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**TYPOLOGY, TOPOGRAPHY, TECTONICS. Urban forms in transition**

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**Abstract**

*The form of 21st cities isn't comparable with the urban form of Alnwick or Venice, but the legacy of the urban morphology's masters stays also in considering the continuous dynamics of urban settlements' configurations, the real value of tradition as interplay of permanencies and permutations, the transitions of urban forms to different orders.*

*Six years after the publication of “Cities in transition” (2015) and starting from the basic keywords “typology”, “topography” and “tectonics”, the “transitional” paradigm is expressed as a conceptual tool to understand the developments to future forms of Western and Asian cities in order to inform future urban policies and practices. This paradigm is preparatory for broader research on urban morphology.*

*The round table hosted at ISUF 2021 on Wednesday 30 June was an occasion to bring on the desk the above described issues. Michela Barosio (Politecnico di Torino, “Transitional Morphologies” Joint Research Unit) presented the movie “FUTURE IN THE PAST. The form of contemporary urban settlements in Europe and Asia” (produced by the PhD Program “Architecture. History and Project” at Politecnico di Torino in 2021). Marco Trisciuglio and BAO Li (Directors of Transitional Morphologies Joint Research Unit) launched the international conference “TOPOGRAPHY, TECTONICS, TYPOLOGY. Urban Morphologies in transition. Nanjing 2023: an International Forum on Urban Forms”.*

**Keyword:** topography, tectonic, transitional, typology, Nanjing2023

**Introduction**

In common understanding of urban morphology theory, the dynamicity of the city is looked through the study of the permanencies, some recognisable element that for their property of stability allows understanding what changes in the urban settlement (Muratori, 1960 and Caniggia, 1979). However, in opposition, changing patterns can be identified with the term permutation (Terzidis, 2014). If permutation exists is possible also to reconstruct the process of reconfiguration of the urban settlement. The concept of process projected into the paradigm of transition supported by the definition of “topography”, “typology” and “tectonics” can be used in order to articulate policies and develop methodology in the field of urban morphology. The understanding of limitation and potential of existing theory can be the shifting paradigm for understanding the contemporary city.

In the context of the increasing complexity of Western and Chinese cities (Ding et al., 2015), there is an interest in redefining epistemologically the keywords “topography”, “typology” and “tectonics” in their

capability to face the new challenges of future urban spaces and forms with a look at the dynamic component of the city development.

This viewpoint paper is the result of the round table discussed during the ISUF Glasgow 2023 with the participation of BAO Li (Southeast University Nanjing), DING Wowo (Nanjing University and CNUM), Nicola Marzot (Università degli Studi di Ferrara) and Giuseppe Strappa (Università degli Studi di Roma “La Sapienza” and ISUF Italy).

### **Topography, Typology and Tectonics**

In the tradition of urban morphology studies, “topography” is understood as the description of places, “tectonics” as the answer to the anthropological question of building artefact and “typology” is the “product of spontaneous consciousness” (Caniggia, 1979) that relates the above terms. The Italian school of urban morphology put the accent on the importance of the dichotomy between “typology” and “tectonics” with the definition of “type as synthesis a priori” (Muratori, 1960). At the same time, the link between “typology” and “topography” already expressed in the work of Muratori in Venice and Caniggia in Como have a broader connection with the Conzenian school. Typology as a linking point between “topography” and “tectonics” allows the reconstruction of the terms of a long-lasting debate. In the intersection of semantic meaning, scholars can understand the shape of a settlement, either to better describe it or to create the assumptions for urban design processes. In this way, “topography”, “typology” and “tectonics” can be used to read the contemporary city as a transition process from one stage to another.

“Transitional Morphologies” Joint Research Unit, established in 2008 between the Southeast University of Nanjing and Polytechnic of Turin, investigates the field of urban morphology. It researches strategies and methods used by human settlements to incrementally change and assemble buildings and spaces from one period to another, from one place to another, and from one culture to another (Triscioglio et al., 2021). In this investigation, “topography”, “typology” and “tectonics” are linked to tradition but projected into the transitional paradigm. Being inside the transition means being inside the development process. Hence, it is necessary to enlarge the definition system usually used in the tradition of urban morphology.

### **Urban morphology in transition: a documentary on state of the art**

A first step into the paradigm of transition is to develop the theory of the masters of urban morphology, reconstructing the main point and looking over new possibilities. The documentary “Urban Morphology in transition”, presented during the round table of ISUF Glasgow 2021, has the aim of opening the discussion started inside the “Transitional Morphology” Joint Research Unit around the concepts of “topography”, “typology” and “tectonics” between West and China. Five of the leading exponents of the contemporary morphological school, Victor Oliveira, Sylvain Malfroy, Attilio Petruccioli, Chen Fei and Tim Stonor, have contributed to the construction of the debate around the future of the contemporary city by exploring the

origins and possible innovations of the morphological school nowadays. Each of them provides a specific point of view, reconstructing the path for a possible new paradigm. Firstly, a general overview of the state of art within ISUF and the morphological tradition of Vitor Oliveira allows us to understand what may be the points of support for the development of new paradigms. Sylvain Malfroy's studies on the Italian tradition and Attilio Petruccioli's experiments in applying urban morphology to Middle Eastern contexts underline the versatility of an approach that looks at the city as a *unicum*. The explorations and appropriations in the Chinese context of the type-morphological principles of the European school with Chen Fei and the investigation of new generations of typological maps through the use of Space Syntax by Tim Stonor open up the classical method to new challenges. The fundamental contribution of this kind of documentary allows making explicit how the morphological school is in continuous change and ready to go beyond. The goal of recreating a knowledge base on theory and methods allows the terms “topography”, “typology” and “tectonics” to be placed within a state of the art of discipline.

Talking about tradition does not mean to be anchored to it. The roundtable “TYPOLOGY, TOPOGRAPHY, TECTONICS. Urban forms in transition” of ISUF Glasgow 2021, starting from state of the art carried by the documentary, was the occasion to discuss the epistemology of the terms “topography”, “typology” and “tectonics”. On this occasion, Giuseppe Strappa referred to these three words from the pure Muratorian school's point of view, looking at 2023 as an important recurrence for the Italian master Saverio Muratori and Gianfranco Caniggia (respectively in the 50th year after his death and in the 90th year after his birth). At the same time, DING Wowo, director of the Chinese Network of Urban Morphology (CNUM), clarified how much research in China and Asia has a debit toward the western approach on urban morphology and, in particular, on these three themes with the possibility of implement methodological research toward the innovation of young researchers. Once again, the attention on the international debate moved from a historical perspective of studying the great masters' theories to developing practical alternatives to face the following challenges of urban morphology. In his experience, Nicola Marzot gave a glimpse of a strategic reading of the epistemological approach of “topography”, “typology” and “tectonics” for operational (design) challenges. As stressed by BAO Li, it became essential to focus on the design horizon of the research that Transitional Morphologies JRU is carrying between China and Italy, Nanjing and Turin.

### **Nanjing 2023: an international forum on urban form**

Exchanges in the ISUF environment raised questions on the epistemology of the words “topography”, “typology” and “tectonics” and their close relations, opening up possible discussions and above all a general epistemological framework for a conference in Nanjing 2023. Following the roundtable, the importance of the three terms inside the continuous process of changing of the contemporary city defines “topography”, “typology” and “tectonics” as a valid point to improve morphological thinking.

The first ISUF Congress in China was held in Guangzhou in 2009 (Urban morphology and urban transformation). The last one was held seven years later, in 2016, in Nanjing (Urban morphology and the resilient city). Thus, Nanjing 2023 will be seven years after the last one and seven years before the year 2030: that will be an important deadline for global economics, society, culture and scientific knowledge. For China, 2030 is the perspective of the possible development path; for Europe, 2030 is the horizon of the new science and technology research program; for UNO, 2030 is the given term to reach a series of sustainable goals.

### **Semantic field reconstruction**

The limit of a theory made looking at the static part of the city, and the potential of being explored with new tools and methods redefine the boundary of the research on the urban morphology field. The practical outcomes will need to face the fast-changing process of the contemporary city. In a “transition” era (towards 2030), it is possible to keep the traditional meanings of “topography”, “typology” and “tectonics” or it is necessary to re-write their semantic field? Is it enough to develop a theory basing the new output on a system of definitions routed on a different epistemological conception of the word? The conference to be held in Nanjing in 2023 will help answer some questions about the city's transition.

In this context of reformation, it may be important to offer the urban morphologists’ worldwide community the opportunity to put the effective consistency of human settlements at the core of its considerations in previewing the horizon of the year 2030’s expectations. Nanjing 2023 stands within a well-defined field of action (topography, typology, tectonics and transition standing alone and linked with each other). Thus, the conference has not just the aim of committing to redefining the terms of research, but it will stand like a bridge between Western and Chinese ways of looking at the city of tomorrow.

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