

Freeness of space

Open-space architecture as an analogy
for the changing patterns of use in the
interior spaces of contemporary public buildings

Thesisbook

Tímea Deichler

Supervisor: Levente Szabó DLA

Budapest University of Technology and Economics

Faculty of Architecture

Doctoral School of Architecture

2025

Abstract

Since the mid-20th century, in addition to spaces with fixed functions, new public buildings have increasingly included spaces that accommodate time-dependent activities, primarily based on social interaction, reflecting changing needs. The reason for this is the growing demand within public building programs for spaces dedicated to entertainment, relaxation, communication, and informal learning and working processes based on teamwork. These programs include areas for waiting, dining, resting, conversation, presentations, group and individual study, creation, and work. Optional and social activities are primarily realized in the interior open spaces of public buildings.

My hypothesis is that these interior open spaces appear in experiments of community architecture as places endowed with the freedom of urban public spaces—their purpose and function, and therefore their design methodology, are very similar. For this reason, I examine their operation in light of the latter.

Based on my own work and the buildings I have visited and studied, I have found that new questions and perspectives arise with open, flexible spaces, differing from those of space structures based on fixed functional order. To understand how these interior open spaces function, I considered it essential to explore their historical background. I therefore first reviewed the key steps, causes, and consequences of their development. Following this, I identified three principles regarding the design methods and considerations involved in creating such spaces. These principles—function, boundaries, and spatial categories—usually appear together as organizing concepts, although in specific cases, they are present with varying emphasis.

The foundation of liberation from traditional functions lies in the idea that, while the creation of enclosed rooms is determined by functional requirements, the design of open spaces focuses on the needs of the activities taking place within them.

The examination of liberation from traditional boundaries seeks to answer how the roles of individual parts of space can be defined in such a way that the whole remains homogeneous and coherent.

In considering the liberation from traditional spatial categories, I investigated how different atmospheres can be created and how their presence supports the appropriation of open space. I explored how blending fundamentally opposing spatial categories—such as exterior and interior, private and public, or the characteristics of various functional units—contributes to making a space welcoming, homely, and comfortable for users.

My research took place along three interrelated threads—through design, theory, and exploration. In addressing specific issues, I use my own competition design proposals to introduce the questions that arise during the design process. The premise of my thesis is that the operation of interior open spaces is very similar to that of urban public spaces. Therefore, the theoretical foundation of my research—drawing on Jan Gehl—is the study of how livable urban spaces are created. Finally, I examine the practical role and benefits of specific solutions through realized examples.

The examples presented were particularly influential for me during my design work in creating interior open spaces, and I had the opportunity to experience most of them in person. The analyzed buildings are public buildings from countries at the forefront of digital transformation, where the changes induced by this process are more prominent. Furthermore, these buildings differ in size and function, and through this diversity, I aim to highlight the universality of the phenomenon.

The goal of my thesis is to formulate general principles based on my experimental practice, personal creative references and experiences, and my analytical method—developed in connection with these—derived from the operation of urban spaces for the creation of interior open spaces.

1. thesis

The aspiration to create spaces that promote self-organization and adaptability has always been inherent to architecture, but since the early 20th century, it has become an increasingly defining trend in public building design. The transparency, openness, and flexibility of spaces are gaining greater emphasis, which can be attributed to the rapidly changing use and function of buildings today, along with the diverse patterns of short-term usage demands.

The first defining milestone in the development of interior open spaces can be considered the emergence of free floor plans made possible by the innovations of modernism. The following decades were shaped by the balancing of new technological demands and possibilities with evolving human needs. The post–World War II younger generation – such as Superstudio, Archigram, and Cedric Price – laid the foundation for a shift from fixed programs and functions toward space being defined by its use, which led to a growing emphasis on human needs and perspectives.

This adaptability of space was further reinforced by a trend that became increasingly dominant from the 1970s onward: the idea that the architect’s primary role is to provide a backdrop or framework for the activities within a building, thereby encouraging users to take ownership of the space and personalize it.

By the turn of the century, Stefano Corbo compared the functioning of spaces created through the near-complete elimination of traditional architectural boundaries to the boundlessness of nature. These internal spatial structures – which appear as neutral “landscapes” devoid of fixed boundaries and prescribed functional programs – enable both short- and long-term adaptability, laying the foundation for continuous building use.

2. thesis

Similar to urban public spaces, in the most forward-looking examples of community buildings, the focus is primarily on the creation of spatial relationships, the shaping of various physical conditions, distances, densities, and modes of spatial organization – all in terms of fostering the life that unfolds within the building’s interior open spaces and the formation of human connections there.

In public spaces, people’s attention is most often captured and held by the presence of others and the unfolding events. Because of this, the quality of relationships between users largely determines how much a public space feels alive and actively used.

Applying Jan Gehl’s theory – originally formulated for urban public spaces—to the interior spaces of community buildings, architectural solutions that support interaction between users and facilitate various forms of contact are not found in the visual or object-like appearance of buildings. They do not stem from the search for shapes, colors, or materials.

In these cases, the fundamental task of designers is to create human-scaled spatial frameworks that are in harmony with the site – including the surrounding public urban spaces – and with the activity patterns of the users.

Defining differentiated spatial relationships through architectural means – both between the building and its environment, and between individual parts of the interior spaces – supports the emergence of flexible use of space.

3. thesis

Just as with the development of the temporally varying, intensive use of urban public spaces, it is also essential for the interior open spaces of buildings to support the emergence of various activities and events, rather than being designed to accommodate a single specific function.

While the creation of traditionally enclosed rooms is primarily defined by functional considerations, in the design of interior open spaces, the focus shifts to the needs of the activities that take place within them. The main difference between the two lies in the predictability of use: in spaces defined by traditional programs, we know in advance what will happen there, and the design can be based on that. In contrast, the functioning of interior open spaces resembles that of urban spaces – they serve as platforms for a wide range of activities, and these activities or events often occur spontaneously and can change rapidly.

Gehl points out, on the one hand, that the emergence of events and interactions in public spaces is a self-reinforcing process. That is why we placed the entrances to various functions and the café within the interior open space of the Grössling building – a spatial arrangement whose advantages I also came to understand through the example of the Oxford Mathematics Institute. On the other hand, Gehl also emphasizes the importance of establishing appropriate sightlines and viewing corridors between urban spaces and surrounding buildings, as well as ensuring optimal distances between them. In line with this, in the Grössling design, we created both a physical and visual connection from the interior open space toward the library, and a visual connection toward the baths.

The Mathematics Institute I studied is similar in this regard, and I was able to observe firsthand how some of these more enclosed functions interact with open spaces. Furthermore, it is important that interior open spaces be visible from external public spaces – to achieve this in Grössling, we designed the library tower, a lesson similarly reflected in the example of the Rottenburg Library.

Beyond how they function, a significant challenge for interior open spaces is ensuring their long-term sustainability. Short-term economic benefits can easily take precedence over long-term returns – something that must be considered during the design process. In the case of Grössling, we addressed this by creating an event space as a closable part of the interior open area. The theoretical basis for this is also illustrated by the closed platforms in Koolhaas's Seattle Library.

4. thesis

The loosening of traditional spatial boundaries – both in terms of layout and physical space – and the topographic character of spatial design can create human-scaled areas within continuous interior open spaces that are capable of accommodating user requirements that change over time.

For the flexible functioning of interior open spaces, it is essential that they contain open, inhabitable spatial segments instead of enclosed, isolated units. The extreme of this is a large, boundary-less empty space, which facilitates quick adaptability to various activities, but — due to the lack of human scale — tends to be less inviting for users. Therefore, in interior open spaces, the role of boundaries shifts from separating spaces to regulating their relationships. My thesis argues that this can be achieved by interpreting Jan Gehl’s concept of “soft edges” in the context of interior spaces, as a design methodological principle. According to Gehl, the livability of a given space — how well it supports different activities — largely depends on how its boundaries are designed: edges can be soft or hard, depending on how much communication they allow between the spaces they separate.

Within buildings, I consider any design solution that promotes interaction between two spatial areas as a soft edge, while hard edges are those that result in complete isolation between them. Soft boundaries can be created through the mobility of spatial partitions or through specific material properties — this was the strategy used in creating the “cloud” of the Future Library, and I also observed its functioning in the example of the performance space in Lille. Another way of dividing space is by creating topographically layered spaces — this is how we designed the “terrain” of the Future Library, and its usability was illustrated by the Physics Institute in Oxford. Furthermore, soft boundaries may also arise from variations in tactile stimuli, a strategy I became familiar with through Coventry University.

The main takeaway from these examples is that understanding and applying tools that create soft boundaries in the design process requires recognizing and comprehending the nature of the separating stimulus or factor that brings them about.

5. thesis

Through the blending and transitions of fundamentally opposing spatial categories — such as exterior and interior, private and public, or spaces with different functions — the distinctions between them dissolve. The resulting rich spatial layering creates areas with optimal comfort and varying atmospheres, which support and inspire the inhabitation of the interior open space and the development of its continuous use.

Transitions help capture the benefits of different qualities and enable the creation of new spatial situations—such as an interior space that evokes being outdoors, or a workplace or school that creates a feeling of homeliness. Providing such places with varying atmospheres also helps ensure that everyone can find a space that suits their activity or mood.

My argument is that the interpretation and appropriate design of semi-public and semi-private spaces within buildings, as introduced by Gehl, and the blending of different functions within buildings—as he emphasizes—through the partial transformation of outdoor spaces into interior spaces, can create a very wide range of atmospheres.

In the case of our Nagyvásártelep plan, the building complex not only contains various functional units, but also features interconnected internal open spaces. Gehl emphasizes that the shared use of common spaces in this way supports the development of a vibrant, beloved built environment. An example of such an intensively used shared space can be seen in the terraces in front of the various functional units of Berlin's Lobe building.

In addition to the mixing of functions, the transitions between their private units and public areas, according to Gehl's theory, further enhance the potential for interactions among those present in a given area. To support this, in the case of Diákváros, we defined transitions both vertically and horizontally between the private and public areas of the various functions. I became familiar with an existing example of this approach in Copenhagen's BLOX, where the blending of urban and interior situations further reinforces the concept.

We also sought to support the diversity of uses in the Nagyvásártelep building complex by creating comfortable and sometimes surprising situations through transitions between exterior and interior spaces. A realized example of this is the Marque building in Les Cols by RCR, where the possibility of experiencing environmental factors within interior spaces—such as varying lighting conditions and the effects of weather and climate—results in a constantly changing atmosphere that is also characteristic of nature.

