RESEARCH PERSPECTIVES OF THE TURKISH NETWORK OF URBAN MORPHOLOGY

ABSTRACT

For the last decades, interest in urban morphology studies has increased in Türkiye. Urban morphology has become a widespread study field within the quantitative and qualitative track of urbanism to investigate further the character of Turkish cities and their urban fabric. Aiming to make urban morphology an independent and interdisciplinary research field, the Turkish Network of Urban Morphology (TNUM) was founded in 2014 as a remarkable development. The main objective of TNUM is to create a common platform for urban morphology studies and to develop national/international collaborations. For this purpose, TNUM held several academic events to increase the impact of the discipline of urban morphology. In this context, TNUM organised three national urban morphology symposiums; Mersin (2015), Istanbul (2018), and Ankara (2021), and the next event will be held in Konya in May 2023. Within this perspective, the primary intention of this research is to analyse the urban morphology studies in Türkiye contextually through the specified themes of the past three symposiums. It also aims to present the activities of TNUM for the last decade to propound the current morphology discussions in Türkiye. Eventually, the research will provide a comprehensive evaluation of the morphology studies by discussing possible further directions.

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INTRODUCTION

Similar to other countries, the study of urban form in Türkiye has been explored through various disciplines such as archaeology, architecture, urban design, urban planning, geography and urban history. Before establishing the Turkish Network of Urban Morphology (TNUM), a literature review shows that significant research on urban form was conducted by architects and planners who mainly used a typo-morphological approach. Meanwhile, urban geographers and historians focused on the examination of urban form in relation to its underlying evolutionary factors. However, until recently, it was not the primary focus of these disciplines. Only now, urban morphology is emerging as a distinct research field acknowledged and recognised by the broader academic community in Türkiye.

With the establishment of TNUM as one of the regional networks of the International Seminar on Urban Form (ISUF) in 2014, there have been significant contributions in acknowledging the importance of urban morphology as a discipline and research area, as well as the dissemination of urban morphology courses in universities. The Urban Morphology course was first given as a compulsory course in the Interdisciplinary Urban Design Master’s Programme at Istanbul Technical University in 2003. Since then, urban morphology courses have become part of the curricula in the architecture and urban planning departments of several universities in Türkiye at both the undergraduate and postgraduate levels. Academic events and organisations of TNUM have resulted in interest in morphological studies, including graduate and postgraduate studies and research projects, and the changing dynamics and morphological characteristics of Turkish cities have further intensified this interest by offering potential case areas.

From this perspective, the primary purpose of this article is to exhibit a contextual analysis of urban morphology studies, explicitly focusing on specified sub-themes of the past three National Urban Morphology Symposiums in Mersin, Istanbul and Ankara, respectively. In addition, the article aims to present the recent progress in the field of urban morphology through the activities of TNUM and to open up a new discussion on the future of urban morphology research in Türkiye.

This research is composed of five consecutive parts. In the Introduction, we identify the frame of the research as well as propounding the objectives and scope of the study. In the second part, TNUM: roots, objectives and activities, we explain the general characteristics of TNUM and its activities and organisation. In the following section, A Synopsis of National Urban Morphology Symposia, we detail the local morphology symposiums by touching upon symposium activities and themes. In the fourth part, Analysis of Urban Morphology Studies in TNUM Symposia, we present the contextual analyses of local symposiums and provide general evaluations of urban morphology studies in Türkiye. As a last part, in conclusion, we make
generalised comments on the process by referring to the future directions of urban morphology research in Türkiye.

2. TNUM: ROOTS, OBJECTIVES AND ACTIVITIES

2.1. Establishment of TNUM as a common platform for urban morphology studies

There has been an increase in research and thesis studies on urban morphology in Türkiye in recent years, leading to a growing interest in the subject as a field of study. In this framework, TNUM, which is one of the regional networks of ISUF, was established to create a common platform for sharing and deepening the pioneering studies conducted and developing national/ international collaborations in urban morphology.

The establishing workshop of TNUM was held at the Faculty of Architecture at Mersin University on April 11, 2014, and hosted by the Mediterranean Urban Studies Center, with the participation of 16 researchers and academicians from 7 universities in Türkiye. As a result of the workshop, the Board of Directors for TNUM was formed by the researchers who participated in the establishment workshop under the chairmanship of Ayşe Sema Kubat from the Department of City and Regional Planning at Istanbul Technical University with the assistance of Tolga Ünlü, the director of Mediterranean Urban Studies Center at Mersin University. Since its foundation, TNUM has played a crucial role in the growth of research and publications on urban morphology and encouraged researchers to explore the morphological transformations in cities from Türkiye and other countries, utilising diverse methods and approaches.

2.2. Research and Publications

After the establishment of TNUM, as well as the papers with Turkish authors in the Urban Morphology journal, various kinds of research on urban morphology also published in other national and international cited journals, such as the special issue of the Built Environment and ICONARP in which there were contributions from all over the world.

In the graduate programs of universities, historical, cultural, social, ecological, and spatial changes and transformations in the urban form are being studied through various perspectives and methods in which the focus is on parcel, building, and street configurations in general, such as space syntax, Conzenian concepts namely fringe belts and morphological regions, and Muratorian and typo-morphological approaches at the architectural scale.

2.3. National and International Visibility

2.3.1. National Urban Morphology Symposiums
TNUM has held several academic events with the aim of enhancing the potential collaboration among researchers with different backgrounds, increasing the national and international visibility of the research network, and contributing to the local literature. In this respect, three national urban morphology symposiums, as the primary events of TNUM and the focus of this article, started to be regularly organised in several universities and cities; Mersin (2015), Istanbul (2018), and Ankara (2021), respectively, following the establishment of the network in 2014. The next symposium of TNUM will be held in the Department of City and Regional Planning at the Faculty of Architecture and Design at Konya Technical University in May 2023.

2.3.2. Urban Morphology Talks

Since 2022, Urban Morphology Talks, also known as “Kentsel Morfoloji Konuşmaları” in Turkish, have been organised as a monthly virtual event, primarily aiming to allow young researchers who study in the field of urban morphology to share their work to encourage new researchers, and to discuss different morphological research approaches. In the event, five contributions have been held so far, where local and international researchers have presented their work based on various morphological elements and methods. Urban Morphology Talks are also available on TNUM’s YouTube channel.3

2.3.3. International Seminar on Urban Form (ISUF)

Although the participation of Turkish researchers in ISUF conferences, which have been hosted by universities from different countries since 1994, was few until the establishment of TNUM, especially beginning with the conference held in Porto in 2014, there has been considerable participation of Turkish researchers in the conferences. According to the Interim Report on the Membership Structure of ISUF 2022, nearly 80 Turkish researchers presented papers at conferences between 2014 and 2021.

2.3.4. Contribution to Marmara Urban Forum (MARUF)

As well as ISUF conferences, since 2019, TNUM also plays a role in the Marmara Urban Forum (MARUF),6 which organises an Istanbul-based international biennial on urban issues and is also supported by several international organisations such as UN-Habitat. In 2021, TNUM held a special session entitled “Cities: resolved – urban morphology for better planning and architectural practices” with the contribution of speakers from ISUF and TNUM.

2.3.5. Urban Morphology Glossary

One of the latest focuses of TNUM is the translation of the Urban Morphology Glossary created by Larkham and Jones7 and published by ISUF into Turkish for strengthening the knowledge contributions of local researchers in the urban morphology literature in terms of concept and terminology. The glossary translation aims to present both the definitions of the concepts in the current
literature and suggestions for how the terms should be used in Turkish. Also, the Glossary Space Syntax and local concepts related to the city form are planned to be added to enrich the Turkish glossary.

3. A SYNOPSIS OF NATIONAL URBAN MORPHOLOGY SYMPOSIA


Within approximately a year following the Foundation Workshop, the first symposium of TNUM was organised by the Centre for Mediterranean Urban Studies at Mersin University. The symposium, which was held on 22-23 October 2015, provided a basis for bringing urban morphology research and practices in the fields of urban planning and urban and architectural design together with the theme of “Fundamental Approaches and Techniques”. The symposium allowed room for the presentation of 35 research projects carried out by 56 participants from 19 different universities. The research enhanced the content of the symposium by offering diversity with varying sub-themes, including different methods and techniques in urban morphology, urban growth and fringe belts, the history of urban form, public space and spatial perception, morphological agencies, typo-morphology and space syntax.

Prior to the presentation of the participants on the first day of the symposium, special sessions were held by different professors on significant research in order to make a start on further discussions. The first session was carried out with the aim of presenting the transformation of the urban development, plot and building patterns of Mersin, the host city of the symposium. Within this session, the fringe-belt formation and modification processes and development cycles of Mersin, which was analysed through the historico-geographical approach and morphogenetic method was revealed. The second session, which embodied two different approaches to urban form studies, started with a discussion on the use of the space syntax method. The discussion was developed further by pointing out how to examine the relationship between the spatial organisation and social structures over wide-ranging sample cities from Türkiye. On the other hand, the combination of urban morphology studies with urban historical research from an international perspective was elaborated by exemplifying the cases of France and Britain.

Due to the special sessions and further discussions through the research presented by the participants, the first symposium of TNUM revealed how urban morphology is addressed in existing research and practices in Türkiye and gave clues about the potential of urban form studies as the subject of different disciplines. In addition to this, the symposium led to the decision-making processes regarding the prospective events and organisations which advanced the institutionalisation of TNUM and had a place in possible collaborations of researchers within TNUM and with other international networks as well.
3.2. Istanbul (2018) | II. Local Conference of the Turkish Network of Urban Morphology - “MetamorphoCity” | Changing City, Space and Form

The second symposium, which Ayşe Sema Kubat chaired on behalf of TNUM, was carried out at the Faculty of Architecture at Istanbul Technical University on 31 November - 02 December 2018. In order to emphasise remark on the radical morphological changes in the characteristics of cities, the theme of the conference was specified as “MetamorphoCity: Changing City, Space and Form”. The symposium was comprised of 13 sub-themes: Changing the morphological structure: Theory and techniques, urban morphology and planning/architecture/design, historical changes in urban form, macro-scale changes in the urban structure, urban growth and fringe belts, rural typology and its changing morphological structure, urban transformation and renewal, change and society, actors and administration, public space and social use of space, urban morphology and spatial perception, schools of urban morphology, methods of morphological analysis and quantitative analysis.

According to statistics, the second symposium in Istanbul received 118 abstracts from national and international institutions by expanding its participant audience after the first symposium in Mersin. Within the symposium, 56 approved research projects categorised under the above sub-themes were presented in two parallel sessions, and approximately 80 attendees joined the sessions.

Apart from the presentations of the participants, there were special sessions in which keynote presentations were carried out on each day of the symposium. In the opening session, the multi-layered structure and unique characteristics of Istanbul was identified by pointing it out as a potential and challenging case area for the application of the different methods of comparative analysis. In the second keynote speech, the regeneration process of Paris was clarified by putting emphasis on the Versailles Morphological School. On the following day of the symposium, two keynote speakers successively revealed the effect of morphological structure on the transformation process of the urban space. The last speech considered how urban tissue evolved from its origin till the design process with a focus on the effect of the Muratorian School on the field of urban morphology.

As an outcome of all the sessions, this symposium featured the development of a discussion on the morphological structures of cities that have undergone a process of change in line with different dynamics and enhancing the impact of TNUM in a broader perspective.

3.3. Ankara (2021) | III. Local Conference of the Turkish Network of Urban Morphology - “Urban Morphologies” - Multidimensional Perspectives to the Studies of Urban Form

Twenty-five years after the establishment of ISUF, the third symposium, which Cana Bilsel and Olgu Çalışkan chaired as representatives of TNUM, was
organised between 3-5 May 2021 with the collaboration of the Department of Architecture and the Department of City and Regional Planning at Middle East Technical University. The symposium with the theme of “Urban morphologies: multi-dimensional perspectives to the studies of urban forms” was carried out online with the purpose of emphasising the methodological, thematic, disciplinary and epistemological attributions of the field of urban morphology during the global pandemic of COVID-19. The attributions in question were discussed under the following five sub-themes: (1) diversity in urban morphology approaches, (2) interdisciplinary diversity and interaction, (3) methodological diversity, (4) contextual and problematic dimensions, and (5) pedagogical diversity. In this context, 69 papers were presented by 135 researchers from different backgrounds. Despite the limitations brought by the pandemic, the symposium successfully attracted a significant audience, a total of 462 individuals from Türkiye and abroad, who registered for the event via Zoom and watched the live broadcast on Youtube, which had over 6000 views.

In order to enlarge the main theme of the symposium, multiple keynote speeches were given as special sessions prior to the participant researchers by Ayşe Sema Kubat, Giuseppe Strappa, Peter Larkham, and Tolga Ünlü. At the beginning of the symposium, a comprehensive historico-geographical analysis of the urban development of Istanbul, from its early emergence as a Byzantine city to its rapid growth as a modern metropolis in the mid-twentieth century and beyond was provided. In the session, the necessity to plan for the fragile morphological characteristics of the city’s peripheries in its fast-paced urbanisation was emphasized, highlighting the importance of a planning perspective in this regard. The idea of a clear distinction between nature and architecture was challenged, and how design can consciously transform matter into the material was explored.

During the third day of the symposium, an in-depth evaluation of interdisciplinary and comparative approaches in urban morphology was provided by highlighting the potential and shortcomings for the further progress of this field. In the closing keynote speech, a framework for analysing the transformation of Turkish cities was offered with a focus on the effects of the actors involved in driving urban growth and the transformation processes.

In addition to speeches and presentations on the multi-dimensional approaches in urban morphology, the importance of collaboration among researchers from diverse backgrounds on enhancing the progress of TNUM was emphasised with a highlight on contributions to the local literature through the research within the symposium.

3.4. Upcoming symposium in Konya (May 2023) | IV. Local Conference of the Turkish Network of Urban Morphology - The Evolution of Urban Morphology: Past to Future, Theory to Practice

The upcoming symposium, which will be hosted by the Department of City and Regional Planning at the Faculty of Architecture and Design at Konya Technical
University, will take place between 31 May and 2 June 2023. The symposium, with the main theme of "The Evolution of Urban Morphology: Past to Future, Theory to Practise", will focus on the transformation of urban morphology from a historical and theoretical framework to practical applications. To this end, the symposium is expected to discuss the past, present, and future of morphology studies with the following six sub-themes: (1) the Evolution of urban morphology research: theory, technique, method and practice, (2) interdisciplinary relations and education in urban morphology, (3) the social context in urban morphology: public space, spatial perception, social use of space and actors, (4) the evolution of form and space at regional, urban and architectural scales, (5) the evolution of morphology in the face of changing conditions: economy, technology, climate change, natural disasters, war, pandemic etc., and (6) conservation of cultural heritage, historical cities and contemporary design.

4. ANALYSIS OF URBAN MORPHOLOGY STUDIES IN TNUM SYMPOSIUMS

In this section, we conducted several analyses to reveal the contextual fingerprints of TNUM local symposiums. To frame the analyses from the morphological perspective, we utilised Kropf’s taxonomy of approaches in urban morphology: typo-morphological approach, configurational approach, historico-geographical approach and spatial-analytical approach. Correspondingly, there are two levels of analyses: (1) integrated analyses of all symposiums and (2) particular analyses of each symposium. We also mapped the spatial distribution of conference papers based on the location of case studies.

4.1. Contextual analysis of symposiums

Up to now, TNUM has organised three national symposiums. By analysing each conference, we visualised the distribution of conference papers based on the themes and sub-themes (Figure 1). Accordingly, there are 160 papers in total, and each conference has a different weight on it respectively: I. National Symposium Fundamental Approaches and Techniques has 35 papers, II. National Symposium “MetamorphoCity” | Changing City, Space and Form has 56 papers and III. National Symposium Urban Morphologies - Multidimensional Perspectives to the Studies of Urban Form has 69 papers. One could argue that, with the increasing visibility of the TNUM, the number of papers in conferences has consistently increased from 2015 to 2021.

In addition to the general analyses of three TNUM National symposiums, we also classified all papers from a morphological perspective to represent the characteristics of each symposium as well as the overall distribution (Figure 2). In conducting this taxonomy, we utilised typo-morphological, configurational, historico-geographical, and spatial-analytical approaches to conducting this taxonomy. In this sense, 48% of all papers in three symposiums are in the
category of historico-geographical process. The configurational method has the second highest rank, comprising 22% of articles. The spatial analytical approach has 17% of all papers, whereas the typo-morphological process has 13%.

We also made the same analysis for each symposium. In this sense, at the First National Symposium, 69% of the papers are from the historico-geographical approach. The configurational approach follows with 23% of studies. The typo-morphological and spatial analytical approach constitute only 9% of all papers. Similarly, in the Second National Symposium, the historico-geographical approach has the largest share, with 45%, and the configurational approach is the second most popular category, with 25%. There is a remarkable increase in the spatial analytical approach comprising 23% of papers. On the other hand, the Typo-morphological approach has the least number of studies, with 7%. For the Third National Symposium, the historico-geographical approach has the most significant portion among all approaches, with 39%, although there is a sharp decrease. Surprisingly, the typo-morphological approach is second in popularity by leaping forward with 25% of studies. The spatial analytical approach and configurational approach share the same ratio by having 18% of papers.

To understand the spatial distribution of papers in all symposiums, we mapped a hotspot analysis based on the location of case studies in Türkiye. In this sense, we observed that most studies are concentrated in the central, western and southern parts of Türkiye (Figure 3). Among all papers, Istanbul stands out as the most preferred case area, with 39 studies. Ankara, with 12 papers, and Izmir, with ten papers, are the second most popular study areas, respectively. Adana, Konya, Mersin and Bursa followed these popular cities, while other cities were the subject of relatively few studies.

In particular, at the I. National Symposium Fundamental Approaches and Techniques, there were nine sub-themes, as indicated in the previous section. In this sense, a total of 35 pieces of research were allocated as follows among the sub-themes: Different Methods and Approaches in Urban Morphology - 4 papers, Morphological Processes in Historic City Centres - 4 papers, Urban Growth and Fringe Belts - 4 papers, History of Urban Form - 4 papers, Space Syntax in Urban Morphology - 4 papers, Urban Morphology Planning and Design - 6 papers, Urban Fabric - 3 papers, Changes in Urban Space and Actors - 3 papers and Special Session - 3 papers.

II. National Symposium “MetamorphoCity” | Changing City, Space and Form has relatively more participants, with 56 papers total. Accordingly, sub-themes of papers were: Changing Morphological Structure: Theory and Techniques - 4 papers, Urban Morphology and Planning/Architecture/Design - 4 papers, Schools Of Urban Morphology, Methods of Morphological Analysis and Quantitative Analysis - 8 papers, Historical Changes in the Urban Form - 13 papers, Macro-scale Changes in the Urban Structure and Rural Typology - 4 papers, Urban Growth and Fringe Belts - 3 papers, Urban Transformation and Renewal - 4 papers, Change And Society, Actors and Administration
UP: Fig. 1. General analysis of three symposiums based on symposium themes.

DOWN: Fig. 2. Analysis of three symposiums based on different approaches in urban morphology.
4 papers, Public Space and Social Use of Space - 8 papers and Urban Morphology and Spatial Perception - 4 papers.

As the last symposium of the TNUM, III. National Symposium Urban Morphologies - Multidimensional Perspectives to the Studies of Urban Form has the most significant number of studies, with 69 papers. Five sub-themes are quantified as follows: Diversity in Urban Morphology Approaches - 11 papers, Interdisciplinary Diversity and Interaction - 14 papers, Methodological Diversity - 16 papers, Contextual and Problematic Dimensions - 24 papers and Pedagogical Diversity - 4 papers.

4.2. Evaluation of current morphology discussions in Türkiye

With a rapidly increasing interest in the urban morphology agenda, it has evolved from Western-centred literature to a research field that includes developing countries and grows towards socio-culturally multiple and rich perspectives. In this sense, it is located within the urban morphology of a broad spectrum of subjects ranging from the historical architectural and spatial production processes to the functional, social and ecological character and shaping of the urban fabric. Furthermore, Geographical Information Systems (GIS) and the development of computational design methods make morphology a generative research field in addition to its analytical basis. Such new developments allow the knowledge domain of urban morphology to extend from actual urban forms and structures to the rule-based and algorithmic world of abstract geometry and increase the strength of the methodical basis of spatial research for the future.

This trend is also paralleled when the studies participating in the three local symposiums organised by the TNUM are analysed. Additionally, it should be noted that this diversity of focus observed at the international level has found its counterpart among researchers in the field of urban morphology in Turkey in the national context. The thematic diversity revealed by the studies in the symposiums indicates the existence of problematic areas that the field of urban
UP: Fig. 4. Analysis of I. National Symposium based on symposium themes

MIDDLE: Fig. 5. Analysis of II. National Symposium based on symposium themes

DOWN: Fig. 6. Analysis of III. National Symposium based on symposium themes
morphology will open up with new research in the near future. The research findings, which have been opened to discussion in different urban and rural contexts, will be supported by further study, will increase the accumulation of knowledge on the shaping of historical and contemporary settlements in Turkey, and will provide a holistic perspective in this direction.

5. CONCLUSION

5.1. Recap of TNUM’s objectives, activities and future research directions

TNUM has organised several academic events and initiatives, including Urban Morphology Talks, Urban Morphology Glossary, and National Urban Morphology Symposiums, to provide a collaborative platform for researchers to share and exchange ideas on urban morphology, contribute to local literature, and develop the field of urban morphology at both local and international levels. The activities of TNUM are aimed at consolidating the research network through collaboration and emphasising the prominence of promoting local literature as equally crucial as sharing local studies with the global community.

As analysed in this article with a particular focus, the various studies presented at TNUM Symposiums indicate that urban morphology cannot be limited to a single field due to its diverse nature and context. In light of the necessity of interdisciplinarity, researchers from different fields, including urban planning and design, architecture, geography, archaeology, heritage and conservation, should address the morphological issues of contemporary Turkish cities at different scales and contexts.

5.2. Future of urban morphology research agenda in Türkiye

We expect that TNUM’s activities will focus on relations between disasters, especially earthquakes, and urban form in Türkiye as well as climate change, sustainability, rural landscape and smart cities, which are also on the primary agenda of the world primarily. It will be possible to reveal the side of an urban morphology that speaks to other disciplines by addressing the relationship of the urban form with different tools and data, with various studies that will be discussed from an ecological perspective, from carbon footprint to heat islands. On the subject of smart cities, which has become a prevalent approach as an effect of the rapidly increasing population in recent years, TNUM is attempting in the context of urban morphology to make cities resilient and sustainable in terms of the built environment, cultural, social and digital context.

Based on the analyses, one could argue also that quantitative methods in urban morphology studies have been handled more in recent years. When the trend of this tendency over the years, mathematical and statistical methods can be used more widely in future studies and current methods, such as machine learning models and artificial intelligence algorithms, can be associated with
urban morphology studies. Furthermore, since this will pave the way for interdisciplinary studies, we believe that new interdisciplinary cooperation will be bridged in the near future.

We also plan to examine the current concepts and methodologies in urban morphology, such as fringe belt formations in various cities of Türkiye, primarily to conduct research on the DNA or Urban CODEs of multi-layered historical urban patterns covering all of Anatolia. The devastating earthquake that affected 11 big cities in the south-eastern region of Turkey on 6 February 2023 and resulted in significant destruction has caused crucial losses in the unique cultures of cities which have existed since ancient times. A sub-group will also carry out a particular study on the urban form of victim cities to record and revive the disappearing urban memory of these cities in terms of socio-cultural, planning and environmental aspects by considering them morphologically. TNUM’s work will continue to support more young researchers and experts from different disciplines to collaborate and produce on the axis of urban morphology.

59. V. Oliveira, ed., Morphological research in planning, urban design and architecture (Cham: Springer, 2021)

1. Hoşkara et al. (2022) conducted an extensive analysis of the contemporary curriculum of the Architecture and City and Regional Planning Departments in Turkey regarding urban morphology courses.

2. Website of the ISUF can be reached at https://www.urbanform.org/regional.html

3. Special issue of the Journal of the Built Environment can be reached at https://www.ingentaconnect.com/content/alex/benv/2022/00000048/00000003

4. Special issue of the ICONARP can be reached at https://iconarp.ktun.edu.tr/index.php/iconarp/issue/view/18

5. The YouTube channel of the TNUM can be reached at https://www.youtube.com/@tnum_tr

6. marmaraurbanforum.org


8. Glossary Space Syntax can be reached at https://www.spacesyntax.online/glossary/

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KLJUČNE REČI: TNUM, TNUM LOKALNI SIMPOZIJUM, REGIONALNE MREŽE, ISUF, URBANA MORFOLOGIJA