The Open System of the Public Realm in the Over-sized Structure

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PAPER ABSTRACT

Contemporary architecture fears the over-sized and yearns for flexibility and adaptivity. Nevertheless a large built structure, negotiating between the city’s scale and the users’ changing needs renders as the adequate embodiment of an open building. The necessity for openness is especially implicit in the over-sized multi-functional structure. It is versatile, complex, urbanly challenging and architecturally overwhelming. It negotiates with city and users on multiple levels.

Regarding the requirements for open buildings, how can we create contemporary colonisable urban mega-structures, lasting and also flexible through time? What is the necessary degree of neutrality that allows users to appropriate the spaces and the city to absorb the structure within its fabric?

Open buildings advocate the need for change and adaptation in time. The open building model can be confronted with Richard Sennet’s open system of the public realm. An enduring structure accepting ephemeral uses can only be approached by actively incorporating publicness. The urban mega-structure is doomed unless it is porous and permeable enough to allow a variety of changeable, overlapped public uses. Understanding building and the public realm as evolutionary and dynamic, the need for both programmatic indeterminacy and design unspecifcity becomes the strength of an open building intervention. Evading the prison of specification, we establish freedom for new and unexpected occurrences and appropriations of spaces. The combined open system for both building and public space is the key to lasting structures for adaptable uses.

The present research is complemented by the body of work of a master design studio. A hybrid over-sized structure, designed both for heavy vehicle traffic and public use on a controversial site in Berlin is becoming the mediator between city fabric, urban infrastructure, public realm and users. Selected case studies create the venue for public collective experiences within the systematic logic of openness.

KEYWORDS:

Openness, open system of public realm, public collective space, three-dimensional urbanism, urban infrastructure

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1 Introduction

“Cities can no longer be realized as coherent entities according to the dictates of some masterplan.”¹ The acute identity crisis of the city questions the future evolution of urban settlements and encourages the re-thinking of urban and architectural interventions. The impregnation of the urban setting with some artificial identity through an imposed masterplan has proven unsuccessful. Nevertheless, identity is not a fixed attribute. Local identities are in need of constant redefinition, while the urban discourse needs new implementation strategies and models.

The open system for both building and city is regarded here as a possible framework for the re-negotiation of new urban and architectural models. Openness is outlined as a strategy that can equally address both dimensions—building and city. The proposed implementation model is the urban over-sized structure, a conciliator between the two approached scales. Its predecessors—megastructures, megaform, hybrids a.o.—it have been ever-mutating and repeatedly emerging protagonists of the urban landscape of the last decades that have always confronted implementation difficulties. But how is metropolitan architecture beyond the threshold of “critical mass”² feasible in the today’s world? Within the complexity and magnitude of the open urban over-sized structure public space is considered the key component. It works as the indispensable implementation asset and binding element between a new intervention and its surroundings. As Oriol Bohigas proclaims, “the protagonist of an urban project is public space, the place where the collective reality of the city is produced. The city is essentially its public space…”³ It implies on-going change, mutations and transformations as a dynamic component of the urban scene. Simultaneously, the model of the over-sized urban structure acknowledges the contemporary diversification of public space types and thematizes this within the framework of the open system.

2 The Open System—Between Open City and Open Building Approaches

Open planning has been a recurrent topic of the last decades, especially from the 1960s onwards: metabolists understood the built environment as a continuous process and megastructuralists distinguished between construction frameworks of modular units and prefabricated, replaceable units of shorter lifecycles.⁴ Yona Friedman’s manifesto for a mobile architecture advocated an elevated spatial framework that would permit occupants to determine the design of their own dwelling units. Fumihiko Maki⁵ coined the term “group form”⁶ based on the idea that change would occur less rapidly in some realms than in others. N.J. Habraken’s theory of “supports”⁷ represented a synthesis of the previously mentioned principles especially focused on housing. It stressed the need to differentiate between a structural framework—the support—and the fit-out—infill. “Supports” was a planning-tool meant to anticipate impending change processes that the built environment is submitted to. Habraken’s method evolved towards practical applications under the concept of “Open Buildings.”⁸ Stability is provided and, simultaneously, inevitable change is anticipated. The approach enables adaptability and appropriation at users’ level.

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² Koolhaas, Rem; Mau, Bruce; Sigler, Jennifer; Werlemann, Hans; OMA. 1998. Small, Medium, Large, Extra-Large; Office for Metropolitan Architecture. S, M, L, XL. New York, Monacelli Press.
³ Bohigas, Oriol. 1999. La ciudad como espacio proyectado in La arquitectura del espacio público. Formas del pasado, formas del presente, Triennale di Milano/Junta de Andalucía.
⁴ Definition of megastructure by Wilcoxon, Ralph. 1968. Council of Planning Libraries Exchange Bibliography (Monticello, Ill.), 66
⁶ One of the three paradigms of the collective form, the group form provided a podium for long-term stability completed by structures that are subject to faster cycles of change and replacement.
In “Urban Catalyst” Fezer Jesko\(^9\) refers to open planning as the superordinate framework that guarantees spatial stability, cohesion of the whole, formal consistency and operability. Within the framework, further determination happens beyond the auspices of the planners. Although innovative in the architecture scene of the last decades, the principle can be long traced in city planning. The explosive growth of cities during the 19\(^{th}\) century imposed the design of (orthogonal) street grids as a basic framework. The architecture of the buildings—designed by another professional sector—then completed the urban image. Divorced form architecture, urban planning evolved towards a practice of over-determinate zoning regulations that have confined the discipline. On the other hand, architecture has gradually lost solidarity towards a practice of self-referenced sculptures. This led to the imprisonment of the contemporary city in a closed system. In reaction to this, recent theories plead for open cities. Kees Christiaanse\’s open city vision epitomizes a social platform that accommodates the increasing mobility patterns of its users. It offers “a secure place to live while presenting a maximum of possibilities for integrating public programs.”\(^10\) Richard Sennett’s open city argument looks at the built context and formulates the requirements that dispute the closed system. He develops Jane Jacobs’ allusions on an open city system towards a spatially oriented matter.

From the point of view of the physical built environment, Habraken’s “Open Building” and Sennett’s “Open City” approaches set important parallels. Within the myriad of theories on open planning they offer the theoretical ground needed here to extrapolate a strategy for an urban and architectural open system.

In order to accommodate unknown future change, Habraken distinguished between levels of intervention (tissue, support and infill) and thus of responsibilities. This organization allowed users to become actively involved in segments of the design process, enabled a pattern of decision-making and distributed control. Although the “Open Building” approach comprises all scales—from urban design to the furniture—it is strongly focused on architectural products, buildings. It needs to re-formulate future-oriented principles beyond its present potential.\(^11\)

“Open Building” is a design tool and a planning method. By contrast Sennett understands openness as a systematic property\(^12\) of the physical environment. He formulates three basic principles for an open urban system. First, the uncertain urban narrative leaves space for unknown occurrences and introduces indeterminacy. The urban screenplay resembles a dialogical sequence concentrating on the process rather than aiming at a solution. It attends conflicts and possibilities since it is not looking for clarity but for the freedom to act and re-act to the changing circumstances. It is a constant exploration with no absolute answer. The quest for indeterminacy in the urban narrative leads to, second, the need for the incomplete form: the built the environment as process. Openness does not imply a finite product—the result of an imagined idea—but a structure that allows constant revision, growth and adaptation. The imposition of form needs to be replaced by an evolutionary generation of it. Third, the distinction between the notion of border and boundary announces the importance of porosity of the built environment. As Sennett recognizes, “planners and architects have such difficulties designing the experience of passage from place to place.”\(^13\) The vertical limit is to be enhanced towards a place of potential, development and conflict rather than of obstruction. The relevance of the border/membrane condition especially concerns the public realm. The porosity enables public space to flow freely and pass from street to interior in a sequence of different instances completing the joint between city and building. Beyond physical-architectural interventions, it becomes obvious that the consideration of public realm plays the key role in the structuring of an open city.

Although differently formulated, Habraken’s and Sennett’s main enquiries show striking similarities. In order to

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evade from the closed system, “how do we design the built environment to support both stability—in respect to long term community interests—and change—in respect to individual preferences?” Resuming the principles of an open system, the present research shifts the focus from “open planning” of building and city—a design tool—to an implementation “strategy for openness.” Concluding from Sennett’s and Habraken’s approaches, the paper outlines openness for both building and city through a set of its main characteristics.

3 The Strategy for Openness and the Implementation of an Open Structure

The strategy for openness applies to the metropolitan context. Strategic planning for openness does not restrict; it stirs, encourages and opens possibilities. Moreover, it comprises all scales, from the urban environment to the detail. The implementation of an open structure requires the formulation of a strategic guideline first, here resumed into four important aspects.

Openness implies time. Time based planning is future-oriented and leaves space for unexpected occurrences. The open structure is understood as a process. Thus it is versatile and evades the rigidity of the over-planned city. Openness in time evokes indeterminacy. In its enduring effort to adapt to unpredictable growth and change, the open structure embodies an open-end narrative. It does not offer a polished, photogenic image of a finite product but displays its dynamically changing personality. Neutrality is the key attribute.

Openness is multi-, inter- and trans-disciplinary. It reaches beyond one discipline, profession or single decision-taker. It is a holistic concept that unifies otherwise disparate interventions and offers common ground to both top-down and bottom-up approaches. In this context, the open structure is no longer an isolated, autarchic element with an intrinsic model of development, but the product of a collectivity and an active part of the city-network.

Openness involves hybridization. In the open structure, hybridization encourages changing constellations and rejects typological specification. The combination and chemistry of its components, ever-changing in time, is the key to the successful generation of urban life. Beyond the mere mix of uses, the successful marriage of public and private becomes essential.

The most important aspect of openness implies publicness and compels new instances of public spaces. By recognizing the importance of a functioning system of public spaces the implementation of an open structure is enabled as a strategic feature. Contemporary public life has multiplied in types and forms. The way we share urban space today revokes the traditional interpretation of public space—squares, streets, and parks. The open system needs to acknowledge and operate with emerging alternative models of public spaces. By incorporating public spaces within a continuous network, the open structure merges levels; the urban tissue and the support represent one platform of intervention, the venue for the deployment of publicness. This is the key element for the open structure as an urban protagonist, easily appropriated by its users.

Since the strategy of openness can be applied to all scales, one comprehensive model of implementation has been chosen: the urban over-sized structure as the ultimate joint between city and building. The persisting contemporary interest in large building ensembles ultimately links the disciplines of architecture and urban design. The over-sized structure explores the potential of an urban structure to develop three-dimensionally. Such as Habraken recognizes “if you make a very big building, you really make a piece of urban design in three dimensions.” The complex endeavor of such a large project requires a feasible implementation strategy. This

15 Levels as defined by Habraken, N.J. 2002. The Use of Levels. Re-issued by Open House International, Vol. 27 no.2
ultimate alliance between city and building can only be strategically addressed through openness, imperiously mediated through the public realm. The open strategy regards the large-scale project as a piece of three-dimensional urban structure and exploits the potentials of the section—the vertical dimension. Openness is not just a design or planning tool, it is a strategy concealing city and building that can be exemplarily applied to the model of the urban over-sized structure, reuniting the attributes of all scales into a common platform for experimentation.

4 The Model of the Urban Over-sized Structure and its Public Realm component

From Fumihiko Maki’s call for “a great structure capable of hosting all or part of the city functions,”17 the subsequent megastructure movement, from the Bigness manifesto18 of Rem Koolhaas, to Kenneth Frampton’s definition of the megaform,19 the fascination for the urban large form hasn’t vanished. Here, the representation of it is the model of the urban over-sized structure. Despite of being a mutation of its predecessors, the urban over-sized structure is the large-scaled protagonist of contemporary urban phenomena.

Unlike the Koolhaas concept of bigness that “no longer needs the city [...] it is the city,”20 the over-sized structure is not autarchic, it calls for the city, grows out of the city, concentrates urbanity and represents an intensification node of urban life. It needs its surroundings and links to them. Stripped from architecture, it can freely claim its own scale and dimensions as a neutral platform on a metropolitan scale. The over-sized urban structure lives and breathes through the power of motion flows. Since it is a concentration of the city itself, it comprises all urban components, thus also incorporating the street infrastructure. The role of the urban over-sized structure is similar to Frampton’s megaform, “which due to its size, content and direction has the capacity to inflect the surrounding landscape and give it a particular orientation and identity.”21 Moreover, this urban element provides the chance for a unifying, coherent attitude towards the “marking of [common] ground,”22 opposed to the endeavor to build freestanding sculptural icons.

The over-sized structure embodies the composite form of urban design and architecture. It upgrades a built ensemble to an urban character, a piece of condensed urban fabric. Nevertheless, its implementation is challenging, especially due to economic and speculative interests. Mainly driven by utopian drive, similar large structures have often proven unfeasible. These unresolved defiances added to the on-going fascination for this urban feature call for another approach. The chance of survival of the over-sized structure lies in openness. It requires a degree of indeterminacy that allows adaptation and change over time. The combination of unfinished form and functions allows for compatible hybrid uses. Due to its complexity, it demands an open-end trans-disciplinary planning process. But moreover, its condition as an urban character relies on its network of public spaces. The consideration of public realm—as main feature of the strategy for openness—is imperative. As Manuel de Solà-Morales recognizes, “without public space the only things left are the rural setting and castles.”23 The public realm stirs urban life and its conscious incorporation becomes the essential prerequisite for the over-sized structure. Hence the porosity of the built structure is imperative. As Sennett recognizes “making buildings more porous will be one of the great challenges of 21st century architecture;

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19 Frampton, Kenneth, „*Megaform as Urban Landscape*“, University of Michigan, 1999
21 Frampton, Kenneth, „*Megaform as Urban Landscape*“, University of Michigan, 1999
22 Ibid.
porosity would make buildings more truly urban.”24 Truly urban is translatable to more public. Porosity enables public realm to penetrate architecture and buildings’ interiors become part of the public network. The role of interiors with a potential for public use increases under the premise of penetrating dense urban fabrics. Thus new definitions of public space within built structures become relevant. As such, Manuel de Solà-Morales understands the importance of public space as residing in its capacity to link private areas, opening them up to the collective patrimony.25 In this sense, his notion of “collective spaces”26 presents the overtones needed. Their main function consists in the ability to confer urban character to both buildings and surrounding open areas and to urbanize the private; thus make it public.27 Winny Maas characterizes this increasing penetration of built structures by public features as a 3D-Noll plan.28 Similar to a 3D-Noll plan, Maurice Harteveld looks at the way in which public interiors influence large buildings and analyzes how the increasing network of publicness affects and determines urban “megastructures.”29 These approaches announce and thematize the need for alternative considerations of the broad concept of public space beyond its traditional acceptance. The different approaches on public spaces within built structures enhance the urban network and represent here the implementation key of the urban over-sized structure within the strategy for openness.

5 Instances of Openness – The Case Studies of the Infrastructural Hub

The strategy for openness has been essayed on a student task: the design of an infrastructural hub. The project deals with a challenging urban situation in Berlin: how to accommodate interurban mobility requirements and metropolitan needs in a central location. The object of study is the 17.300m² area (fig.1) set between the traditional street-block and the 1970s “Plattenbauten,” boarded by transport flows. The interventions propose over-sized structures comparable to the functional complexity—a hybrid program for a touristic transport hub—and the grandeur of the site. The site is a veritable urban void, the typical “terrain vague,”30 an empty spot in a privileged central location. Stripped of historical cargo, it loses the identity of the traditional European city center in favor of the anonymity of the vacuum. Its size offers the potential to generate “critical mass;”31 its position offers the potential to generate urban life and new dynamics.

24 (13) Site plan and bird’s eye view of the site and its surroundings from the television tower in Alexanderplatz www.richardsennett.com/site/senn/templates/general2.aspx?pageid=16&cc=gb
26 Maurice Cerasi defines the collective space of a city as the unitary system of spaces and built structures contained by the urbanized territory that participate at and influence collective life and awareness, combine a common use for a majority of citizens and are the venue of collective experiences in his book “The collective space of the city: construction and dissolution of the public system in the architecture of the modern city”, 1990. If Cerasi distinguished between collective and public spaces, the first concept encompasses the second one, de Solà-Morales sees a direct correspondence and a semantic equivalent between both terms.
27 de Solà-Morales, Manuel. Public Spaces / Collective Spaces (original title: Espacios Públicos / Espacios Colectivos) in La Vanguardia, Barcelona, 12.05.1992
28 Maas, Winny. 2014. 3D noll. In MONU Nr.21, Interior Urbanism.
The studio incurred in the topic of transit spaces. Infrastructural flows combined with urban functions would introduce here an urban piece embodied by an over-sized structure—the marriage between building, city and territory—as the ultimate expression of an open structure.

Two exemplary student projects, “The Networked Hybrid” (fig.2) and “All in One” (fig.3), showcase the diversity of approaches on open structures. Special attention has been set on the formulation of the public venue, linking the structure to the existing urban flows—from pedestrian to vehicle—and penetrating it with the surrounding dynamics. The new structures receive urban validity through the active matrix of public spaces that colonize it.

Both projects approach the over-sized structure under the logic of openness in a similar way, explicitly exploring the possibility of contaminating the proposed structures with public streams. Set in contrast to the large impenetrable mass of the adjacent shopping mall, the hybrid hubs offer numerous crossing possibilities in the form of public spaces. They work as a node—intensification point of urbanity—that catalyzes new urban experiences and organizes diverse, seemingly incompatible systems of motion and uses. In both cases the porosity is achieved by allowing the public network to overflow the whole structure and generate collective spaces for public experience. The apparently unfinished, raw structures house a wide range of every-day activities converted into vertical landmarks, veritable extrusions of the street level as in a 3D Nolli map. Their unfinished storytelling is an incentive for the spontaneous birth of a rich array of public uses. The structures celebrate transport infrastructure and mobility. The program is boldly stacked into the vertical on partly freely programmable levels. These over-sized vertical structures merge all levels—from urban design to in-fill—into one support: a platform for constantly changing uses. Such as Koolhaas’ “typical plan,” the proposals are neutral, abstract, austere and sufficiently indefinite. Its generic entity enhanced by the ever-changing, overlapping uses rejects a fixed identity. It is a site that users can imprint with meanings and tailored uses.

The case studies offer new views on the potential of open over-sized structures in the urban context.

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(2) – The Networked Hybrid _ stud. Lisa-Sophie Winklhofer

(3) - All-in-One _ stud. Pei-Hsin Lee

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Furthermore, the extremely complex topic challenges to convert the ultimate non-place into a piece of metropolitan tissue with strong public qualities.

6 Conclusions

Whenever contemporary urban development seems dispersed and target-less, defying city and building becomes imperative. In the contemporary architectural and urban scene, size still matters. The city is a mechanism in constant change. The over-sized urban structure can be considered a constituent part of the mechanism—not only a hybrid in itself but also a hybrid between city and building—that meets the necessary requirements for the reinterpretation of urban realities. Its implementation can occur under the strategic approach of openness. Beyond a design recipe, planning for openness has been rendered as a future-oriented strategy. As Habraken himself emphasizes, “the issue is not production of houses but the cultivation of a process.” The open over-sized urban structure embodies the idea of three-dimensional urbanism, the ultimate bond between the urban and the architectural scale. Within the open system, public spaces serve as the necessary joint between the two scales.

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