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Designskolen Kolding



Everyday Tectonics? - Clarification of Concepts

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ABSTRACT: In general architectural practice many of the dwellings and workplaces, where we spend most of our time, are realized under an increasing economical pressure mainly controlled by the construction industry. The results; what we can call 'everyday architecture' may at large be considered as ordinary or as 'a-tectonic' made of poor materials, built at a fast pace, and poorly detailed - whereas advanced tectonic reflections are often considered as part of innovative high-end architecture. Iconic works such as, Salk Institute by Louis Kahn or Brion Cemetery by Carlo Scarpa possesses abilities to enrich the lives of their users by carefully attention to the correlation between structure, materials and details. In architectural history and theory such works are referred to, as key examples of a tectonic approach to architecture understood as a spatial unification of aesthetics and techniques where structure and materials hold and amplify the spatial experience and its use. When studying the state of everyday architecture such as our living spaces and workplaces they tend to be designed as mere rational frameworks rather than enriching spaces for residing. It is our observation that here a spatial utilization of the construction elements and careful detailing is particularly desirable. There is a basic need to conceive structural elements, i.e. walls, façades, windows etc. as spatial gestures. It is our hypothesis that the notion of tectonics holds a unique potential in this matter, by referring to the task rather than the object itself. The tectonic questions the methods in architectural construction: How do we go about the task of imagining and nurturing the spatial potentials of the elements of construction? In tectonic theory the architect is often presented as a master builder that lead the realization of the architectural work from A to Z and who is in control of all construction details. However, as a result of the accelerated technological development that arose with the industrial revolution, the process of realization and the number of parties involved has radically changed. This causes a bias where technical requirements concerning construction become detached from - or even overshadow - the vital spatial potential of architecture. Particularly in 'everyday architecture' this circumstance calls for redefining the architectural task. Thus, it is our intention to critically juxtapose the two concepts, everyday architecture and tectonics in this paper. We ask ourselves if everyday architecture can be qualified by means of tectonic method and which strategies are needed to reveal its potential? To answer these questions entails a clarification of concepts. Methodologically this is pursued through a rereading of Henri Lefebvre's essay 'The everyday and everydayness' that allows for juxtaposing the two concepts 'everyday architecture' and tectonics'. As a result the paper outlines a conceptual and strategic link between the notion of 'everyday architecture' and practices of 'tectonics' method.

1 INTRODUCTION

1.1 The search for tectonic qualities in everyday architecture

In general the built environment and the discipline of architecture suffers a continuous struggle with the fact that there is an increasing quality-gap between unique and mass-produced building

structures. Whereas prestige projects such as, commercial headquarters, concert houses, and libraries etc., or private single family houses that preoccupy architectural media have advances in regard of tectonic elaboration and excellency, the majority of the built environment such as office complexes and social housing, what is denoted here as 'everyday architecture' are oppressed by the fact of either low budgets or general expectations that they should 'not signal high quality'? As an example, there are only architects involved in the facilitation of 9% of the general construction market in Europe (ACE 2014).

Also within academia this gap is present. In architectural theory there is a general preoccupation with questions of aesthetic culture related to space, which is also a main theme in architectural education. Whereas our field of knowledge takes point of departure in the awareness that the aesthetic dimension of architecture combined with an in-depth understanding of the patterns of everyday use holds the potential to improve the quality of everyday life there is a lack of strategies linking this knowledge to the realm of everyday building practice. In addition to this international research has proven that the quality of the built environment affects our physical and mental health (Wells et al. 2003). Likewise, in the field of architectural history we are able to study exemplary works along these lines and to state an intimate linkage between the experienced spatial qualities with a distinct tectonic ingenuity in their making. Classical references such as Salk Institute by Louis Kahn, Sydney Opera House by Jørn Utzon or Brion Cemetery by Carlo Scarpa possess abilities to enrich the lives of their users. A meaningful relation between form, function, and structure signifies these works that offer sensed aesthetic gestures by means of ingenious technical principles. To exemplify; the horizon is presented to the users from within the structure of the Salk Institute as the slightly twisted form of the openings in the structure create niches that relate intimately to the function of the institute by suggesting the concentration of focus needed to perform research, but also for the researcher to enter the shaded balcony for a pause or for contemplation. The experience holds transcending qualities, the place is magnified through Kahn's spatial ideas, and simultaneously 'grounded' directly by the materials and structure applied for its realization. But as a profession we have difficulties to extract, develop, and apply this sort of tectonic knowledge to everyday practices. This circumstance challenges the development and range of our discipline, an issue that we raised initially in a theme issue of the Nordic Journal of Architectural Research titled; Everyday Tectonics? (Hvejsel et al. 2015).

As a consequence of this lack of tectonic influence – the market forces of the building industry increasingly dominate 'everyday building practice'. By focusing on other aspects in architectural research, we as a discipline and as 'knowledge enablers' are partly responsible for this development. It is the our observation that there is a present need for architects to engage critical dialogue with the construction industry in order to formulate research strategies capable of positioning tectonic method in relation to the conditions that govern everyday practice. As stated by architects Sarah Wigglesworth and Jeremy Till on 'The everyday and architecture': "*Any discipline which denies the everyday will be denied everyday, and for this reason high architecture is unraveled by the habitual and banal events which mark the passage of time. There is a thudding disappointment as a gap opens up between the image of architecture and the reality of its making and occupation"* (Wigglesworth & Till 1998:7). Following this line of thought, this paper takes point of departure in the complexity of this challenge by searching to outline a conceptual and strategic linkage between 'everyday architecture' and 'tectonic' method.

As outlined above, the general architectural practice in Europe, herein many of the dwellings and workplaces in which we spend the majority of our time are realized under an increasing economical pressure controlled largely by the construction industry. 'Everyday architecture' is to a great extend set aside in the ruling architectural discourse in favor of a formal focus. (Lang & Moleski, 2010). As a reaction to the postmodern primary occupation with form, the question of 'everyday architecture' was treated in a series of publications in the late 1990'ies inspired by Henri Lefebvre's essay from 1972; 'The Everyday and Everydayness' (Lefebvre 1972/Levich 1987). These publications where motivated by positioning the question of everyday architecture within the spectacle of the general architectural discourse and included contributions from practitioners as well as theoreticians as exemplified in 'Architecture of the Everyday' edited by Steven Harris and Deborah Berke (Harris & Berke, 1997). This promising rising focus upon everyday architecture, however, seems to have lost its momentum too quickly. This possibly because of its mere sociological and anthropological outset, where it lacked to address architectural practice and the question of making related to everyday architecture. The question of making in architecture was on the other hand the main focus in Kenneth Frampton and Marco Frascari's repositioning of a tectonic approach in architecture that occurred during the same time period (Frampton, 1983, 1990, 1995, Frascari 1983). Frampton's seminal work 'Studies in Tectonic Culture' presented five original case studies that documented a delicate relation between experienced quality in architecture and the tectonic ingenuity presented in the architects' ideas about the practical making of buildings. However, although this call for a material attention and a discussion of specific building cultures, gave following rise to 'tectonics' as an identifiable research area in architecture - tectonic theory has only occasionally been linked to the architectural practice that conditions everyday architecture. When observing the state of everyday architecture, where there exist an explicit need to conceive of structural elements i.e. prefabricated building elements or industrialized building components etc. as spatial gestures, tectonic aspects seem an unattended field research and practice. Motivated herein, it is the hypothesis of the paper that there is to be found an unexploited potential in pursuing the linkage of the previously mentioned theories on everyday architecture originating from the 1970'ies and 90'ies with the existing and continuously growing body of knowledge concerned with the cultures of tectonics in architecture. Can everyday architecture be qualified by means of in depth tectonic considerations and which strategies are needed to reveal its potential?

1.3 Method/approach

To answer these questions entails a clarification of concepts. Methodologically we pursue this clarification through a rereading of the essay: "The everyday and everydayness" by Henri Lefebvre (Lefebvre 1972). The essay offers a general definition of the aspects related to everyday life, how it can manifest itself in various cultural practices and can be discussed in relation to 'everyday architecture' and tectonic strategies or practices of tectonic methods. As such we propose the notion of 'the everyday' as a critical lens through which we can identify examples of best practice and outline the challenges and possibilities imbedded in this field of knowledge.

2 THE EVERYDAY AND ARCHITECTURE

In his essay; "The everyday and everydayness", Henri Lefebvre defines 'the everyday' as a concept emerging from consumerism, which he argues lies at the core of modernity as; "the most general of products". He states that; "before the series of revolutions, which ushered in what is called the modern era, housing, modes of dress, eating and drinking – in short, living – presented a prodigious diversity". (Lefebvre 1972: 7). This diversity was as a response to multiple living systems dependent on regional conditions, natural resources, climate etc., that has today been replaced by "a worldwide tendency to uniformity" (Lefebvre 1972: 7). "What has hap*pened?* "Lefebvre asks – and answers the question by outlining, how the systems that make up everyday life, things as well as institutions, always have been defined by forms, functions and structures: "There were, and always have been forms, functions and structures' and he continues; 'people, whether individually or in groups, performed various functions, some of them physiological (eating, drinking, sleeping), others social (working, travelling). Structures, some of them natural and others constructed, allowed for the public or private performance of these functions, but with a radical – a root – difference: those forms, functions and structures where not known as such, not named" (Lefebvre 1972: 7). Hence, before the modern era, these occurred as natural responses to sensed values, whereas in modern times; "The functional element was itself disengaged, rationalized, then industrially produced, and finally imposed by constraint and persuasion" Yet, he claims that the relationship of form, function and structure has not disappeared; "On the contrary it has become a declared relationship, produced as such, more and more visible and readable" (Lefebvre 1972: 8). Despite its legible existence it has lead to separation of realities and in our case, architecture have become disengaged with the material dimension and the procedures involved in its realization.

With regards to architecture this development has marked both a field of possibilities and a critical challenge: On one hand, it held obvious advantages that by employing industrial means of production the range of high quality of building construction could increase and become a privilege for the masses – for everybody. As a response to this, the rise of the modern movement was guided by the idea that industrialization held the seeds to raise the quality of general architectural practice, strongly advocated by Le Corbusier (Le Corbusier, 1925/1987: 175). But on the other hand the inevitable pitfall, that this very objective to improve the quality of every-day architecture has become largely oppressed by the market mechanisms resulting in a dominating economic focus and followed by a reproduction of uniform poor architectural solutions that do not offer empathic sensory qualities for everyday life. As described by Lefebvre *"in the study of the everyday we discover the great problem of repetition, one of the most difficult problems facing us"*. (Lefebvre 1972:10). If referring back to Lefebvre's definition of living systems and their diversity, in our case architecture, as a qualitatively sensed relation between forms, functions, and structures - the problem of repetition raises questions about the role and the skills of the architect in the making of the built environment.

In tectonic theory the notion of architectural quality signified by an experienced relation between form, function, and structure, rooted also in Vitruvian theory, is used to describe the architects' task and responsibility. Emerging in German architectural theory in the 1850'ies, tectonic theory rose as an attempt to formulate a general architectural theory as a response to the stylistic eclecticism that governed the industrial revolution. As part of this movement Karl Bötticher and Gottfried Semper turned to a study of the origins of construction and the notion of tectonics in order to encircle the ethical nature of this task, as a contextual, sensed, and crafted unification of aesthetics and technique, opposing to the formal eclecticism that flourished (Bötticher 1852, Semper 1861). For the original tekton (the carpenter) this sensed relation between the form, function and structure of his house is inherent, as he is simultaneously the maker and the inhabitant of his house. Hence, if linking back to Lefebvre's definition of the everyday as a product resulting from a discontinuation of the relation between form, function, and structure (due to industrialized manufacturing), the suggestion of an 'everyday tectonics' seems immediately to be inherently contradictory. When architecture becomes 'a product' or a commodity the foundation for the work of 'the tekton' changes. This contradiction is analogue to the tendencies we see in the architectural field where 'everyday architecture' is overlooked in favor of the splendor of high budget cultural prestige projects. With the characterization of the challenging aspects of the everyday by Lefebvre such as; prepetition, monotony, rationality, emphasis on functionality, we can understand how this sort of everyday practice compromises the ideal working conditions of the creating architect as well as the experienced quality of the 'end product'. The idea of a prefabricated house or apartments for social housing that is reproduced for different locations and for different users, will inherently compromise the traditional conception of quality in architecture. However, if we follow the line of thought proposed by Lefebvre and conduct an experiment of thought, there seems to be a potential to apply the notion of the tectonic as a critical means in order to study everyday architecture. As stated above, an overlap can be found between Lefebvre's reading of the challenges and potentials that have risen with modern everyday life and the questioning of the architects ethical and professional role within modern society and production that drove Semper and Bötticher to study the field of tectonics. In his characteristic of 'the everyday' Lefebvre used the relation between form, function and structure to describe the experience of a utilitarian product, whereas in tectonic theory the same relation is used to describe the process of realization of a building. Consequently, it is our observation that by juxtaposing the notions of 'everyday architecture' and tectonics a potential to critically rethink the architects' role in everyday practice occurs. A potential we will look further into in the following by applying Lefebvre's conception of 'the everyday' as a critical lens through which to question the current role of the architects in everyday building practice.

2.1 Juxtaposition of concepts: 'everyday architecture' and 'tectonics'

As mentioned above especially the work of Frampton and Frascari has successfully repositioned tectonic theory as a medium of architectural criticism in the 1980's and early 90's (Frascari 1984, Frampton 1990, Frampton 1995). Their work has brought further Bötticher and Semper's early discovery of the critical dimension in tectonic theory, defined as a 'theory of construction' focusing at material culture and seen as a way to approach the delicate questions concerning architectural quality not as questions of style, but of method; inquiries into how to unite aesthetics and technology in the creation of architecture (Bötticher 1852, Semper 1861). In the last decade the interest into the tectonic, (both its concrete presence as well as theoretical dimension) has evidently gained speed and has in particular been associated with the introduction of digital fabrication, specific experimental material technologies and fractal geometries (Leach et. al 2004, Reiser & Umemoto 2006, Hensel 2013). As know-how and tools that followed the rise of the Industrial Age, these novel digital technologies are looked upon as innovative ways to improve the general quality of architecture by e.g. use of mass customization and facilitated user involvement being some of them, and greater formal complexity another. However, still there is a lack of strategies and methods linking these technologies and ideas concerning practices to everyday architecture. Richard Sennett also discusses the dilemma of linking new technologies and ways of manufacturing to the practice of the craftsman related to everyday culture. (Sennett 2008:81-118). His study of material consciousness and craftsmanship versus mass production offers a fruitful perspective on 'the everyday' in correlation to the realization of architecture. It is evident also in Sennett's findings that the mechanization of manufacturing has abrupted the direct experience of the human dimension or traces of craftsmanship, (e.g. ingenuity, improvising, scale, location) in the construction elements of architecture exemplified by the history of the brick and brickwork (Sennett 2008:119-146). In vernacular architecture, a direct link between everyday architecture and tectonic ingenuity can be traced. As Anthony Reid points out on the topic of vernacular architecture, in his introduction to John May's book, "Buildings without architects: A global guide to everyday architecture." "We as humans have an amazing ability to innovate. Nowhere is this more apparent than in the world's diverse range of handmade or vernacular buildings" (May/Reid ed. 2010: 6). May systematically pairs the evolution of diverse construction methods reuse and use of local materials with experienced spatial qualities. This mapping of traditional construction methods can be compared to Semper's interest in the origins of construction, pottery, weaving etc. (Semper 1851).

In present day architectural discourse and especially in the building industry, there exist a leading focus on technological innovation, i.e. how to improve the technical duration of construction elements or the thermal performance of the building envelope (DAC 2010). Also, the history of construction in architectural education and learning from this original heritage is often set-aside for other less pragmatic topics (Keyvanian 2011). As emphasized by Reid; "It may be that the notion of tradition leaves people feeling uneasy, with associations to a world of convention and restraint; they feel that traditions belong to a place in the past, inhabited by the ghosts of disapproving ancestors. However, tradition can also be our guide and teacher, and provide the template for architectural solutions that can stretch the imagination far beyond the seemingly rational." (Reid in May 2010: 6) In line with this argument, it is our observation that we are in lack of established methods in order to learn from examples, whether it is canonical historical examples such as Kahn's Salk Institute or current examples of best practice. What are the primary aesthetic gestures intended or what are the most effective technical principles enabling the realization of the work? In his study of vernacular architecture, May finds that: "These buildings do not exist in a vacuum – they are built as part of people's lives and culture. These structures are shaped not only by physical circumstances and available materials, but also by the beliefs, myths, customs, and traditions of the tribe, clan, or group that builds them" (May 2010: 44). If referring back to Lefebvre's account for the main challenge related to the concept of 'the everyday', that of repetition; we can begin to understand how the challenge of raising the general quality of everyday architecture, ultimately has to do with that of positioning immeasurable aspects such as myth and ritual within the highly quantifiable context of everyday industrialized construction practice. In the case of Salk Institute we see Kahn's understanding of place and local qualities amplified in the construction of the Institute. And in each of the examples presented in the book document exemplary spatial gestures rooted in the traditions of its users achieved by means of innovative technical exploitation of humble physical means. In both cases is our observation that the experienced value - when referring back to Lefebvre's characterization of 'the everyday' - lies not in the unique as such, but rather in the ability of Kahn and the vernacular tektons studied by May to empathetically envision key aesthetic gestures e.g. a quiet place to study provided directly by means of the structural principles applies in its realization. In the case of the Salk institute a series of identical study units, are in principle reproduced, but all of them hold an empathetic gesture of contemplation that clearly addresses the human scale. Hence, the Institute can be said to hold universal qualities. If drawing a parallel to present architecture and the tectonic challenges that exist in regard of 'everyday architecture', one could pose the critical question, whether customization, increased user involvement or formal complexity as such hold the potentials to raise the quality of everyday architecture? Rather the major task seems to be to find strategies and methods for developing the maximum spatial qualities with a minimum of structural elements employed in direct dialogue with the building industry, as argued by engineer Cecil Balmond (Balmond et. al. 2002:371). This is inevitably a tectonic challenge. The question is how to formulate strategies and methods capable of shifting the focus of everyday practice - to wrench the building components of their spatial qualities without compromising the budgets; if it is possible to pursue an everyday tectonics in architectural practice per se?

3 EVERYDAY TECTONICS?

One of the only academic reports from practice dealing with the topic of everyday architecture is authored by Timothy Love: "Double-Loaded: Everyday architecture and windows for improvement". It can be seen as a reaction to the status quo and one of the few articulate attempts from practice to work strategically in order to improve everyday architecture. Love argues that; "There are, broadly, two kinds of American buildings produced: those financed for a higher (an economically ambiguous) mission – e.g., museums, libraries, and owner/occupant-built houses - and those linked to an investment goal requiring measurable rates of return or requiring maximization of efficiency -e.g., hotels, public school buildings, housing, office buildings, laboratories, parking garages, and retail centers", and he claims that architectural media is at large focused upon the first (Love 2004:43). The paper was published in the Fall/Winter edition of Harvard Design Magazine 2004/5 discussing the gap between the extravagant and the mundane scope of architecture under the headline "Rising Ambitions, Expanding Terrain: Realism & Utopianism" and it exemplifies this need to maximize the imbedded qualities of the minimum so to speak. "The result is a fundamental design criterion that looks for the maximum number of hospital beds, hotel rooms, or condominiums for the smallest amount of circulation space" Love writes to characterize the context of everyday architecture (Love 2004:43). He explains and visualizes how he has strategically developed a series of diverse spatial typologies within this limited context by deliberately looking for the latent potentials in order to find and develop them. When characterizing his role as a an architect in this matter he states that; "it is the selfconsciousness of this methodology as a theoretical position that is important to architectural culture, as is the reality that it is, in this case, not the academy that is providing alternative paradigms for practice, but rather intellectuals embedded in practice – working from the inside out, as it were - that are discovering new territory" (Love 2004:47). In that sense Love points to the need for the practicing architect to act as the re-inventor of a new tectonic paradigm in particular when he or she meets restricted budgets, complex programs or challenging conditions given by the construction industry.

3.1 An example

The housing designs for the Danish Social Housing Client, AlmenBolig+ by Søren Rasmussen,

owner of ONV Architects is interesting to study closer as a guiding principle since it is dealing with the above theoretical juxtaposition of everyday architecture and tectonic theory and practice. Looking at the façade design we can see how the tectonic ingenuity in terms of transforming an otherwise insignificant construction element that is; the industrialized tile shingle, into a façade material that offers qualitative experiences, is made possible simply by turning the mediocre shingles inside out. The detail marks a direction for an everyday tectonics as an inventive use of humble means. It is clearly motivated and visible as a strategy of the architect. The tectonic choice to turn the shingles inside out allows for the physical traces of the extruding process to give texture to the façade, adding a subtle sensuous quality. Yet quite importantly it adds no extra costs.



Figure 1. Photo showing the façade detail of the shingles turned inside out. (Photo: Anne Beim) Figure 2. Photo showing the AlmenBolig+ full-scale mockup. (Photo: Anne Beim)

Both Love's analysis of practice and Rasmussen's tectonic detail show the need to mature a methodological foundation in our discipline that embraces the conditions of everyday practice and that enables us to act strongly within it. In order to develop tectonic methods for everyday architecture and make them applicable, as proposed in this paper two questions seems to arise: How do we equip present and future architects to take on this task, and secondly: What sort of initiatives are needed in architectural research and education?

4 CONCLUDING DISCUSSION

To juxtapose the notions of everyday architecture and tectonics as above points to the fact that there is a lack of strategies and methods for applying architectural theories to everyday practice. Likewise it has shown that the notion of tectonics holds a particular potential in this matter as it links theory and practice and forces a discussion of method in architecture. Whether in May's exemplification of tectonic quality in vernacular architecture, in Kahn's seminal Salk Institute or in the detail by Rasmussen, which we have studied here as guiding principles for the development of an 'everyday tectonics', each example signifies the ability of the architect to method-ologically unite aesthetic gesture and technical principle. In summary, we have found that it is first and foremost evident how this experiment of thought, juxtaposing 'everyday architecture' and tectonics', forces a critical reflection about the role of the architect in relation to everyday practice involving a strategic ability to: - *Take on a leading responsibility within the building industry with the explicit goal of transforming otherwise indifferent construction elements into sensuous spatial gestures*.

To fight the tendency of silently accepting the existing technical and economical bias in everyday practice is a necessity and a responsibility of the architectural discipline if we follow the lines of thought suggested by Lefebvre. Considering the environmental and economical chal-

lenges that condition everyday practice of today it seems more urgent that ever to arrive at a tectonic approach in everyday architectural practice. However, as discussed in the paper, the answer is not to strengthen the technical dimension of architecture as such, but to develop playful and inventive relations between aesthetics, material consciousness, and (construction) technique. As stated by Lefebvre: 'Why should the study of the banal be banal? Are not the surreal, the extraordinary, the surprising, even the magical, also part of the real? Why wouldn't the concept of everydayness reveal the extraordinary in the ordinary?" (Lefebvre 1972/1987:9).

In conclusion; to pursue a conceptual and strategic correlation between the notion of 'everyday architecture' and the practices of 'tectonics' is intimately linked to actions of bringing forth the vital, imaginative, and joyful possibilities of architecture - to enrich the lives of its inhabitants. Ultimately, this could be to create a view where there is none by the right design of a window opening or forming a place for social encounter where there is a formal separation. Each case offers an interesting challenge for research, practice, and education, which focus on everyday architecture that is based on tectonic thinking and methods as fundamentals.

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