ABSTRACT

Albeit somewhat slowly, since the early 2000s urban morphological concepts and methods have germinated interest among urban morphologists in both China and Chinese-speaking researchers internationally. Early exploratory projects have focused on the re-examination, integration and cross-cultural transferability of urban morphology in the context of China. Building on the successful organisation of the 16th International Seminar on Urban Form (ISUF) in Guangzhou in 2009, ISUF’s first meeting in Asia, a group of scholars conferred at the School of Architecture and Urban Planning, Nanjing University on 31 October 2013 to inaugurate the Chinese Network of Urban Morphology (CNUM). Over the course of the past decade or so, the CNUM has become a key contributor and driving force for the development of urban morphology in China. As a reflection on the recent wave of morphological research on Chinese cities, the purpose of this article is to provide greater clarity on what has been achieved through the cross-cultural application of morphological theory. More importantly, it explores potential avenues for future research in relation to documented gaps and remaining challenges, taking forward some of the more promising but undeveloped morphological thinking.
RESEARCH ON CHINESE URBAN FORM

The study of the physical form of cities has until recently developed largely independently in China. The field of knowledge concerned with urban form has in many respects been as distinct as Chinese cities themselves were until the twentieth century. Traditional approaches to urban form research tend to emphasise the importance of historical and archival analysis that involves elements of discovery and description. Researchers often use a retrospective review of documentary records, historical paintings and gazetteers to understand the philosophical and political expressions in physical urban patterns and represent them in the form of diagrams and maps. Research on urban form in China is largely descriptive, evocative of the rich traditions in local philosophy and China’s differing regional values. However, the lack of a systematic methodological framework is likely to limit opportunities for such an approach to be widely disseminated and recognised by international scholars.

Since the 1980s, there has been increasing contact between Chinese and Western scholars generally and research on Chinese urban form has grown rapidly both in China itself as well as other parts of the world. It has become apparent that research on Chinese urban form can benefit from exploring the efficacy of concepts and methods developed and applied elsewhere in the world. Alongside the ongoing traditional urban form research, the introduction and application of international urban form theory in Chinese cities has attracted considerable research attention. Notably, a large component of urban form research focuses on the quantitative analysis of urban form and urban morphometrics.

China’s rapid urbanisation since the 1990s has raised new practical and theoretical questions. Urban morphology is expected to provide much-needed theory and a set of tools for addressing these questions. In 2001, a paper entitled ‘Urban morphology: an introduction and evaluation of theories and methods’ was published in the journal City Planning Review. ¹ It is one of the earliest readings in urban morphology in the Chinese literature. Urban morphological studies have since undergone marked growth in China, especially since the beginning of the twenty-first century.²

THE URBAN MORPHOLOGY RESEARCH GROUP AT BIRMINGHAM UNIVERSITY, ISUF AND THE CHINESE NETWORK OF URBAN MORPHOLOGY

Jeremy and Susan Whitehand from the University of Birmingham were very instrumental in the formation and development of the Chinese Network of Urban Morphology. Since the 1990s, in an attempt to build bridges between East and West, the Urban Morphology Research Group at the University of Birmingham
has been joined by a number of Research Fellows from Japan, Korea and China. Some early Asian members of the Urban Morphology Research Group include Shigeru Satoh, Kwang-Joong Kim, Kai Gu and Yinsheng Tian, whose morphological research work has stimulated interest among international researchers. With the support of the British Council, the British Academy, and the Economic and Social Research Council (ESRC), a series of exploratory projects based on the cross-cultural application of morphological theory in Chinese cities was carried out. Led by Jeremy Whitehand, this new wave of morphological research highlighted fundamental differences in the historical development of urban areas in China. A number of these studies adopt an adaptive approach to the Chinese urban landscape that is closely linked to town-plan analysis.

Although ISUF already had some 300 members by the early 2000s, only a handful were from the Far East, where the challenges faced by urban planning are in many respects even greater than in Western cities. However, the dynamic research activity led by Jeremy Whitehand in China stimulated the development of a morphological group involving researchers in Beijing, Shanghai, Guangzhou, Nanjing and Wuhan. In September 2009, about 220 scholars and practitioners from 26 countries attended the Sixteenth International Seminar on Urban Form in Guangzhou. Centred on the theme of urban morphology and urban transformation, many of the conference papers presented recent developments in the study of urban landscapes that are of interest to architects, planners and geographers. The success of the conference reflected the increasing focus on spatial analysis of urban form and its significance for urban planning and design practice. The Guangzhou conference, the first organised by the International Seminar on Urban Form in Asia, reflected the growing research interest in Chinese cities at a time of unprecedented growth and change.

Urban morphological studies have undergone marked growth in China since the Guangzhou conference. Building on new research outputs, a group of scholars conferred at the School of Architecture and Urban Planning, Nanjing University on 31 October 2013 to inaugurate the Chinese Network of Urban Morphology (CNUM). Chaired by Wowo Ding, the inaugural seminar was attended by scholars from six Chinese universities (Nanjing University, Peking University, South China University of Technology, Southeast University, Tongji University and Xi’an University of Architecture and Technology) as well as Jeremy and Susan Whitehand. The members of CNUM agreed that 1) there is a need to establish urban morphology as a core theory for urban design; 2) the findings of urban morphological research need to be utilised more efficiently in practice; and 3) it is essential to build up an integrative framework of urban morphology, taking into account the multilingual international forum within which urban morphological research and practice now functions. Over the course of the past
decade or so, the CNUM has become a key contributor and driving force for the development of urban morphology in China. The number of Chinese members of ISUF has also increased significantly in the past decade, with over a quarter of participants at recent ISUF conferences being Chinese speaking researchers.

**URBAN MORPHOLOGICAL RESEARCH ON CHINESE CITIES: A REVIEW**

**Extending the compass of morphological theory**

Most studies developed by Jeremy Whitehand, Susan Whitehand and their associates examine the application of town-plan analysis in the Chinese context. Recent developments in cartographical sources have been essential for facilitating this new exploration and depiction of the changing morphological structure of the Chinese historical urban landscape. Town-plan analysis is essential to reveal the interrelationships between the basic urban form complexes of the ground plan, building form and land utilisation, in particular in a more authoritarian society characterised by major differences in the precepts influencing settlements. It provides an important method for reconstructing the fundamental aspects of urban landscapes and helps underpin an approach to their regionalisation and management. The field-based research carried out by the Whitehands and their associates extends to a number of Chinese towns and cities, including large cities such as Beijing, Shanghai, Guangzhou, and Nanjing, as well as some relatively remote settlements in Shanxi and Henan.

Their research reveals that in many Chinese cities, most components of the street plan and many from its plot pattern are products of planned schemes. These systematic form complexes act as morphological regulators, and the ground plan exerts an influence on the geographical organisation of urban life. The symbolic urban landscape and its relationship with the ordinary landscape are significant in shaping the character of Chinese cities. While the morphological periods of Chinese cities prior to the early 20th century are not clearly distinguishable, distinctive material forms have been created in the economic, social and cultural periodicities since 1911. Town-plan analysis of Chinese cities, which diversifies and complements the established body of knowledge on Chinese urban form, is novel and ground breaking.

**Applied urban morphology**

Applied urban morphology has been developed in several areas of planning and design practice, notably urban conservation, urban design, and urban coding and planning. Recent research work has focused on strengthening morphological research and conservation planning and this has been
achieved through the active promotion of inter-disciplinary and international cooperation. Most of all, this research offers ways of resolving the tension in China between the need for cultural continuity and physical conservation on the one hand, and accommodating the physical changes demanded by major economic growth on the other.

In recent times, particularly since the mid-twentieth century, there has been increasing attention given to conserving aspects of the character of places. Much attention has focused on what parts of urban areas should be conserved, whether that be for their local, national or international significance. However, decisions on this are far from being well informed. Investigations into what should be conserved are frequently ill-supported by basic research in relevant academic disciplines and the absence of a sound theoretical foundation is a major problem in urban conservation planning. In conjunction with urban conservation research and practice in other parts of the world, the new studies in China provide an informed understanding of the urban landscape to support the formulation of process strategies for achieving both valued spatial-temporal and representational outcomes.

Towards enhancing the practicality of urban redevelopment management, Yinsheng Tian explores the idea of urban management units. He argues that the identification of property ownership units not only reveals the effects of planning decisions on landscape forms, but also helps to identify effective strategies for urban redevelopment control. Combining, or integrating, maps of character areas and property ownership units yields urban management units for the purpose of more accountable redevelopment control guidelines. The results of the subsequent projects underpin a theoretical, technical and practical basis for significant improvements in the quality of historical conservation programmes, locally, nationally and internationally.

**Comparative urban morphology**

Comparative urban research has been recommended as an effective approach to overcoming the problem of idiographic studies in which particular findings fail to yield useful generalisations. Recent comparative research compares traditional urban form in China and Europe. Such studies attempt to integrate analytical and illustrative comparisons and provide explanations of particular urban landscapes by recognising critical differences between similar situations and identifying salient processes that occur in different settings. Examples are studies comparing the residential morphological and typological processes of Shanghai and England, and the traditional urban form of Pingyao, China with that of Como, Italy.

The significance of developing a more integrated approach that combines urban morphology and architectural typology has become increasingly apparent to urban morphologists since the 1980s. Although the term of ‘typo-
morphology’ began to appear more frequently in the literature published in the English language in the past two to three decades, research on the way in which geographical urban morphology and architectural typology can be integrated remains very limited. Whitehand et al. focus on a cross-cultural assessment of the research ideas – the ‘typological process’ and ‘morphological period’. Based on an investigation of the evolutionary processes of residential building types in study areas in the UK and China, they seek answers to two research questions – To what extend can the concepts ‘typological process’ and ‘morphological period’ be empirically verified?; and, In what way can the concepts ‘typological process’ and ‘morphological period’ be integrated to better explain the course of changes in the urban landscape? This project can be seen as an exploration of opportunities and difficulties in integrating morphological and typological thinking. Many more comparative studies, including between East and West, are needed if the typological and morphological concepts are to provide the intellectual returns of which studies so far suggest they are capable.

The paper comparing Pingyao and Como tackles the challenges facing development control in the historic urban environment in China and Italy. Based on an understanding of the dynamics of morphological processes, the authors propose that more effective planning and design strategies are important for urban socio-cultural development. It is the first comparative examination of urban fringe belts in China and Europe, and the first detailed study of its kind in the literature. It therefore breaks new ground as a contribution to the comparative study of urban form at various spatial scales across vastly different cultural realms. The research concludes that although East and West are very different, the same ideas and methods can help inform planning in both realms.

Geospatial analysis and urban morphology

The rapid advances in geospatial technologies and their increasingly wider availability in urban management environments has led to enhanced techniques for morphological and typological research, and therefore the opportunity to fully transform intellectual ideas into operational tools for conservation planning. More articulated and integrated applications of GPS and GIS in urban morphology are increasing its practicability for regular use by city managers and planners in urban landscape management. Over the past decade, much has been gained from technological advances in remote sensing and the establishment of a GIS database in China. With advanced techniques for remote sensing and geographic information systems, geospatial technology has become pivotal to more comprehensive morphological analysis.

Supported by the Natural Science Foundation of China, Chinese urban morphologists have explored the use of geospatial technology, in particular Global Positioning Systems (GPS) and Geographical Information Systems (GIS), for morphological data collection, analysis and synthesis. Specialized GPS
and GIS enable precise field data to be assembled for metrological and statistical analysis. Nanjing, the capital city of Jiangsu province was selected for Xu’s study. Like many historical Chinese cities, Nanjing is undergoing rapid transformation, and this presents great challenges for urban landscape management. The initial findings of the study suggest geospatial technologies have the potential to provide a new framework for researchers and professionals to leverage geographic information and prepare plans that more closely follow established systems.

**The making of the Chinese urban landscape**

The epistemological framework of urban morphology, which is essential for generating knowledge in the field, has not been adequately explored. In order to address the challenge of clarifying the operational aspects of urban morphology in empirical studies, especially in a cross-cultural context, and strengthening the link between urban morphology and non-Western urban theories and practices, Ye Li offers an integrated epistemological framework based in both Western and Chinese landscape traditions.

Urban morphology has its antecedents in landscape research. The three epistemological orientations of urban morphology reflect its link to the idea of landscape as follows: 1) structural study to reveal the spatial patterns of the urban landscape, 2) morphogenetic analysis to investigate the morphogenesis and subsequent changes of the urban landscape, and 3) a unifying perspective that combines structural and morphogenetic studies for morphological research and practice. By clarifying the structural, morphogenetic and unifying perspectives of urban morphology, its epistemological framework can be extended and reintegrated to form the basis for a more culturally sensitive approach to diverse urban contexts. Understanding differences in the representation and interpretation of landscape is particularly important in the cross-cultural exploration of the morphology of Chinese cities. Instead of seeing landscape as a science, the Chinese sense of landscape is as an accumulation of collective knowledge and experiences associated with everyday life, thus germinating a system consisting of correlative, generative and holistic views of its formation and changes.

Despite the differences between the Western and Chinese landscape traditions, bridging these two knowledge systems is essential for the development of urban morphology in the study of the Chinese urban landscape. Building on the ideas discussed above, a more integrated morphological framework for Chinese cities includes three components: structural-correlative, morphogenetic-generative and integrated analyses. Its use is illustrated in an investigation of the historical urban area of Guangzhou: the structural-correlative study maps the urban growth and dominant urban-tissue types over different morphological periods; the morphogenetic-generative investigation reveals the evolutionary
process of basic urban-tissue and building types; and the integrated perspective discusses the acute challenges and opportunities facing the management of Chinese urban landscape change and the application of morphological research in planning practice. These three perspectives are inextricably intertwined in understanding the landscape in China.

**Recent morphological research on Chinese cities: Retrospect and prospects**

The recent advances in morphological research on Chinese cities not only make a timely contribution to the search for solutions to China’s acute planning problems; they also add a much stronger Chinese dimension to international efforts to promote innovative planning. With regard to the development of a future research agenda, a number of considerations merit attention. First, the link between urban morphology and urban design remains weak. Second, the study of the relationship between urban morphogenesis and sustainability is underdeveloped. Finally, operational aspects of urban morphology in empirical studies require greater clarity, especially in the cross-cultural context.

Urban design and place-making have become important tools for driving urban development that is responsive to the needs of both local communities and tourists. They make use of existing elements and also create additional elements, as needed, for reconstructing spatial unity and continuity. The adoption of inclusive urban design and place making practices that are based on an understanding of the evolutionary process of places can strengthen the connection between people and places, and between old and new structures. More strategic, holistic urban design and place-making strategies that engage all stakeholders can enhance place identity and character and help avoid repeating the development experience of larger cities. Unfortunately, the potential of morphological urban design and place-making has not been made clear in planning. Although urban design is deemed to be diverse, a great deal of its practice is essentially concerned with the manipulation and control of the three interrelated urban form elements—the ground plan, building fabric, and land and building utilisation. The morphological study of the characteristics of urban form elements as the product of urban development processes is essential to support the formation of design control policy and development plans that contribute to urban spatial continuity and integrity.

There has been a divide between built and natural landscape research. This undermines the pursuit of sustainable development. The link between landscape ecology and urban morphology is largely overlooked, but has the potential to strengthen urban sustainability. The idea of morphogenesis in geographical urban morphology is particularly promising for bridging landscape ecology and urban morphology through disclosing the physical manifestation of the ‘genesis’ or ‘engendering process’ of landscape forms. When environments are built by morphogenesis they will, of their own accord, become sustainable.
Among strategies for dealing with issues of sustainability, morphogenesis alone can help deal with all such issues. This approach will reorient all our efforts, and achieve the deeper agenda of the sustainable movement, in a form that is more profoundly satisfying and more in keeping with our social and cultural aspirations. This idea that we all know of, however, requires clearer elaboration and empirical support.

The operational aspects of urban morphology in research and practice require greater clarity. Research in urban morphology is heavily reliant on both direct observation of urban forms and various representations of those forms – for example, in maps and plans. The nature of the existing sources poses constraints and opportunities for morphological research in a different cultural context. Accordingly, the pursuit of diverse purposes and variations in different levels of resolution require adaptability in morphological research and practice. Adaptability is a necessary quality in the ever-changing work environment that is urban morphology. China has very limited cartographical sources for the detailed examination of the historico-geographical development of urban landscapes. Systematic field surveys and other sources of information have therefore been particularly important in compensating for the limitation of historical and new cartographic sources.

CONCLUSION

In the 1980s, MRG Conzen noted the significance of inter-disciplinary and international co-operation to the creation of an ultimate frame of reference for the comparative studies needed to develop and further conceptual thinking in urban morphology. Albeit somewhat slowly, over the course of the past two decades or so, the new morphological exploration in China is responding to that advice. The morphological investigation of Chinese cities has diversified and complemented the established body of knowledge on Chinese urban form, and been a major source of inspiration for subsequent morphological studies.

The amount of research to date on Chinese urban morphology is tiny relative to the extent of Chinese urbanisation. However, it provides the groundwork for future research that can potentially integrate important facets of urban form research within a wider international framework.

This new morphological research contributes to bridging particular findings and theoretical generalisations. In the words of German geographer Albrecht Penck – ‘When you see the particular, look for the general’. In other words, when you see a particular case of something, consider the more general processes and ways of thinking about the world to which it may be related. Much of the new morphological exploration demonstrates the active pursuit of theoretical conceptualisation. And in urban morphology, conceptualisation is based on comprehensive data gathering and analysis.
Jeremy and Susan Whitehand played a key role in the rapid growth of the Chinese Network of Urban Morphology. The success of the network as an academic forum for sharing new thought and action in China would not have been possible without their dedication and guidance. Jeremy and Susan Whitehand’s enthusiasm and curiosity for urban morphology were infectious, and a major component of their and their colleagues’ scholarship. They sowed the seeds for Chinese urban morphology. What they have planted will continue to grow.


BIBLIOGRAPHY


Wowo Ding, Kai Gu, Yinsheng Tian


**KLJUČNE REČI:** URBANA MORFOLOGIJA, KINA, MEĐUKULTURALNO POREĐENJE, ANALIZA PLANA, PLANIRANJE

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Todor Stojanovski, Akkelies van Nes, Jenni Partanen, Sofie Kirt Strandbygaard, Abdellah Abarkan

Urbana morfologija se definiše kao istraživačka oblast koji predlaže metode i alate za analizu i projektovanje gradova. Nordijska mreža urbane morfologije (NNUM) je osnovana 2006. godine kako bi doprinела promociji i širenju urbane morfologije kako na nacionalnom nivou u Švedskoj tako i u ostalim skandinavskim zemaljama. Morfološka istraživanja u Skandinaviji prate tri istraživačke tradicije: prostornu analizu, tipomorfologiju i prostornu sintaksu (space syntax). Postoji vekovna istraživačka tradicija povezana sa geografskim analizama gradova i regionalne nauke u Švedskoj, Finskoj i Danskoj, tipomorfologijom u Švedskoj i aktivnim space syntax grupama u Švedskoj i Norveškoj koje se povezuju sa pojedinačnim istraživačima širom Skandinavije. Ovaj rad mapira naučnike i grupe na univerzitetima koji slede i integrišu ove tradicije. U radu se razmatra najnovija morfološka istraživanja u Skandinaviji i takođe se reflektuje na budućnost morfoloških istraživanja u Skandinaviji posmatrano u odnosu na način na koji se skandinavski gradovi uklapaju u svetski obrazac urbanog razvoja i dominantne paradigme planiranja. U skandinavskim zemljama tradicija se sukobljava sa modernizmom i funkcionalizmom, ali istorija nikada nije bila potpuno ostavljena po strani. Oni imaju tendenciju da se neprestano mešaju.

**KLJUČNE REČI:** URBANA MORFOLOGIJA, URBANA FORMA, SKANDINAVIJA, ISTRAŽIVAČKA MREŽA, MORFOLOŠKE ŠKOLE