TYPE OF URBAN BLOCK AS INTERMEDIATE BETWEEN BUILDING AND URBAN TISSUE
Reflection on typology of urban block

I   INTRODUCTION

Within the architectural practice, the first step of design process is normally collecting and analyzing information related to the assignment in order to understand and clarify what and how to design. Generally, we would like to call this process architectural research. In a broader sense, research is defined as "systematic inquiry directed to the creation of knowledge"[1]. Specifically, in the field of architecture, this kind of activity has been carried out ever since the day we began to build. Architectural research has developed from studying particular structural forms and building materials of confined specific building projects by systematic and trial-and-error experimentation to investigating a great variety of areas such as climate, social behavior, energy consumption, design methods, and so on, with a wide range of instruments and methods[2]. And it is clear that these different methods or the body of methods we apply in the research significantly frame the way the we see and analyze the materials and sources, influence how the issues are identified and how the knowledge are developed and finally condition how the design solutions are approached. Therefore, it can be said that research methodology, as the systematic, theoretical analysis and understanding of the body of methods, is closely related to architectural knowledge and practice. Linda Groat and David Wang have adopted "strategy" to further demonstrate the role of methodology in contrast with "tactic" for methods. Deriving from their military origins, the former refers to the planning and structuring of the overall research study, while the latter is defined as a detailed application of a particular instruments[3]. Thus, in relation to architectural knowledge and practice, methodological research provides a systematic perspective to approach the built environment within which a set of specific techniques are involved for architects to refer to.

The lectures of the course have updated my understanding of architectural research and research methodology. I was enlightened by the interdisciplinary reference between architecture and other disciplines and the consequent diversity of the approach to architectural issues. Also, through the lectures and further reading, I gained a deeper insight of some traditional methodologies, especially typology which I have been interested in personally. By this course, I learnt the evolution of the concept of type and typological research as well as various interpretations and positions from architects and urbanists based on specific historical and social context. All these acquirements have inspired me to reflect and improve the approach I take in my own graduation research.

The graduation studio of the chair of Urban Architecture studies medium-scale urban sites and aims at critically evaluating a specific urban context in order to either complete or re-direct it. The chosen site is a block in Anderlecht of Brussels and the understanding of the specific site is the starting point of the assignment. The research of the site is comprised of five themes, namely "Unstable city", "Zenne", "Living & Working", "Whose neighborhood" and "Bricolage", each of which is in the charge of one group. Among them, the first four are more concerned with the block itself or the broader urban context of Brussels, while the last one "Bricolage", or rather, "Spolia" is more related to the theme of design assignment. Unstable city focuses on the continuously changing urban form of the block and its neighborhood. Zenne studies the river Zenne covered, violated and relocated throughout Brussel, which also existed in the chosen site. Whose neighborhood is concerned with the diversity of people living in the neighborhood and their occupation of public and private spaces. Bricolage explores the notion of Spolia both in general and specific to the chosen site. And in our group of "Living & Working", we investigate the highly mixed programmes of working (production) and living (residence) on different scales throughout Anderlecht. I made research into such mix-use spatial arrangement mainly on medium scale, or rather, on the scale of urban blocks and attempted to solve how working and living programmes are organized in an urban block and how the two kinds of programmes are related to each other in terms of space and use.

II   TYPOLOGY AND DIAGRAMATIC THINKING

According to the above introduction, our research is quite specific to Anderlecht and aims to gain an overview of the relationship between working and living. Therefore, we made it a context-led and etic research. Firstly, we conducted a historical research in order to identify the factors that influenced the industrial development in Brussel and resulted in the hybrid of production and residence on urban scale. A timeline was applied as an analytical tool, which also turned into the final outcome,

demonstrating the effects of different factors through history and the evolution of production sectors especially with respect to spatial distribution. Secondly, we identified and classified present programmes in the selected area of Anderlecht and then presented them through mapping. The first map illustrated the distribution of production buildings and areas which were highlighted in the map, while the second one indicated the strength of productive activity by the proportion of production area to living area. Thirdly, departing from the maps, we studied the blocks in the chosen area with regard to the relation between working and living. Through the study, nine types of mix-use blocks were defined according to the arrangement of living and working spaces inside the block as well as the accessibility and perception from outside the block. After that, the nine types of block were abstracted into diagrams and a matrix was made to categorize the blocks from the typological point of view. Further, we selected three representative blocks for detailed study and figured out through diagramming how the working and living space interact with each other and how the block is evolved and functions as a whole. Finally, we moved into architecture scale. Again, diagraming and drawing were applied to analyze the relation between working and living in terms of space and use, which was represented by a section model.

In our research, we discovered that the working programmes spreading over the block-defined urban area established distinct relationships with existing living fabric responding to particular conditions of different blocks. These relationships, embodied as specific spatial arrangements and organizational structures, have gradually consolidated and in turn characterize the blocks in specific ways. In this sense, blocks are distinguished from each other with regard to the spatial and structural organization of living and working programmes. Since Type can be understood as a category of things based on characteristic formal and structural characteristics, it makes sense to define the types of block according to these distinct relationships and study the blocks together with the embedded relationships in the way of typology.
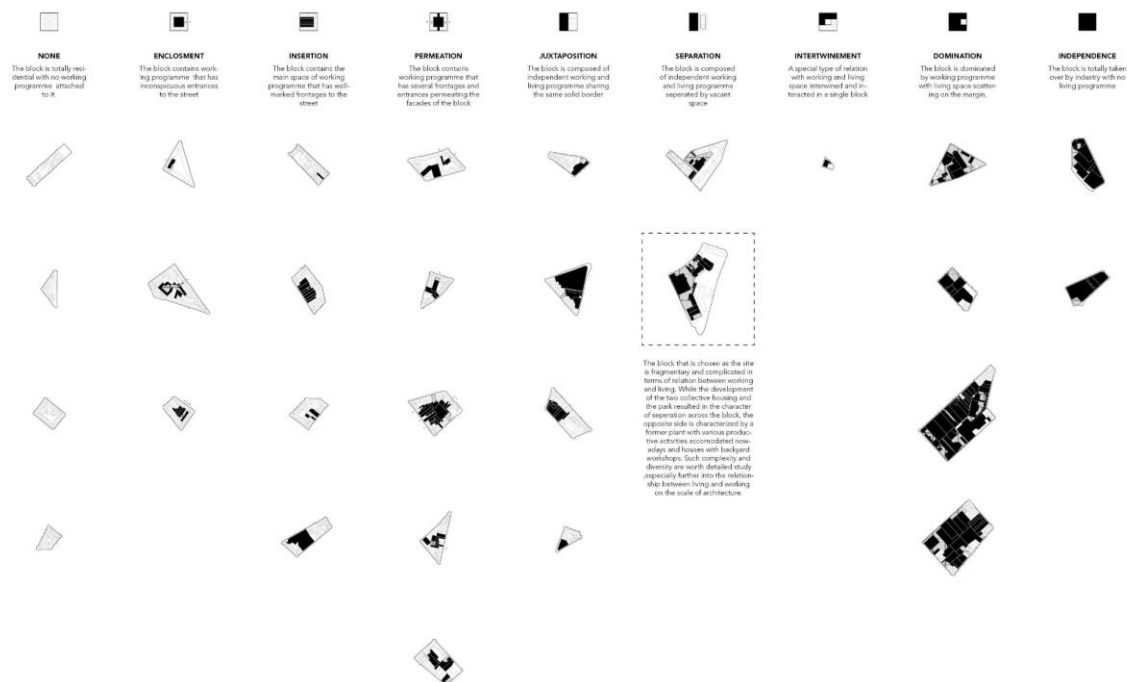

Figure 1, Diagrams of block types and matrix of block typology in Anderlecht. (drawn by author).

In recent decades, it has been attempted to introduce the question of diagram to the declining typological discourse in order to revitalize it. In the Symposium "Type versus Typology" held in 2014, Sam Jacoby proposed the concept of "typological diagram" to integrate typological discourse with diagrammatic discourse.[4] In fact, since much earlier time, architects have started turning to dynamic diagrams for a productive approach owing to the decline of typology in 1970s.[5] And according to Braham, such a shift connected the generation of architectural form directly with the rapidly changing

condition of the city.[6] In Typological Urbanism, Caroline and Ben described how they applied typology as an instrument to deal with urban mix-use projects[7]. Although "Klein bottle", "Mobius strip" can hardly be seen as architectural types, they can be understood as diagram geometrically abstracted from nature, which possess generative potential for architectural design especially in face of complex urban context. For me, typological research based on diagrammatic thinking has helped me effectively understand the complex and hybrid urban context specific to Brussels and will also contribute to the further design process.

III   MODIFIED TYPOLOTY

The concept of type was first introduced into architectural discourse by Quatremère de Quincy in the early nineteenth century. He stated that type represented a conceptual, irreducible and generic idea, which was distinguished from the model serving as a formal translation of the principles of type. Prior to the entry of the term "type", Jean-Nicolas-Louis Durand had started classifying architecture according to their genres (function) and proposed a general design method by disposition (composition) of formal parts like columns, foundations, vaults, and so on. His classification and comparison of abstracted historical forms were defined by Jacoby as typological reasoning contrasting with as well as complementing the typal reasoning derived from Quatremère de Quincy's concept of type.[8] In the following decades, Durand's typological thinking and principles of composition were consolidated and finalized in Beaux Arts architectural system[9], which prevailed until the rise of Modern movement at the beginning of the twentieth century. In response to the significant transformation in production, modernist embraced mass-production by machines and interpreted architecture as simply a matter of technique, a mass-production object serving and molding the needs of man according to economic criteria.[10] In this sense, the original concept of type was rejected and then transformed to industrial prototype allowing for repetition[11] and the distinctions between type and typology were also eliminated by reduction of typology to functional classification of buildings[12]. In the sixties and seventies, based on the reflection on Modern Movement and the attempt to mitigate the effects of modern architecture in the historical cities, typological discourse in Italy, represented by Saverio Murotori, stressed the formal and structural continuity of the city in historical evolution. The idea of type was interpreted as formal structure and building typology was taken as an effective way to reach urban morphology. In 1962, based on Quincy's original definition, Giulio Carlo Argan claimed that type was inherent in and determined by the inner formal configuration of a series of buildings linked in their formal development, and typology was "not just a classifying or statistical process but one carried out for definite formal ends"[13]. And Rossi, informed by Argan, defined type as the very idea of architecture, which is closest to its essence. Further, he referred to type as a universal and stable concept and architecture was historical interpretation of type responding to specific context.[14]

However, the Italian discussion failed to revitalize typology as an operative approach to design, despite continuous effort to expand typology, which had been reduced to a descriptive classification of functions, to an analytical frame. In the following decades, it was common that typology was simply used in the sense of function, while type and typology, conceptual and formal reasoning were confused with each other.[15] Not surprisingly, Neo-rationalism finally fell into the formal imitation.[16] Similarly, Moneo also argued that so-called typological research produced no more than images, in the case of Venturi, or recomposed historical typologies.[17] In the recent past, the introduction of diagram to typological discourse led to a productive result.[18] And according to Jacoby, the newly established concept of typological diagram is able to serve as both a conceptual frame-work and a practical design approach.[19]

Throughout the historical evolution, it is clear that since the emergence of type, its concept and the understanding of typology has been modified based on historical and social conditions. In other words, type and typology are interpreted and furthered in different ways responding to specific historical context. In this sense, they are adjusted to effectively function as both an analytical frame and a design approach in order to satisfy the demands of the researchers and architects. From the very beginning, typological reasoning was initiated by Durand to provide a simple method to cope with the new programmes and requirements demanded by a new society.[20] And Modernist architects reinterpreted typology in a reductive way to embrace the mass-production society.[21] Later on, Italian

discussion called for historical continuity of urban structure and established connection between building typology and urban morphology. And nowadays, the evolution of typology has been effected by prevailing diagrammatic thinking. Therefore, it can be said that typology is actually viable and flexible and what we are supposed to do is to modify it to the developing society and different contexts and hence make it an effective approach to research and design. Furthermore, I would like to say that all the different interpretations are reductionist in some form or other. Whether type is referred to as formal structure, or spatial arrangement, or social logic of space, it is a consequence of emphasizing one or several aspects over others. But no matter how you interpret it, the core value of the concept of type should not be ignored. Otherwise, it is a truly reduction.

IV TYPOLOGY OF URBAN BLOCK AS INTEMEDIATE STUDY

In *Civiltà e territorio*, Saverio Muratori took the architectural crisis as an expression of a more general crisis. And according to him, the only way to solve the crisis lay in establishing a balanced relationship between human beings and their territories.[22] As the basis of the above statement, he defines all aspects of the human environment according to a hierarchy of different scales, ranging from single building to the totality of the territory. These scales are mutually interrelated and encompass all matters of building and city. In Nicole's words, "it was not possible to understand the richness of any effort at building without constant reference to all the components that it encompasses and to the ensemble to which it belongs"[23]. In addition, Italian architects and urbanists, including Muratori and his followers who further developed each of the above scales systematically, fully involved the concept of type and typological approach in their debate. Although holding different positions, they share common ground where the typological approach is characterized by the classic concept of architecture as tectonic system with the coherent integration of the structural, distributional and volumetric aspects.[24] Taken together, I am pleasantly surprised for the two following reasons. On the one hand, three of the topics in the lectures, namely tectonic, building typology and territorial scales are linked in Italian typological discourse as interrelated built scales of human context. On the other hand, the concept of type and typology function as an instrument bridging the gaps between all these scales.

Also, it can be seen how Italian architects and urbanists attempted to established close relation between urban morphology and building typology. For them, architecture was defined as the art and science of building the city, while city became the research object of architecture in order to describe the physical form of the city and its historical structural evolution.[25] In this sense, I would like to emphasize the importance and effectiveness of typological research of urban block as an intermediate between building and urban tissue.

In Italian typological discourse, most of the architects and urbanists based their positions on the fundamental distinction between basic building and specialized building. Basic building is ordinary and intended as the formative matrix of specialized building, which is sometimes specified as institutional architecture. And it was common that much more attention was paid to specialized architecture than basic buildings and the material basis they formed. For example, according to Rossi, the evolution of cityscape was derived from the dialectic opposition between primary elements, which corresponded to specialized buildings, and residential areas, which corresponded to basic buildings.[26] While primary elements were characterized by the concept of type, residential area was left out.

However, this doesn't mean the typology of basic building don't deserve study. On the contrary, it is fundamental to urban morphology. It is just that when compared with specialized buildings which always present a remarkable gesture as a single structure in the city, basic buildings normally contribute to the urban morphology in the form of building cluster, or rather, urban block, especially in traditional cities. This is reflected in Leon Krier's diagram, in which the true city is composed of monuments and urban blocks where monuments are embedded in and public space are shaped against. Although urban blocks tend to be considered as background, they are as important as monuments with regard to shaping the characteristic of urban form. In this sense, typology of urban block is also closely related to urban morphology and as essential as typology of specialized building. Further, the block typology is given more significance when the urban blocks are more than just residential. For example, as shown in my research, urban blocks in Brussels are characterized by the composition of production programme and living programme. The mix of these two different kinds of

programmes occurred naturally and developed into distinct relationship based on urban blocks. In fact, they are so integrated that they are sometimes organized beyond the boundary of buildings and a coherent formal and structural organization is created on the scale of block rather than building. Therefore, it makes much more sense to study the urban blocks as an integral whole with distinct formal structural in terms of not only internal logic but also relationship with external urban space. In this way, we can get a better understanding of the form and functioning of the block-based urban tissue.
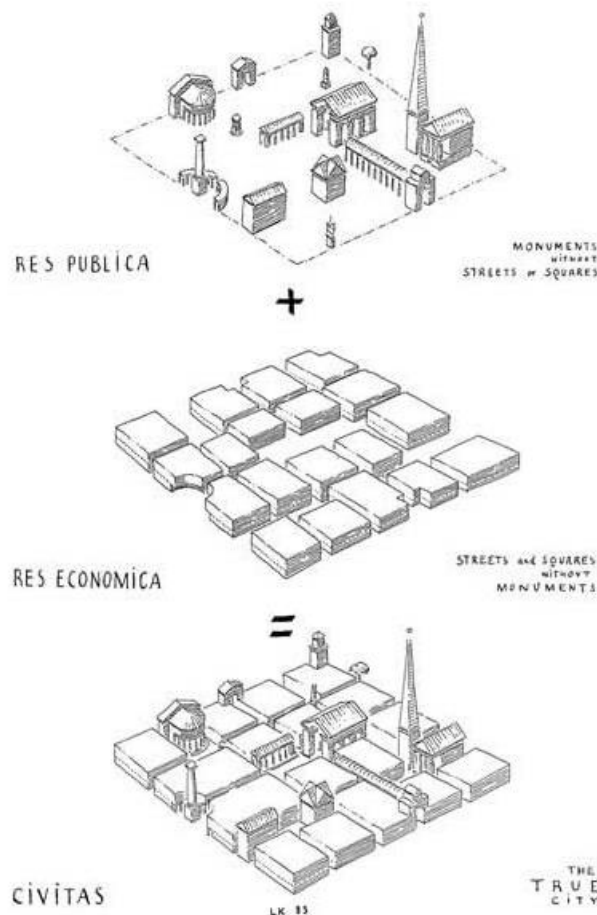

Figure 2, Leon Krier's diagram of the true city. (Source: The Reconstruction of the European City. Outline for a Charter, 1980.)

Nowadays, all the discussion of type and typology turn to look back on the original concept of type proposed by Quatremère de Quincy. And architects and urbanists keep trying to take advantage of typology approach in the design process. The municipality of approaches and positions developed in architectural research and practice provide a range of possible devices for coping with specific issues of architecture and city. For me, typology of urban block provides an alternative perspective towards both building typology and urban morphology and help with the design process in its own way.

END NOTES:

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[5] William Braham, "After Typology: The suffering of Diagrams" in *Departmental Papers (Architecture)* (2000): 2.

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[13] Carlo Giulio Argan, "Sul concetto di tipologia architect-tonica", in Karl Oettinger, Mohammed Rassem, eds, *Festsschrift fur Hans Sedlmavr* (Munich, Beck, 1962), 96-101.

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[16] Henk Engel," The Rationalist Perspective", 184.

[17] Moneo, "On typology", 39.

[18] Braham, "After Typology", 2.

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[23] Marzot, "The study of urban form", 63.

[24] *ibid*, 61

[25] Engel, "The Rationalist Perspective", 190.

[26] Marzot, "The study of urban form", 68.

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