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Bálint Rigó
DLA dissertation

BÁLINT RIGÓ

dense space

the problem of DENSIFICATION
in contemporary swiss architecture

DLA dissertation - THESIS BOOKLET

MASTERPIECES

Herzog & de Meuron

- Meret Oppenheim Highrise Basel - facade
- Children's Hospital - Research Building Zurich - facade

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Budapest University of Technology and Economics,
Doctoral School of Architecture, 2022.

ABSTRACT**Author · Bálint Rigó****Thesis title · DENSE SPACE - the problem of DENSIFICATION in contemporary swiss architecture****MASTERPIECES****Herzog & de Meuron****Meret Oppenheim Hochhaus Basel - facade****Children's Hospital - Research Building Zurich - facade****Consultant · Mihály Balázs DLA****Budapest University of Technology and Economics
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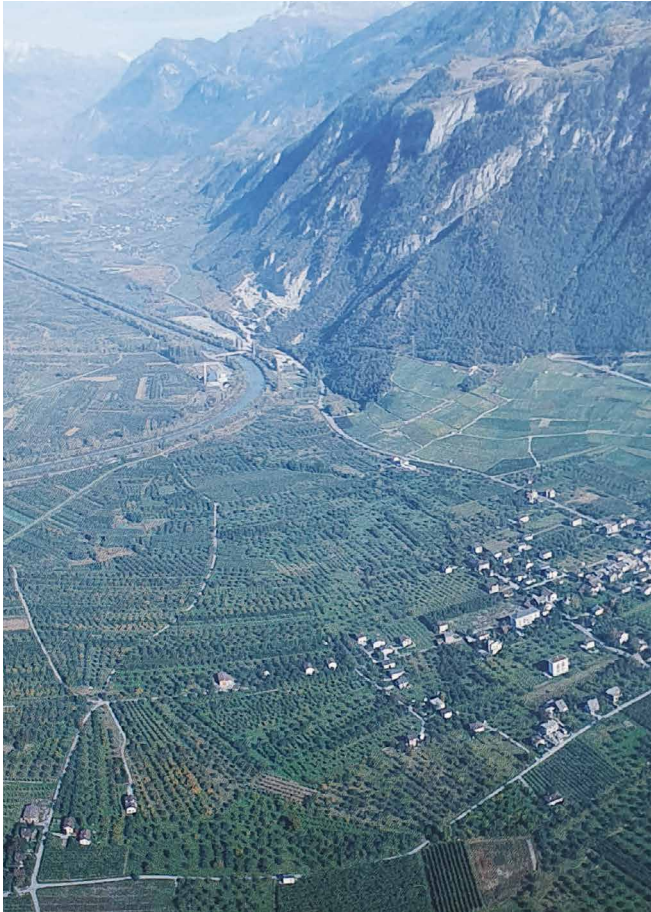
In Switzerland, seventy years of uninterrupted population growth and increased mobility are having unprecedented consequences. More land has been built up in the last 50 years than in all the preceding centuries combined. The amended Land Use Act, which came into force in 2014, requires the economic use of available land. In line with this, municipalities should focus on densification of land in the interior. In the Swiss context, the main question is whether it is possible to avoid the nightmare of overcrowding in parallel with densification? Are there adequate architectural responses to maintaining, or even increasing, the quality of life while increasing density?

In my thesis, I seek to answer the question: what are the architectural and urbanistic consequences of increasing density of built-up areas in Switzerland? My aim is to explore, on the one hand, the context in which contemporary artists are working and, on the other hand, what trends and attempts at solutions have been observed since 2014 to resolve the apparent paradox between construction and the erosion of the land for construction. From an architectural point of view, the requirements laid down in the Land Use Act, which require that density be accompanied by adequate housing quality, can be achieved if the built and natural environment that has evolved over the centuries is a source of inspiration.

Density is an important area of research in international architectural and urban discourse. Density is a mathematically exact ratio, the ratio of two quantifiable spatial extents. This indicator is not sufficiently nuanced from an architectural point of view, as it does not allow us to infer the quality of space. It is therefore impossible to define an ideal density that can be applied to all situations. In my research, I am not concerned with the exact density of each scale, but rather - in the Swiss context - with the effects of density at different scales - region, municipality and house. I also discuss the relationship between architectural detailing and density.

In the Swiss settlement and landscape structure, which has evolved over centuries, the preconditions and reserves for increasing density exist, allowing for a sustainable restructuring of the settlement landscape, with a good chance that this change will lead to an increase in the quality of life. In Switzerland, the shift in urban thinking away from the city as an object towards the idea of the 'urban body' has led to a rediscovery of the specific urban character. In architectural expression, the maxim of densification did not result in a new coherent style, but it did reorganise architectural works, and even more so the space between them, in so far as densification also challenged social conventions, resulting in a rearrangement of functions assigned to private, semi-private and public spaces. As human interactions in densely built spaces become more frequent, the capacity of architecture to shape space and community is enhanced - the quality of space becomes a fundamental determinant of the livability of the new, transformed, dense space. As density increases in Switzerland, the role of architectural detail, materials, the experience of quality of construction, richness of detail and ornamentation will be valorised. Architectural detailing reflects the spiritual density that comes from the culture mobilised to create it.

The notion of densification is likely to become increasingly prominent in the public consciousness: as an ecological strategy and as a spatial response to ecological thought. Likewise, the issue of the impact of densification on architecture will become more topical as the amount of buildable land becomes scarcer and more valuable. It would seem obvious to me to extend the research to Hungary, or possibly internationally, and to carry out similar research into the effects of compaction on architecture. I am convinced that, for Switzerland, useful conclusions could be drawn on the use of landscape. Hungary has hidden reserves of settlements and natural resources that are unrivalled in Europe.



The Rhône River Valley, Valais, Switzerland, In: ETH Studio Basel. Switzerland: an Urban Portrait. Birkhäuser, 2006, pp.36-37.
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THESIS 01

The Swiss settlement and landscape structure, which has evolved over centuries, has the prerequisites and reserves for increasing density, allowing a sustainable restructuring of the settlement landscape, with a good chance of improving the quality of life.

A quarter of Switzerland is neither suitable for settlement nor for agriculture. It is not an exaggeration to say that density is a characteristic of landscape use and settlement character, an environment lived day by day. Geographical confinement has always forced people to value the few places suitable for settlement. In densely populated areas, densification is now seen as an ecological and quality-of-life imperative in the face of dispersal and suburbanisation, which is eating up the natural environment. Density in Switzerland is a geographical feature and a historical experience. The

stratified cultural environment, good infrastructure, redundant, networked land use patterns result in the flexibility of spatial systems.

In a compact and complex spatial system, people have local access to the services they need and are not forced to travel long distances, freeing up their time. If densification is a spatial dimension of the sustainability maxim, a more spatially and socially dense environment can be a more ecological way of life, contributing to the challenges of climate change. Densification also helps to make better use of available goods and services.

It implies a change in people's attitudes from accumulation of goods and consumption to the use of necessary and sufficient resources, and from a possessive to a sharing economy. Densification can only be successful if it is able to induce a change of lifestyle and, on the other hand, if it manages the challenges of densifying the measurable space.



Atelier Prof. Hans Kollhoff GmbH: Limmatfeld (master plan), Dietikon, 2000-2016.

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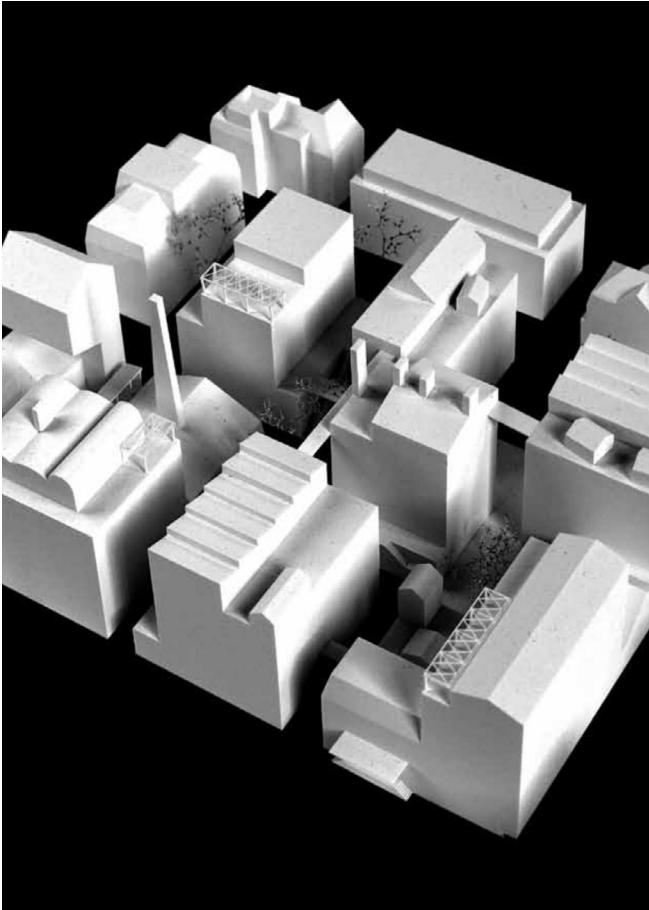
THESIS 02

In Switzerland, the shift away from the city as an object towards the idea of the “city body” has led to a rediscovery of the specific urban character.

According to Le Corbusier’s well-known definition, architecture is the play of masses in light. The modern movement sees the city first and foremost as a play of masses - that is, as a composition of individual masses. Modern urbanism’s attitude of eliminating streets, squares and blocks of buildings is radically opposed to the architectural mechanism of historical urbanism.

In historic cities, the majority of buildings are not separable from their neighbours, i.e. the ‘urban body’ takes precedence and the individual elements that make it up are adapted to it. The priority of the elements that make up the city at the systemic level determines the morphology. Elements such as roads, squares, geographical landmarks and their interrelationships.

Modernity, in its conscious efforts to thin out, could not naturally provide a fertile starting point for legitimising densification. Rather, the historically established city, the still existing city centres and the residential areas of the Gründerzeit at the end of the 19th century - as the latest example - are used as a reference. The specific urban character of Switzerland is its network of historically developed small towns and cities. This urban landscape, redundant in its infrastructure, land use and culture, is the intellectual reserve on which to build, both concretely and metaphorically. On the one hand, developments around already heavily urbanised metropolitan regions seek to link up with this historic urban fabric (Kalkbreite I, Mehr als Wohnen). On the other hand, in very extensive, highly urbanised agglomeration areas, the seeds of the compact city are being sown in the context of a major investment project, which can be successfully linked to new, similarly compact developments (Kollhoff, Richti Areal, duplex, Glasi-niertel).



Rolf Mühlethaler, Christoph Schläppi: Areal Industriestrasse, Competition 1. Prize, Lucerne, Switzerland, 2018.
© Rolf Mühlethaler, Christoph Schläppi

THESIS 02

The maxim of densification does not result in a new coherent style, but it does reorganise architectural works, and even more so the space between them, in so far as densification also challenges social conventions, and results in a rearrangement of functions assigned to private, semi-private and public spaces.

Densification is not a process inherent in the logic of building, but is due to influences outside the building and is therefore not a determinant of style. The shift is reflected in a change in the architects' horizon of interest. In the context of densification, the main architectural problem has become the creation or continuation of an urban fabric. The weaving or weaving on takes place along the spaces by which the house is connected to its surroundings.

Architectural efforts that start from spaces at the boundaries between the public and the private understand the environment primarily as a network of connections. It is the nature of spatial densification that

human interactions are also densified in a given space, so that multifunctional or spontaneously functional spaces are common (Kalkbreite I). In addition to the public nature of the ground floor, the internal staircases are transformed into semi-private spaces (Buchner Bründler, Stadterle apartment building) to become sites of self-representation for the residents. They create spatially complex, layered public spaces full of surprising perceptions (e2a, Wohnungen am Rietpark), which are able to capture the increased interaction intensity due to the spatial density.

The well-balanced proximity and the need for community are elemental in ensembles such as Mehr als Wohnen or the housing cooperative buildings of the Zwicky Süd Areal. Apart from bedrooms and bathrooms, private spaces are kept to a minimum. In addition, through the appropriation of traditional public space (the area between the houses and the apartments), the semi-private/semi-public spaces were expanded. Ultimately, these spaces dominate the built environment, demonstrating the importance of the 'commons'.



E2A Piet Eckert and Wim Eckert Architects: Geistlich Areal, Rietpark, Schlienen, 2017-2020.
© Rasmus Norlander

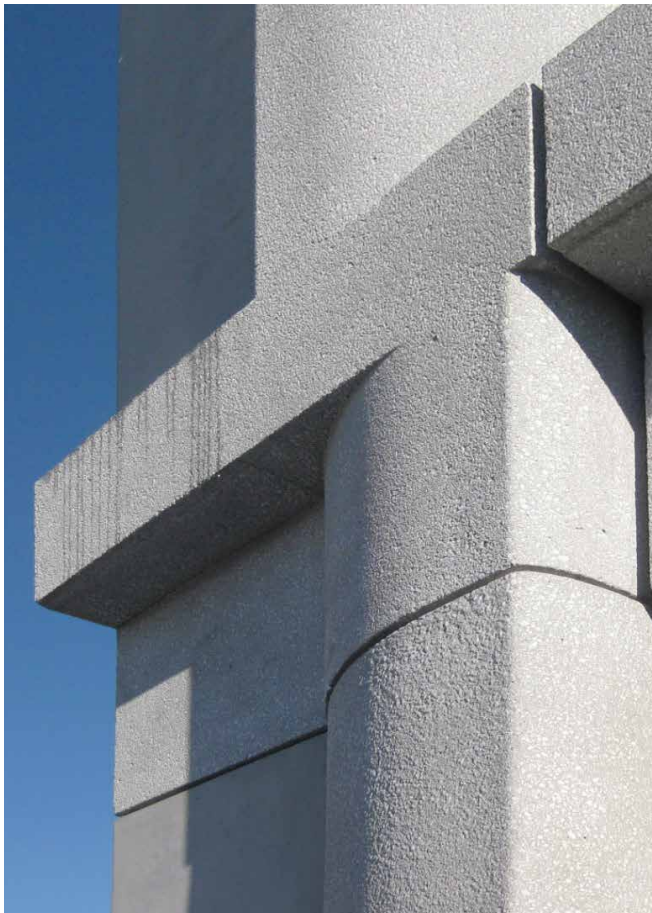
THESIS 03

In dense developments, the ability of architecture to shape space and community is enhanced - the quality of space is a key determinant of the livability of the new, transformed, dense space.

In spatial design, greater attention needs to be paid to the fact that human interactions become more frequent in densely built spaces. Care must be taken to ensure that these human encounters are genuinely desirable and do not constitute an invasion of privacy, and that they take place in a dignified environment.

Architectural design can enhance the livability of dense spaces to the extent that it can provide a representational framework appropriate to the social density. The “Wohnungen am Rietpark” building gives spatial expression to a sense of belonging by organising the terraces

and living spaces into an inner courtyard. This objective is part of a trend that is creating old and new demands on the condominium lifestyle: the need for people to identify with their community has increased, and the spatialisation of the condominium is intended to promote this as much as possible. The much greater transparency of the space facilitates communication (not just verbal) between us, starting with the opportunity to get a better insight into our neighbours’ lives. In the example of the “Zwicky-Süd Areal”, we can see that the buildings form a coherent spatial system, thus enhancing the activity between the inhabitants. Both are pioneering attempts to create an environment that (also) brings people closer together in a spatial sense. They do this in a very effortless way, almost by a brilliant use of space. This can become the crystallisation points that can lay the foundations for a more spatially economical and compact way of life.



Meili & Peter Architekten: Freilagen Zürich, 2004-2016.
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THESIS 02

With the increase in density in Switzerland, the role of architectural details, materials, quality of construction, richness of detail and ornamentation is becoming more important.

The fragmentation of the architectural work - its division into understandable parts - helps to make architecture (more) comprehensible. In a dense environment, this comprehensibility and willingness to communicate is also necessary. The greater the density, the more the architectural tools used have an impact and the more directly the meanings they carry can be decoded. Jan Gehl, a Danish architect, observed in his research a correlation between the speed of street traffic and the built environment: he argued that the relationship between speed and the built environment is determined by human perception. At high speeds, we can observe fewer details, and only the larger ones, and we need our shape perception most of all. At slower speeds, when walking or

sitting on a bicycle, we notice small details, the built environment can be smaller in scale without giving us any trouble in orienting ourselves. From this perspective, we can understand the intention of contemporary architecture to offer visual handholds, crutches for inclusion (Herzog & de Meuron, Kinderspital Zurich). This change is reinforced by the rise of timber construction. Architects have rediscovered the detailing inherent in construction because of the tectonic language of wood as opposed to concrete. As a consequence, the open, traceable and unvarnished display of construction has come to the fore. I am convinced that in Swiss architecture a change of approach, linked to the emergence of the need for densification, the crisis of the former stylistic unit and the ecological-technological shift, is making the potential, rich in detail and the diversity of architectural tools, which had been dormant or had become essentially invisible in the built environment, visible again (jessenvollenweider, Schaffhauser Rheinweg; eschsintzel, Maiengasse).



Herzog & de Meuron: Menet Oppenheim
Hochhaus / MOH, Basel, Switzerland,
2013-2018.
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THESIS 03

Architectural detailing reflects the intellectual density that comes from the culture mobilised to create it.

By intellectual density I mean the precise and purposeful shaping of an idea in material. The experience of space, or the quality of space, is able to manifest itself through the structure formed by the material, that is, it is the carrier of density in the spiritual sense. In my view, it is the materiality of the spatiality, in addition to the quality of spatialization, that essentially contributes to the saturation of space with surplus value beyond mere quantitative densification (Shigeru Ban, Tamedia). In terms of material shaping, there are cultural 'routines' available in the Swiss architectural tradition that are capable of creating this surplus value (Buchner Bründler, Allschwilerstrasse).

Just as the creation of an architectural work requires the collaboration and contribution of many actors, so any

result is also a joint achievement of these actors. In this sense, it is a cultural achievement - the achievement of a culture. What is often an unconscious idea or suggestion of the culture's practitioners, an idea or suggestion that comes from their experience and their outlook, is the knowledge accumulated over decades and generations that influences their attitude. In Switzerland, this is the background on which architecture and architects, and indeed all those involved in building, rely. This factor, in turn, is inextricably linked to the built culture that is created.

So-called academic architecture and the craft tradition, which is not linked to academic circles, share a common ground at one point - and this is what allows for a creative dialogue between them: pragmatism, or what might be called empiricism, where the tangible justifies the idea and vice versa. It is a common language in which connection can be established, in which architectural thought can be clarified and made successful.

IMPRESSUM

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