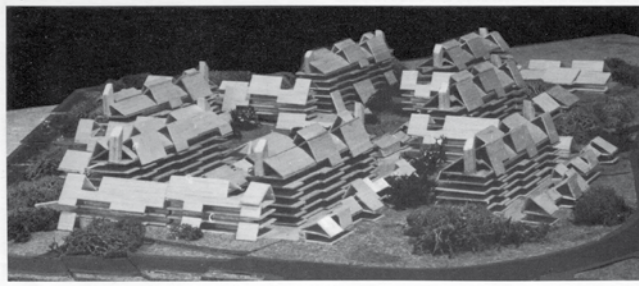
Fig. 4 – Model of Cité de l'Amitié by AUSIA, 1972. Source: © coll. Jean de Salle

urban form consisting of continuous streets laid out in a varied manner and lined with semi-detached buildings. The height of the buildings has been deliberately reduced in order to give the whole a friendly character. This idea of urban planning with a human face is also present in the varied articulation of the volumes and the characteristic treatment of the roofs, which give the ensemble a small village feel (Fig. 4). The architects make an important effort to integrate the Cité into its urban environment by respecting a certain continuity in the size of the buildings.

The *Cité* is entirely pedestrianized, unlike the large housing estates of the 1950s and 1960s, which offered a large space for car traffic. The complex is built on top of a large car park which absorbs cars as soon as they arrive (8000 m², 270 parking places). The complex is indeed built above a large parking lot that absorbs the cars as soon as they arrive, a concept that will inspire the new university city of Louvain-la-Neuve. The pedestrian circulation networks are particularly developed and very diverse. They widen in places to create rest areas and squares equipped with benches to encourage meetings between inhabitants. All horizontal circulation spaces are rigorously planned to be wheelchair accessible. The maximum distances to be walked is limited to 200 m. Vertical circulation is provided by spacious glass elevators located at the ends of each apartment building. Reinforced concrete staircases wind alongside the elevator shafts. The entrances of the apartment buildings are set in bias to facilitate maneuvering with a wheel chair and are equipped with automatic doors.

The arteries are lined with an apartment building on one side and a string of single-family homes on the other. The 51 houses have two to four bedrooms and are one, two or sometimes three floors high: 7 flats, 9 two-rooms, 14 three-rooms, 21 four-rooms. The seven apartment buildings range from three to six floors depending on the span. They contain 278 one to four-bedroom apartments as well as flats (studios): 93 flats, 27 one-room, 110 two-rooms, 35 three-rooms, 13 four-rooms. The surfaces meet the requirements for social housing: flats 33 to 40 m², one-room apartment 50 to 59 m², two-rooms 66 to 72 m², three-rooms 83 to 92 m², four-rooms 110 to 121 m². All apartments open onto an interior corridor that runs through the entire volume. (Fig. 5).

The diversity of the volumes corresponds to the diversity of the planned housing (Fig. 6).

However, they are all designed according to the same basic framework: the load-bearing system of the buildings consists of walls spaced six meters apart, arranged perpendicular to the main façades. These walls are made of reinforced concrete walls (tunnel formwork technique). They determine the common limits between dwellings. A flat is thus determined by a six-meter span, while larger apartments are determined by the addition of supplementary spans: a supplementary six-meter span corresponds to a two-bedroom apartment, a half-span added to the flat allows the creation of a one-bedroom apartment, etc. This grid regulates the basement areas for two car spaces and individual cellars. Although the articulation of the volumes deliberately differs from one building to another, the same architectural vocabulary confers a beautiful unity to the whole. The load-bearing walls and floors in reinforced concrete structure the façades in a network of rectangles in most of which a large window is inserted. When the frame is set back, it allows a small terrace. The long façades are largely glazed, while the lateral brick façades are blind. The bricks used are so-called
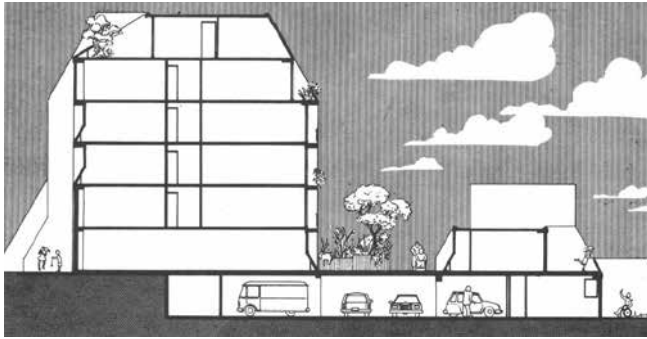
**Fig. 5 - Cross-section of the Cité and dialogue between built volumes.**
Source: A+ no. 60 1979: 18



**Fig. 6 - Detail of the Rue de l'Angle Jaune today: varietyof building scales.**
Source: April 2021 © J-M Basyn

shale bricks, i.e. they are produced from compressed coal waste; this effort places the *Cité* in an ecological approach, a recent concern for that period. During their installation, it turned out that many of the underbaked bricks were not sufficiently resistant to humidity and frost and were peeling off; the contractor was obliged to replace them against his will.

The play of volumes is particularly rich and varied: exposed concrete walkways, successive recessed floors, whose offsets are softened by sloping connections covered with Eternit slates. The roofs are of great visual importance and come in various variants. Their slopes rise on two levels; they begin in some bays at the foot of the building. In general, the roof that tops the buildings has two slopes connected by a wide ridge terrace. It is pierced by large rectangular windows, some of which are preceded by a terrace in the work.

The doors and lift shafts are painted in the same bright color - blue, yellow, red, orange - which varies according to the street. The very names of the streets reflect this chromatic play, developed by the artist Yvonne Cattier Wastchenko: *Rue de l'Angle Jaune, Rue du Ciel Bleu, Rue du Temps des Cerises, Rue de la Fleur d'Oranger*. On the ground floor (pedestrian), the halls are decorated with sculpted ornaments in high relief added in the 1990s following a competition organized by the Brussels Region. One of them, recurring, represents a hyper-realistic couple in bust.

The area includes playgrounds, sandboxes and gardens. The landscaping is designed by Yves Rahier, who also participated in the landscaping project of the new university city of Louvain-la-Neuve (1970s), and provides mainly fruit trees for the children to enjoy. There is also a crèche, a socio-cultural center and a scout troop called Black and White to reinforce the social cohesion of the *Cité*.

## Today's intervention

In the early 2000s, the *Cité* was confronted with a series of acts of vandalism, theft, damage and incivility that undermined the very values that had contributed to its creation. It took many years to decide, to find subventions, to set up a financial plan and to orientate a total renovation. The social owner *En Bord de Soignes* has undertaken an ambitious project for the renovation and spatial reorganization of the *Cité* in 2020. This was preceded by a competition organized by the Team of the Bouwmeester-Maitre architecte (BMA) in 2019 that designated a winning team.[10] The Masterplan defines four main axes: the perpetuation of the values of inclusion for all inhabitants, the enhancement of green spaces, the reaffirmation of the opening of the *Cité* to the neighborhood and the support for alternative mobility. These four guidelines have led to seven layers of intervention for as many interdependent and overlapping projects. The main issue is organizational, since the *Cité* will continue to be inhabited during the works and the implementation of the renovation works must therefore provide continuity in the use of private and public areas while minimizing the inconvenience caused by the works. The project has therefore been declined into a series of eight geographically circumscribed sub-projects. The first phase, currently underway, concerns the entire renovation of the dwellings, one building at once, interior and exterior, with all the efforts put on the improvement in

10.    https://bma.brussels/app/uploads/2019/08/FACTSHEET-Cit%C3%A9-de-lamiti%C3%A9.pdf. Consulted on 20/07/2021.

energy performance (Fig. 7). The original single-glazed aluminum windows (SIMEC) are being replaced by new triple-glazed PVC windows with new heating systems and controlled mechanical ventilation being added. In addition, a layer of insulation is being added to the exterior of the walls, which involves the total replacement of the bricks and slates cladding. These interventions should reduce the current consumption from 408 to 60 kWh/$m^2$/year, in order to meet the ambitions of the 2030 Energy-Climate Plan (*PNEC*) adopted in 2019 by the Brussels Region Government. The installation of photovoltaic panels is being studied to further reduce the inhabitants' bills.

The second and third phases go hand in hand; they aim to improve the quality of common and public spaces, both plant and mineral, and to rework the pedestrian connections between the *Cité* and the surrounding neighborhood. Participatory work by local associations is planned to take into account the opinions of the residents. Shortly resumed the works concern in the next future:

– The continuation of the deep renewal of the dwellings, inside and outside, one building at once.

– The creation of a municipal park by restructuring the existing green spaces and introducing new paths that make the movement between the different areas of the park more fluid and encourage people to pass through the *Cité*. This is to open up the *Cité* to 'outside' residents.



Fig. 7 – Ongoing isolation works on the façades and windows. Source: April 2021
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– The reconfiguration of the local roads that border the *Cité* into green alleys in order to reduce the use of cars and increase the space dedicated to other modes of mobility. The project proposes to modify the street status into a shared roadway, compatible with the recreational functions of the park.

– The creation of a new square, marked by a pergola, a place of reference activated by the community center. This goes hand in hand with the design of new intuitive and continuous paths that run along or through the square, some forming part of wider routes. The reconfiguration of the relief should lead to a better appreciation of the different spaces and paths, with the community center as a landmark.

– The creation of a new square in place of the setback areas as a transition between the public space of Vander Biest Avenue and the gardens of the *Cité*. The ground floors of the buildings facing this new square will be dedicated to local shops and community services. This intervention tears down several small houses to enlarge this future public space and to reshape the relief in order to create new connections on the same level (part of the building is buried and reallocated to technical or logistic facilities).

### Heritage evaluation

Widely acclaimed at the time of its construction, the *Cité* was cited in the no. 0 of the architecture magazine Aplus in 1973 and was discussed in the thematic issue "architecture and the disabled" of the same magazine in 1979.[11] It does without any doubt make part today of the history of recent decent architectural and urban realizations. However, the *Cité de l'Amitié* does not benefit from any heritage protection; it is though listed in the Inventory of the architectural heritage of the Brussels Region.[12]

The phased renovation must prepare the *Cité* for the future and improve its viability and the comfort of the private and common spaces in a steady effort towards sustainability. Though, these interventions also go together

with major changes to the detriment of its materiality and authenticity. As the *Cité* does not benefit from heritage protection, heritage values are not necessarily a priority in the actual debate. The current project is exploring the possibility of demolishing some of the single-family homes and replacing them with slightly higher apartment buildings. There are also plans to expand the *Cité* at one end and to execute important earthwork. The earthwork issue new opportunities to develop some limits to the public space, but new denivelations are burying some of the lower situated single home houses at the outskirts of the *Cité* (Avenue Pierre Vander Biest) and could be considered as useless and costly in the global budget. These interventions tend to focus on an 'image' and risk undermining the original concept and its legibility as historical material (Fig. 8). On the other hand, its 'use value' is perpetuated thanks to the Masterplan and the maintenance of the original concept of social integration and the active participative policy with the inhabitants. Within the administrative status, the diversity of stakeholders, the financial boundaries and the imposed energetic performance exigences the result will finally perpetuate the original characteristics of the *Cité*.

The case of the renovation of the *Cité de l'Amitié* must be studied under the criteria of heritage, use and sustainability, in order to compare the good interventions and to avoid the loss of character in the case of future interventions on similar ensembles of the same period: *Les Venelles* in WSP (architect AUSIA, 1974-1977, financed by the Brunfaut Fund for participation to the public spaces and *Crédit Communal* Bank with the formula of estate leasing) and student housing of *Quartier Assomption* on the nearby UCLouvain medicine campus in Woluwé-Saint-Lambert (architect AUSIA, 1970s), private residential ensembles such as *Les Terrasses* in Uccle (architects Odette Filippone and Jean-Pierre Blondel, 1968), and many others known or still to be discovered. Private management disposes mostly of severe internal regulations for the maintaining of their property - but go sometimes to the easiest and cheapest solutions; while the public owner depends on the financial viability of intervention on a wide range of housing reservoir - obliged to apply tender. Both have advantages and inconveniences. Good examples are rather rare but exist. The ongoing deep renovation of the 17-hectares social housing ensemble *Cité*

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11.   Benoît, Michel, de Salle, Jean, and Verbiest, Thierry. 1973. "Cité de l'amitié." *A+* no. 0 (June): 31-34.
De Salle, Jean. 1979. "architecture et handicapés." *A Plus* no. 60 (September-October): 7-22.
12.   https://monument.heritage.brussels/fr/buildings/17608. Consulted on 20/07/2021.

Fig. 8 – Fixed public table. Source: April 2021 © J-M Basyn

*Modèle* in Laeken (Brussels) (architects Renaat Braem, Victor Coolens, Jan Van Dosselaere, René Panis, group l'Equerre, group Structures, 1958-1972) -building by building, level by level- is significant in the balance between image and contemporary needs. The constructive dialogue between the social owner *le Foyer Laekenois* and an international heritage advise panel is to be mentioned. It is based on a Masterplan established in 2005 by the association of three architecture agencies and an international specialist. The social owner aims to "reinforce the unity of the site by opening it the environment, to guarantee the expressivity of the buildings and at the same time to boost them to the future". So, one can say that much attention prevails for this still unprotected beauty of mass social housing. The intervention maintains main materiality characteristics by replacing them '*à l'identique*' and the structural expression of concrete is respected.

But there is still lot to do for the recognition as less lucky time-likers and fellows are still numerous. The problem is huge, the stakeholders divers, the lack of image still vivid. Example the social housing ensembles mentioned in 2.2., or in danger brutalist office buildings such as Saint-Michel Court in Etterbeek (architect Jacques Wybauw, 1974), and many other office and residential buildings that are ending a first life cycle and that are attending careful and thoughtful attention.

# Heritage of Tomorrow

A new wind of interest for the more recent heritage constitutes an opportunity for a better understanding of a sometimes negatively considered architectural and urban production by the larger public. Many associations (i.a. Docomomo, ICOMOS, Ar-Tur, Archipel, Arkadia, Korei, Stad en Architectuur, ...), cultural professionals (VAI, CIVA, WBA, ...), academic research (ULB, VUB, Saint-Louis, KULeuven, UGent, UAntwerpen, UHasselt, UCLouvain, UMons, ULiège, CSTC-WTCB, ...), editors, specialized administrations of the authorities on municipal, provincial and regional level, re-use platforms (Rotor, ...), architecture and engineering agencies and even private producers (FEBELCEM, ...) participate to the common debate how to re-use recent architectural production with concern for sustainability and heritage management and urban development. The recent architectural production is more and more taken into account in the heritage process by the Brussels Regional Administration in charge of heritage policy, urbanism and urban renovation: urban.brussels. The Brussels Region has recently protected a number of iconic office buildings from the 1960s and 1970s: rectorate *VUB* (architect Renaat Braem, 1974-1977), *CBR* (architects Constantin Brodzki, Marcel Lambrichs, 1970), *BBL* (architect Gordon Bunshaft of Skidmore, Owings and Merrill, 1959-1964), *La Royale Belge* (see lower); lately several buildings by architect Lucien Kroll, i.a. the *MéMé* (*Maison de la Médecine*) UCLouvain medicine campus in Woluwé-Saint-Lambert, the only protected

housing building from the 1970s.[13] This recent but still timid recognition of recent built heritage is mainly due to the subvention policy (up to 80%) for protected objects and the important costs in cases of renovation, restauration and sustainability interventions (energy saving) of large scale built heritage. This policy is evolving since mentioned protections are so-called inscriptions on the safe guarding list - a formerly temporary legal formula step to an eventual 'full' protection status with subsidies - avoiding public financial help but the competent administration still exercising a strong look on a.i. heritage and environmental issues. This policy allows private investors to be aware of newly actualized heritage values in their real estate realities and to compose partnerships and mixed projects. Example: the iconic corporate office building *La Royale Belge* in Watermael-Boitsfort (architects René Stapels, Pierre Dufau, landscape architect Jean Delogne, 1967-1970) was protected in 2017 to be saved from demolition to make place for a new embassy building. A new real estate consortium is willing to take advantage of the 'heritage' values of the building. After an international competition organized by the Brussels BMA in 2019, the winning team is working in collaboration with the heritage specialists of urban.brussels to ensure the best heritage solutions for the building and its landscape. The building aims to be reallocated into co-working office spaces, hotel, restaurant, fitness; it goes together with an interventionist but respectful renovation (2021-2023). Actually, urban.brussels is adapting and developing research in this field by promoting an applied PhD for studying building materials between 1975-2000 in order to preview better understanding and technical interventions on recent buildings; the Inventory team puts an extra focus on post second world war architecture in order to complete and re-evaluate inputs and data. Urban launches this year a new collection called Heritage of Tomorrow interrogating the heritage in the making ('heritagization') of buildings from the 1980s, 1990s and 2000s. This inclusive approach to a diverse set of initiatives highlights cross-cutting issues and participation, including the involvement of local communities in the sustainability of the cultural heritage process in general, and of the Brussels architectural and urban environment from the second half of the 20th century in particular.

# Conclusion

*La Cité de l'Amitié* is a 'child of its time'. As historical object at the center of the architectural and urban debate of the 1960s-1970s; a human orientated and participative alternative in reaction to the coldness of a dying Modern Movement. As such it belongs not only in architecture history books but also on protection lists. *La Cité* and its fellows and avatars are today challenged with the end of a first life cycle (after about 40 to 50 years of existence) and confronted with interventionist renovation strategies in terms of contemporary sustainability. The ongoing renovation of the unprotected *Cité de l'Amitié* must serve the common goal of good practice in measured techniques towards heritage considerations. The urban, social and architectural avant-garde prototype of the *Cité* can so perpetuate its experimental role in terms of critic evaluation of its actual renovation. The next coming Masterplan and renovation of the protected *MéMé* - other icon of 1970s participative approach - will take much attention from the actual interventions to define the best heritage strategies. The future restoration of large scale ensembles will question contemporary experiences of renovation and will have to raise the requirements in terms of heritage, contemporary needs, sustainability and urban development, to find the right balance within the framework of a permanent dialogue of values. This paper intends to erase some comparative values by focusing on some recent, ongoing or future interventions on large scale buildings and ensembles from the 1960s-1970s in Brussels (social housing ensemble for PRM *La Cité de l'Amitié*, office building *La Royale Belge*, social housing ensemble *Cité Modèle*, students housing building *MéMé*), to be scrutinized in their task, results and return.

13. http://patrimoine.brussels/liens/registre/registre-du-patri-moine-protege-en-region-de-bruxelles-capitale-liste. Consulted on 20/07/2021.

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