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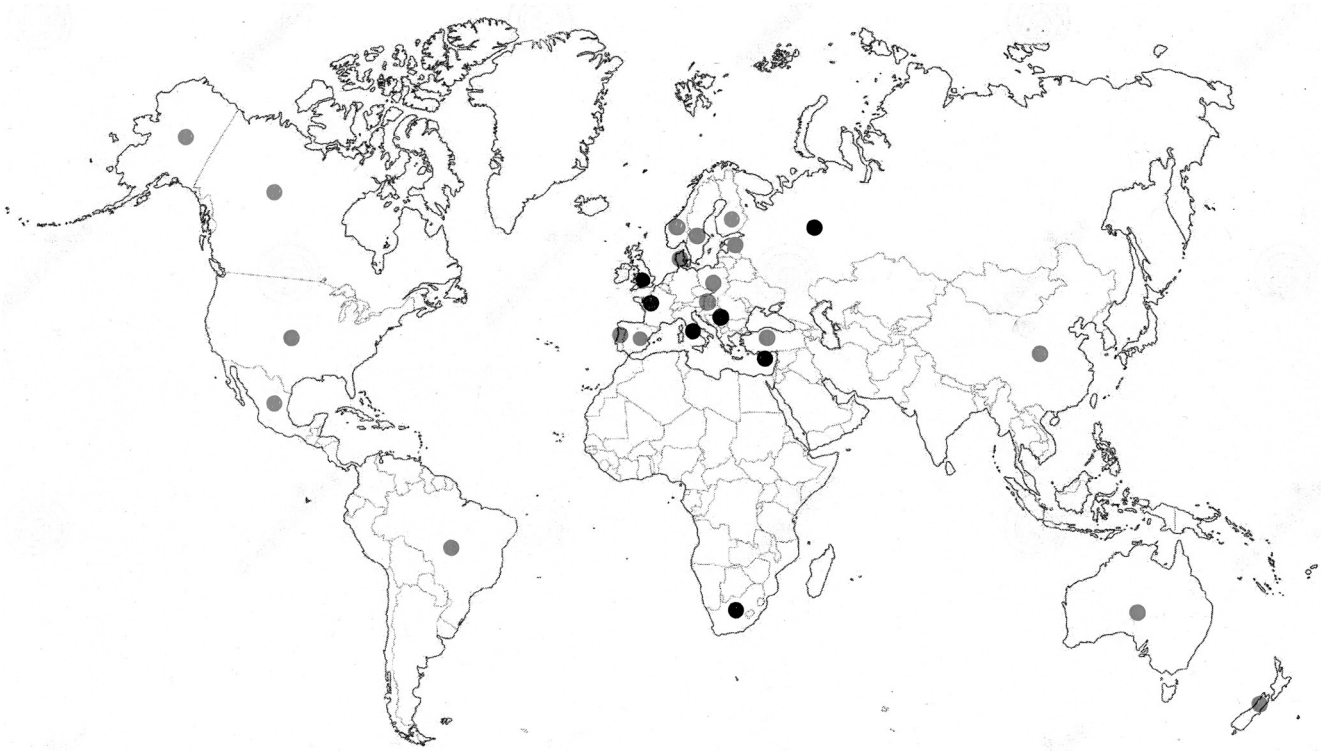

REGIONAL PERSPECTIVES ON URBAN MORPHOLOGY (ISUF2023)

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Editor in Chief: **Vladan Djokić**

EDITOR IN CHIEF NOTE

The year 2023 is very significant for the University of Belgrade. This year, the University is celebrating the 215th year of its long tradition, while at the same time the Faculty of Architecture, as one of its members, has the honor of hosting the 30th International Seminar on Urban Form conference (ISUF 2023). When the SAJ journal was first established in 2009, one of the initial papers focused on urban morphology (Morphology and Typology as a Unique Discourse of Research), highlighting important figures and morphological schools. Presently, I am fortunate enough to be editor in chief for two issues in which these very scholars have contributed by providing their insights on regional perspectives. Over the past fifteen years of Journal publishing, the Faculty of Architecture has diligently upheld the tradition of publishing valuable research in the field of architecture and urbanism. This longstanding practice has served as a platform for scholars and practitioners to share their insights and contribute to the advancement of knowledge in this field. However, the year of these three jubilees is a good place to reconsider and critically examine advancements and perspectives on urban morphology.

During discussions in the organizational committee meetings, we had collectively decided to focus the conference on the Praxis of urban morphology and SAJ special issue on Regional perspectives on Urban morphology, hopefully, yet unintentionally achieving a harmonious integration of these two. Consequently, the resulting journal issue serve as valuable testimonies reflecting a specific moment in time and various perspectives on urban morphology.

At the very end, it is important to mention the people who contributed substantively and procedurally during this process. Guest editor Ivor Samuels' dedicated work and extensive network of former students and colleagues worldwide greatly contributed to the valuable regional perspectives on urban morphology in this edition. Special thanks go to the ISUF2023 conference's organizational committee, particularly Aleksandra Milovanović, Mladen Pešić, and Aleksandra Djordjević, who collaborated with the SAJ editorial team in conceptualizing, preparing, and producing these two issues.

Guest Editor: **Ivor Samuels**

REGIONAL PERSPECTIVES ON URBAN MORPHOLOGY (ISUF2023)

The decision by the University of Belgrade - Faculty of Architecture to publish a special issue of the Serbian Architecture Journal (SAJ) completely dedicated to contributions from established and emerging or potential regional networks of ISUF was certainly ambitious given the considerable work load to which it was already committed by running the ISUF annual conference. There was also a concern that the volume of contributions might be reduced because the work load of potential authors might oblige them to choose between writing for the journal or submitting a paper for the conference. This was a reason for including a number of shorter viewpoint type articles which facilitated contributions by potential or emerging networks which did not have detailed programmes to report. In the event the response was remarkable such that this issue of SAJ has to be published in two issues. This introduction has been written for and refers to both volumes. The large number of submissions was in part due to the generosity of the SAJ editorial team in accepting them, in some cases, as late as two months after the original submission date.

Twelve full length, or nearly full length, papers were submitted together with four shorter papers. They cannot all be cited in this editorial but some general points have emerged which are worthy of comment. Cover figure shows the countries from which they originated or which they include in their discussions. There is a notable clustering of submissions from Europe, partly due to those countries being relatively small and close together compared to those on other continents. We are very pleased to have a South African contribution which is unique from that continent. In general, with the exception of Australasia and parts of South America, there is a lack of involvement with ISUF from the global south, in particular Africa and South Asia, where different urban histories and now rapid urbanisation and the growth of megacities must question the predominantly European base of the origins of ISUF.

This absence is also reflected in the very useful map of the origins of participants in the ISUF 2022 Conference published by Akanta et al (2023). However there may be some reasons for optimism since that map also shows a small number of participants from Morocco and India. In comparison with Larkham's (2022) analysis of the first languages of contributors of main papers to Urban Morphology over 25 years there are some absences from these pages. Most notably they are German, Dutch, Japanese and Arabic papers.

The majority of contributions have been submitted by teams of writers but there are five from single authors. These emphasise the important role of individuals acting as catalysts in promoting collaboration across borders or cultures. In this respect Jeremy Whitehand's activity as recounted in the Chinese contribution was fundamental to the development of urban morphology among scholars' there. Similarly the contribution on the UK emphasises the dependence on him of the Urban Morphology Research Group. This, the nearest to a network in the UK, has for all practical purposes ceased to exist without him. Another individual who was responsible for incentivising the production of an African

contribution to this collection is Michelle Le Roux a member of the Urban Morphology Journal Editorial Board.

The resulting contributions in these two volumes with their extensive bibliographies, are a valuable resource for future researchers and, it is to be hoped, practitioners. They document how urban morphological techniques and concepts have been modified as they have been applied in different contexts. While they mainly relate to concepts and techniques for the analysis of urban form, the UK contribution notes the limited connections with practice while the North American contribution uses urban morphology to criticise the normative practices of New Urbanism with its claims of recovering the qualities of inherited urban forms.

There is a wide diversity in the different authors' approaches to reporting on their networks. They range from detailed carefully referenced accounts of recent activities such as the Portuguese language network contribution which carefully traces the links between that network and other ISUF activities and which is an essential and valuable reference. The Italian contribution, from a well established network with its own journal and regular conferences, preferred to submit a review of early local pioneers whose work was fundamental to the development t of the network. Similarly the Russian contribution does not describe network activities but offers a very useful account of how urban morphological studies have evolved in that vast territory of different urban traditions. In contrast to established networks, the contribution on Central Europe questions the nature of national networks and examines the extent to which inherited urban form is dependent on previous regimes and shifting national boundaries.

This diversity replicates an attribute of ISUF in general which many regard as one of its strengths. In his paper on the French situation Fusco explains why the Francophone contribution which was so important in the organisation's foundation years (Larkham 2022) has been so dramatically reduced more recently. He demonstrates how this followed a questioning in a review of urban morphology by Merlin and Choay, two eminent urbanists, commissioned by central government. Because of the width of its disciplinary and cultural backgrounds and the diversity of its theoretical approaches and methods they considered urban morphology to be irrelevant.

Just as the contents of the two volumes are very diverse so the delineation of the networks varies. They include linguistic, national, cultural and regional criteria. Among the implications emerging from the different studies is that there are limits to using national narratives for examining urban form. Lovra discusses Central Europe where approaches to urban form in the nineteenth century had a wide relevance across the languages and cultures that were part of the Hapsburg empire. Similarly Polish and Serbian urban forms are located in territorial entities which changed regimes and shifted boundaries. More recently the towns of all these territories have been impacted by the policies

of socialism followed by post socialist reforms. The Serbian paper offers an intriguing metaphor for the local evolution of urban morphology which might be applied elsewhere: fertile ground, suitable climate, sprouts, and shoots. The Nordic contribution comfortably crosses national boundaries with their cultural affinities linking four countries together while Cyprus is a notable example of how the establishment of an ISUF network can work effectively across a recently contested boundary.

Linguistic narratives are proving extremely productive in linking territories of vastly different characteristics and histories. The Hispanic contribution recounts the links with South and Central America and the potential which this scale of operation offers. The Lusophone network, successfully linking Portugal with Brazil, is developing contacts with Mozambique which, although delayed by the pandemic, offer an opportunity for incorporating another African territory into ISUF.

After the first thirty years of ISUF, as its founding fathers are replaced by a new generation, urban form is confronted by new challenges which are noted in several of the papers. The Australasian paper identifies these as the use of new technologies and the problems of sustainability in relation to climate change, particularly regarding rapid urbanisation in the Southern Hemisphere but also world wide as noted in the Türkeye paper. To these can be added remote working, growing inequalities, migration and demographic change. (Goldin et al 2023) While the plot, street and block remain significant elements of concern the widely commented challenges now faced by cities will require a shift in focus to a larger scale. In his work, among the French contributions to urban morphology which, regretfully, has not yet been translated into English, Allain (2004) terms this the macroforme. This must be a major concern of the urban morphologists of the next generation.

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BRITISH URBAN MORPHOLOGY – TIME TO TAKE STOCK AND REGROUP?

ABSTRACT

This article reviews the contribution of the work of the Urban Morphology Research Group (UMRG) to British urban morphological research. The group, led by Jeremy Whitehand, provided a focus for British research in urban morphology grounded in the work of M.R.G Conzen and the historico-geographical approach. The article reviews four core strands to this work: definition of the historico-geographical approach, morphological regions, the processes and people shaping urban landscapes and linking research and practice. The article also provides an overview of other areas of research into urban form within Britain beyond the UMRG, from scholars working in disciplines such as geography, architecture, and urban design. Two broad areas of work are focussed on, namely spatial analytical and configurational approaches and British urban geographical traditions. In conclusion, the article reflects on the future for British urban morphology following the loss of Whitehand as its long-standing figurehead and champion, suggesting that is it time to form a new network to replace the now-dormant UMRG to ensure the continued vibrancy and visibility of urban morphological research in Britain.

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KEY WORDS
MORPHOLOGY
BRITISH
CONZEN
WHITEHAND
GEOGRAPHY
SPACE SYNTAX

1. INTRODUCTION

Britain has been an important centre for urban morphological research over several decades. For much of this time, the Urban Morphology Research Group (UMRG), based in the School of Geography, Earth and Environmental Sciences at the University of Birmingham and headed by Jeremy Whitehand, provided the principal focus for British research in urban morphology, grounded in the work of M.R.G. Conzen and the historico-geographical approach. This 'Conzenian' tradition in urban morphological research has been identified as the 'British School' of urban morphology,[1] although this tends to downplay its non-British origins and the other British research traditions in urban morphology.[2] Vítor Oliveira identifies the Conzenian School as one of the four principal schools of thought in urban morphology.[3] Of the other schools identified, spatial analytical and configurational approaches also have significant research traditions in Britain, although typo-morphological traditions have been largely absent from British urban morphological research until relatively recently.[4] Earlier reviews of urban morphology research in Britain have provided broad overviews, including both the contributions of the Conzenian School and those from the other urban form research traditions with significant bases in Britain.[5] More recently an edited volume by Oliveira has provided a more focused review of the specific contribution of Whitehand and the historico-geographical tradition.[6]

The death of Whitehand in June 2021 left a significant void in urban morphological research globally, and particularly in Britain. Without its figurehead and guiding influence, the UMRG has ceased to be the hub around which urban morphological research in Britain has gravitated. British urban morphological research is therefore currently more diffuse and loosely connected than it was previously, with no established regional network to draw British researchers within different urban morphological traditions together. It is certainly an important moment to take stock and reflect on urban morphological research in Britain. This paper offers an overview of British urban morphology from the perspective of a former PhD student of Whitehand and UMRG member, emersed in the historico-geographical tradition and currently lecturing geography at a British university, with all the caveats that this positionality entails in terms of breadth of coverage. Firstly, the paper reviews the development of the UMRG and its key contributions to British urban morphological research. Secondly, it offers an overview of other key areas of research into urban form within Britain, specifically spatial analytical and space syntax traditions, and urban geographical research, reflecting on the limited interchange between these and other research areas of urban morphology. Finally, the paper reflects on future directions for British urban morphological research following the loss of Whitehand as its long-standing figurehead and champion.

2. THE URBAN MORPHOLOGY RESEARCH GROUP, UNIVERSITY OF BIRMINGHAM

2.1 Foundations and development

Whitehand founded the UMRG in 1974, three years after being appointed to a lectureship in Geography at Birmingham. The basis for Whitehand's interest in urban morphology has been well-documented, the principal influence being his association with the geographer M.R.G. Conzen and his work whilst teaching at the University of Newcastle.[7] Here Whitehand began his interest in exploring the concepts and ideas developed by Conzen, firstly examining the urban fringe belt concept in Newcastle-upon-Tyne, beginning an interest in fringe belts that would remain a key part of his research throughout his career.[8] The UMRG's academic base within the (then) Department of Geography at Birmingham provided an important institutional platform for the group.[9] The UMRG's establishment provided a foundation for applications to major British funding bodies for projects and PhD studentships, and a formal basis for internal seminars and discussions based on the work of the growing number of postgraduate researchers and research associates. The UMRG Newsletter, published between 1987 and 1997 and edited by Terry Slater, Whitehand's urban morphological colleague at Birmingham, provided another important foundation for disseminating the activities of UMRG members and in forging links with other researchers both in Britain and overseas.

The 1980s and 1990s were indeed a period in which the research activity of UMRG members was considerable, and the period when the Group developed as the principal centre for urban morphology in Britain, with a growing international reputation for work grounded in the historico-geographical tradition.[10] The networks and collaborations established by the UMRG played a key role in the formation of the International Seminar on Urban Form (ISUF) in 1994. The UMRG's international standing was cemented through its hosting of the first ISUF open conference in Birmingham in 1997, with a second ISUF conference (Glasgow) and symposium (Newcastle) organised by Whitehand and Michael Barke in 2004. Whitehand and other UMRG members have played key roles within the work of the ISUF, as council members and leaders of various working groups, but particularly through editorship of ISUF journal *Urban Morphology*, with Whitehand as editor from its foundation in 1997 to 2019 and Peter Larkham taking over from 2019 onwards.

2.2 Key research contributions to urban morphology

The range and scope of contributions to urban morphology coming from UMRG members is difficult to do justice to in one paper and one can only offer a brief summation of some of the core strands of that work. The essential underpinning of the work of the UMRG has been the application and extension of Conzen's key concepts and approaches in various urban contexts, both historical and contemporary, and the wider promotion of the historico-

geographical approach within urban morphology. The core strands of this work and its contribution are considered under four themes: definition of the historico-geographical approach, morphological regions, the processes and people shaping urban landscapes and linking research and practice.

2.2.1 Definition of the historico-geographical approach

In 1977 Whitehand published an early call for theoretical development in urban morphology, which was followed by an important work drawing together Conzen's key publications, with chapter contributions of his own setting out the case for re-establishing consideration of Conzen's work in urban geography.[11] Subsequently Whitehand produced several publications setting out the history and origins of the historico-geographical approach.[12] American-based geographer Michael Conzen added to this body of work through the publication of a further collection of his father's work.[13] Other notable early contributions to 'scoping the field' were two publications, one of which collated work building on Conzen's approaches, and another which sought to showcase international developments in urban morphology.[14]

Another key strand of work by UMRG members has been consideration of terminology and rigour in approach in urban morphological study, and comparative work with other traditions and contexts. An important foundational work was the production of a glossary of urban form setting out key urban morphological terminology and providing an important foundation to further theoretical and terminological explorations (now hosted on the ISUF website).[15] Whitehand has discussed the key characteristics of the Conzenian School and the development and application of his terminology and concepts in several papers.[16] Building on this has been a considerable body of work by Karl Kropf considering terminological rigour and links with other key urban morphological approaches.[17] In a key paper in 2014 he provides both a critical analysis and unpackaging of concepts in the typo-morphological and Conzenian traditions and offers a creative synthesis of these.[18] Subsequent work has compared terminology and method between configurational analysis and urban tissue analysis and explored the ambiguities in the use of the term 'plot', highlighting an important issue in terms of tangible and intangible aspects of urban morphological study.[19] As urban morphological research has diversified and expanded, the need to establish an open, but coherent, body of terminology, theories, and methods for exploring urban morphology has remained central to the aims of the ISUF.

2.2.2 Morphological regions

Geographical concepts of areas and their differentiation were central to Conzen's work in exploring the question of how to represent and articulate the structure of the urban landscape. He developed key concepts and techniques in morphological regionalisation for the identification and mapping of both

plan units, based on the analysis of the three-fold division of the town plan, and townscape units, incorporating the form complexes of building form and land utilisation along with the town plan.[20] These works have informed two important areas of UMRG research, namely the application of plan analysis to the study of the origin, form and change of historic towns and the application of the townscape unit idea to the work of conservation planning.

Plan analysis, using regularities and similarities in street and particularly plot patterns, has been a significant methodological advance. The concepts and techniques developed in Conzen's 1960 study of Alnwick have been utilised to examine the planning and development of medieval towns.[21] Work has also sought to link historico-geographical approaches with historical documentary research and archaeological evidence, for example in a comparison of processes of morphogenesis of the English cities of Worcester and Gloucester during the medieval period.[22]

The second strand of work employing morphological regions, incorporates consideration of analysis of the plan with regionalisations of the two other form complexes, building form and land utilisation. Whitehand carried out the first suburban regionalisation work in Amersham as an extension of his studies of suburban development (see below).[23] Here he utilised the term 'townscape units' to describe regions, drawing on Conzen's 1975 paper to highlight their potential usefulness in townscape management. A key paper in 2009 by Whitehand provides a comprehensive review of the work of UMRG researchers on morphological regionalisation and offers a comparative study looking at its application in other countries.[24] Other work has sought to compare region delimitation by different agents, principally comparing regions derived from academic study with those defined by planning authorities primarily for the purposes of conservation, exploring the challenges of boundary drawing.[25] Slater has also recently highlighted the problems of conflating plan unit and morphological unit terminology in research.[26] Work on morphological regions has continued to develop, with international comparative work stimulated by Whitehand, notably in China, and comparison with other approaches undertaken by Vítor Oliveira et. al.[27]

2.2.3 Processes and people shaping urban landscapes

Another important strand of UMRG work, also employing geographical and historical research lenses, has been focussed on the processes and agents shaping modern townscapes, particularly in nineteenth, twentieth and twenty-first-century urban landscapes. This focus on process has offered a significant contribution to urban morphological understanding and provides a wider definition of urban morphology than is perhaps evident in other disciplines.[28] In considering process, a long-standing and significant area of research has been the exploration of Conzen's fringe belt concept.[29] Whitehand has outlined the history of the fringe-belt concept, and in subsequent work over several decades he not only demonstrated the benefits of mapping fringe belts, but

also importantly advanced fringe belt theory by exploring both the relationship between fringe belts and economic impulses and urban construction cycles, and agency in the fringe-belt process, considering the interactions of agents, such as land-owners, developers, financiers, and planners in urban growth, decline and transformation.[30] Further research examining on Birmingham's Edwardian (or middle) fringe belt has extended work through a focus on the environmental character of fringe belts and the implications this has for urban planning, and through a focus on the ecological character of the fringe belt green spaces.[31]

This work on fringe belts aligns with another substantive body of UMRG research focussing on agents of change shaping urban landscapes. This work has been important in looking beyond impersonal mechanisms of urban change to consider relationships among the people and actors making decisions. Research focussing on commercial cores, low density residential areas and conservation areas has explored the role of economic factors in developer decision-making, the diffusion of architectural styles from the metropolis to provincial centres and their suburbs, the role of the stage in the family lifecycle for suburban change at the micro-morphological scale and the impact of conservation planning controls on development. Early research was effectively summarised in two books, both Institute of British Geographers (IBG) Special Publications.[32] The significant contribution of Whitehand within this strand of research on agents and agency has been recognised in a book dedicated to him: '*Shapers of Urban Form'*.[33] Other members of the UMRG researching medieval towns have also contributed to this body of work on agents and agency, focussing on the impact of landowners on urban form, including the Church and the monarchy and aristocratic families.[34]

2.2.4 Linking research and practice

Running through much UMRG work has been a concern for application in practice, traced back to Conzen's recognition of the benefit of applying morphological regionalisation the conservation of historic townscapes.[35] Through several editorials in *Urban Morphology* and numerous publications Whitehand sought to encourage dialogue and collaboration between academics and practitioners.[36] He argued that whilst it appears evident that an understanding of present urban forms and their past development should inform urban development and conservation this was not often the case, with urban morphology and architectural and planning practice appearing isolated from one another.[37]

Ivor Samuels identifies two strands of planning and design activity to which urban morphological work has offered some contributions.[38] In the first strand, historico-geographical approaches have fed into urban characterisation work to inform historic environment management.[39] Latterly, Whitehand sought to encourage the use of historico-geographical perspectives in the development

and application of the 2011 UNESCO Recommendation on the Historic Urban Landscape (HUL) and the HUL approach to inclusive heritage management.[40] Within the second strand, historico-geographical and typo-morphological approaches have fed into urban design guidance, principally through Samuels' and Kropf's urban design practice connections.[41]

The key challenges in developing better integration between urban morphological research and architectural, town planning and design practice lie in their differing professional contexts and in issues of communication across terminological and methodological divides, with the need for academic urban morphology to demystify its seemingly 'coded' language and practice. Barke summarises the problem as '…academics reproaching practitioners for short-term, conceptually shallow 'solutions' to immediate problems whilst practitioners criticize academics for over theorizing and failing to engage with the 'real world''.[42] Tony Hall has also pointed out that the British planning system, with its focus on two-dimensional land use, was unlikely to be a fruitful field for the introduction of historico-geographical methods, although recent changes to embrace design in British planning have offered new opportunities for engagement.[43]

In seeking to address the challenges of integrating research and practice, the ISUF set up a Task Force to which UMRG members were key contributors.[44] The report contained four key recommendations for strengthening the relation between research and practice; preparation of a simple charter to communicate what urban morphology has to offer practice, the collection of information on how urban morphology is included in different taught courses within different countries, the collection of good practices of how and where urban morphology is being used successfully, and the preparation of urban morphology manuals.[45] From this have come the ISUF 'Porto Charter' and a series of key textbooks, including '*The Handbook of Urban Morphology'* (offering a comprehensive practical manual of morphological analysis based on Kropf's considerable record of publication and also experience in planning and design practice), '*Teaching Urban Morphology'* (including chapters by Barke on why study urban morphology, Larkham on the importance of field observation and Samuels (with Richard Hayward) on teaching the concept of urban tissue in urban design courses), and '*Morphological Research in Planning, Urban Design and Architecture'* (including chapters by UMRG members on urban morphology and planning and design).[46]

3. BRITISH URBAN MORPHOLOGY BEYOND THE UMRG

Focus on the work of the UMRG and the historico-geographical tradition in the discussion of British urban morphology has tended to under emphasise the contributions of those working outside this tradition. Two broad areas of work are focussed on here. Firstly, spatial analytical and configurational traditions, principally focussed on the work within the Bartlett Faculty of the Built

Environment (or The Bartlett) in University College London, and the Urban Design Studies Unit (UDSU) at the University of Strathclyde in Glasgow. Secondly, British urban geographical traditions.

3.1 Spatial analytical and configurational traditions

Larkham highlights the application of computing technologies to urban morphological study as a major area of methodological advance, with the use of geographical information systems (GIS) in geography and planning and computer aided design (CAD) in architecture and urban design, linking with mathematical approaches to the study of urban form.[47] Quantitative, or more accurately geometrical, analyses of buildings have sought to develop a science of architectural form. Important in early British work in this area was the research of Philip Steadman who has explored geometry and architecture. His work has sought to explain why certain plans and built forms rather than others actually occur, illustrating how the process of generating multiple possible forms (morphospace) offered a tool that is useful in both architecture and design, and in helping to fill gaps in the historical and archaeological record.[48] Another key strand of spatial analytical work in Britain has been that stemming from the work of Michael Batty and the work of the Centre for Advanced Spatial Analysis (CASA) at the Bartlett which he established in 1995.[49] Batty is also the editor of the journal *Environment and Planning B: Urban Analytics and City Science* which has been important as a publishing outlet for much of the work in the spatial analytical and configurational tradition. This work uses a range of methods and models, including GIS and remote sensing technologies, cellular automata, agent-based models, and fractals, and seeks to understand the spatial structure and dynamics of cities as complex, emergent phenomena in which global structure develops from local processes.[50]

Another part of the Bartlett is the Space Syntax Laboratory, an international centre for the configurational space syntax approach which studies the effects of spatial design on aspects of social organisation, and the economic performance of buildings and urban areas. Space syntax is perhaps the most internationally significant area of urban morphological research beyond the UMRG and is widely employed in design and planning practice.[51] Space syntax was advanced by Bill Hillier and Julienne Hanson at UCL in the 1970s and 1980s to develop insights into the reciprocal relationship between society and space.[52] The basis of space syntax work is the idea that spaces can be broken down into components and analysed as networks of choices that describe the relative connectivity and integration of those spaces at a range of scales. Its concepts and analytical methods and techniques focus principally the street spaces and their accessibility, though some consideration is given to the spaces around buildings within a plot, commonly expressed via axial and convex space mapping.[53] Kropf observes that this mapping is intended to represent what can be seen by a human within a space, so offering an important insight

into the relation between humans and physical form, its use and perception. Space syntax work has provided important insights into how street systems can influence movement, social interaction, and the location of economic activities.

These mathematical and computer-aided spatial analytical and configurational analyses of urban form have developed largely in isolation from Conzenian approaches and vice versa, although some researchers grounded in Conzenian traditions have utilised GIS spatial technologies and digital mapping in research on medieval towns.[54] More recently there have been attempts to draw this work together. Sam Griffiths et. al. combine Conzenian and space syntax approaches in their study of the persistence of suburban centres in Greater London, whilst Ilkka Törma et. al. develop this approach, combining analysis of morphological change using historical cartographic sources with the use of space syntax to examine the relationship between accessibility and physical form, with the aim of exploring the susceptibility and resilience of two suburban centres to change.[55] Laura Vaughan applies the space syntax concept of the isovist, or viewshed or visibility polygon, to examine the visibility of synagogues in nineteenth century London, analysing historic Goad Fire Insurance plans to determine their visibility from the street.[56] Stephen Marshall (the only Professor in Britain with urban morphology within their title) suggests that the 'mathematisation' of morphology can help overcome language barriers between different traditions, and that abstraction can allow application in different urban contexts.[57] In a key paper in *Urban Morphology* Marshall sets out a detailed case for an area structure approach to morphological representation and analysis, which integrates concepts and devices from spatial analytical traditions on coding built form and architectural morphospace with urban syntax and generic structure which combines Conzenian and typo-morphological interpretations.[58] More recently a key book has been produced on the mathematics of urban morphology, drawing together several quantitative urban morphological traditions, and including a discussion of the issues in combining quantitative and qualitative approaches in urban morphology.[59]

Another important centre for configurational work in urban morphology is based at the University of Strathclyde in Glasgow, which hosted the twenty-eighth ISUF Seminar on Urban Form in 2021, chaired by Sergio Porta, Professor of Urban Design and Director of the UDSU. Recent work here offers a slightly different take on developing the science of cities, drawing on morphometrics and taxonomy in life sciences to propose a method they term 'urban morphometrics'.[60] In their paper, Jacob Dibble et. al. offer a quantitative, systematic, and comprehensive classification of a recognizable part of the urban tissue, termed a sanctuary area, within forty-five, mostly British, cities. Through the statistical definition and characterization of different types of urban forms (urban form taxa) within each sanctuary area they measure their similarity and look to infer 'parental' relationships between them. Their proposed method is designed to support further developments in areas such as remote sensing and big data as pertinent to urban morphology. This approach is

extended further by Martin Fleishmann et. al. who employ the geographic data science tools of the open-source Python ecosystem in a workflow to illustrate its capabilities in a case study assessing the evolution of urban patterns over six historical periods on a sample of parts of forty-two cities all over the world.[61] Other research has linked up work on urban morphometrics to the exploration of issues of sustainability and resilience in urban design.[62] Reference to concepts and insights in biology in urban analysis has also been a feature of work by Marshall.[63] Quantitative approaches, building on both geographic data science and urban morphometrics, were key themes of the ISUF Seminar on Urban Form at the University of Strathclyde in 2021.

3.2 Urban morphology and British urban geography

Urban morphology is an important root of urban geography. Larkham outlines indigenous British traditions in the study of the morphology of settlements in the first half of the twentieth century, noting these were essentially descriptive 'site and situation' studies.[64] In the 1950s and 1960s Conzen's work provided a significant development in British urban geographical studies, but whilst this was well received at the time urban morphological study remained a relative backwater in urban geography until revitalised by UMRG work.[65] Indeed, the detail, complexity and precision of Conzen's work was viewed by some urban geographers as rather intimidating.[66] Beyond this, urban geographical studies of urban development and the 'shape' of the city became dominated by studies of function and land use, with buildings considered containers of activity, if they were examined at all.[67]

More recently, examination of urban form has re-emerged as a key strand in urban geographical research as urban theory has begun to pay more attention to the 'materiality' (physical form) of the city. The development of both representational and non-representational approaches to the analysis of urban forms has been a key part of human geography's 'cultural turn'.[68] However, as Larkham notes this work has followed a largely distinct scholarly path from urban morphological approaches, and there is a paucity of urban morphological work being undertaken within British Geography Departments, beyond that previously undertaken by the UMRG.[69] It is still rare to find reference to urban morphology in mainstream urban geography textbooks in Britain, with Tim Hall and Heather Barrett's textbook one of the few to make explicit mention of urban morphological research.[70] Slater and Lilley also note the paucity of urban morphological work in historical geography in their conference review of the Sixteenth International Conference of Historical Geographers held in London in 2015.[71]

Representational approaches to exploring urban form by geographers have focussed on reading urban landscapes, interpreting the built environment as a sign and symbol embodying meaning, both for macro scale urban landscapes, such as housing areas, and individual buildings, such as skyscrapers or

shopping malls. These works have offered a more critical lens to earlier geographical work such as Conzen's which viewed townscapes as the reflected spirit of the society that produced it.[72] However, the British geographer Loretta Lees notes that two challenges exist for this work, the problem of reading the meanings of buildings which are multiple and contested, and a lack of attention to the consumption of architecture and how people engage with built forms.[73] Phil Jones et. al. offer some insights here in their study of Balsall Heath in Birmingham, utilising the concept of atmosphere and ethnographic techniques to explore how human experience of places can drive alterations to the built environment.[74] Additionally, critical geographies of architecture have extended to consider the contested production of the built environment and the role of architects in the transformation of cities through iconic build development in an era of globalisation, which can be seen to have parallels with the earlier UMRG work on agents of urban landscape change discussed above.[75] However, many of these geographical studies do not offer a consideration of the relational complexity of urban form offered by historico-geographical perspectives.[76] Whitehand acknowledged the need for crossing boundaries with this new architectural geography and also articulated the potential of urban morphological approaches to offer a more nuanced and informed understanding of the relational complexity of urban form and of embedded cultural value, linked to HUL's espousal of an inclusive landscape-based approach, with clear acknowledgement of the importance of non-exceptional landscapes which nevertheless are representative of collective memories and identities.[77]

Developments in non-representational theory also offer opportunities for urban morphological research in the historico-geographical tradition to reconnect with urban geography. Actor-network-theory seeks to decentre the (human) subject conceiving of agency as a distributed arrangement of both human and non-human actants.[78] In the context of considering urban forms, geographer Jane Jacobs uses the idea of a 'building event' to describe the ways in which a complex of things and processes 'become' architecture.[79] In a similar vein assemblage thinking has also influenced human geographical research with its consideration of the multi-scaled and multi-sited conjunction of different actants, both human and non-human, active in shaping urban change.[80] Barrett utilises assemblage ideas in considering the trajectories of urban change in the central conservation area of the English city of Worcester, where both conservation-decision-makers and the material frame of designated heritage assets influenced outcomes.[81]

4. FUTURE DIRECTIONS

Despite the retirement of both Whitehand and Slater from the University of Birmingham, the UMRG remained active until 2020, with Whitehand holding an emeritus professorship and Slater, Samuels and Baker holding honorary

research positions at the university, and with the continuation of a regular series of UMRG seminars. Britain's Covid-19 pandemic lockdown put a halt to the seminar series in 2020 and these did not resume due to Whitehand's passing in June 2021. The UMRG website remains accessible but has not been updated since 2020.[82] Consequently, the connections between Birmingham University and urban morphology have grown thinner, and the period of dominance of the UMRG as the principal centre for urban morphological research in Britain has indeed ended. It was sixteen years between the ISUF Symposium in London in 2005 and the next ISUF conference to be based in Britain in Glasgow in 2021, and in that time the landscape of British urban morphological research had shifted considerably, with a relatively small number of contributions from British-based researchers evident at the Glasgow conference in comparison to the total number of papers.[83] Whilst Glasgow was a well-organised online conference, we missed the opportunities to talk and network, and had it been in person we might have been better able to consider and discuss the future of British urban morphology without Whitehand.

Since the 2021 Glasgow conference, British urban morphology has drifted along separate trajectories without a core such as the UMRG to gravitate around. It is time for British urban morphologists to take stock and think about what the future 'space' for urban morphology looks like in Britain. A key question is, is it time to form a new network to replace UMRG? If the answer is yes, then where/who will drive this and what should the focus be? Certainly, urban morphological work in other regions has benefitted from the formation of regional networks. In this post-Covid academic world, virtual seminars can helpfully facilitate attendance by disparate researchers, and a virtual network might be an initial first step forward to bring British morphologists together. Such a network needs to facilitate a broad membership and connectivity, as happened with the UMRG, linking the key disciplinary and professional contexts of urban morphology in Britain, particularly human/urban/historical geography and urban planning and design, continuing the cross-disciplinary and research/practice engagements and collaborations that Whitehand always considered so important and fruitful.

To use a Conzenian analogy from the burgage plot cycle, British urban morphology seems to have moved from the climax phase associated with the zenith of UMRG work at the start of the millennium to be in a recessive phase, although we have certainly not reached urban fallow yet! We just need some reorganisation of the plot!

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PAST, PRESENT AND FUTURE OF URBAN MORPHOLOGY RESEARCH IN CYPRUS

ABSTRACT

The Cyprus Network of Urban Morphology (CyNUM), established in 2016, is a bicommunal initiative led by scholars residing both in the north and the south of Cyprus. The aim of the network is to promote research on the urban form of Cypriot cities and support its dissemination in Cyprus and abroad. CyNUM also acts as a platform for knowledge exchange and networking among researchers who have a specific interest in Cypriot cities and the wider Eastern Mediterranean region. Because of the relative youth of universities in Cyprus, all leading urban morphology scholars trained in other countries and brought to Cyprus the approaches linked to their alma mater. In the country, there is a strong focus on two approaches: the historico-geographical and the configurational, although typo-morphological studies also exist. Since its inception, the network has made efforts to exchange knowledge, access expertise from other countries and develop various research strands through individual research, funded projects, and scientific events, including regional conferences and hosting the 2019 ISUF Conference. This paper reviews the background to the network, its activities and research outputs to critically discuss avenues for future development of Cypriot morphological research based on the direction of current and proposed future projects.

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INTRODUCTION AND BACKGROUND TO THE NETWORK

In Cyprus, knowledge exchange between academicians across the divide is infrequent, accessing data from organisations located 'on the other side' and organising shared events is difficult and operationally challenging. During the 22nd ISUF conference, City as Organism: New visions for urban life, organised by ISUF Italy in Rome in 2015, a small group of scholars from the north and the south of Cyprus decided to discuss the establishment of a bicommunal regional ISUF network. The shared heritage of Cypriot cities across the island inspired local scholars to collaborate to deepen their understanding of the urban form and identity of the cities, and to develop avenues for knowledge development through sharing of know-how and comparative research.

The network was formally established in October 2016 by its founding members: Dr. Alessandro Camiz, Dr. Ilaria Geddes, Dr. Naciye Doratlı, Dr. Nadia Charalambous, Dr. Nevter Zafer Cömert and Dr. Şebnem Hoşkara. The aim of the network is to promote research on the urban form of Cypriot cities and to support its dissemination both throughout the island of Cyprus and abroad. The network acts as a first point of contact and information for researchers interested in Cypriot cities and as a platform for knowledge exchange and networking among researchers in the field of urban morphology who have a specific interest in Cyprus and the wider Eastern Mediterranean region. The objectives of the group are: a) to promote and develop the subject of urban morphology in Cyprus and the wider region; b) to encourage research on Cypriot urban form and support its dissemination internationally; c) to establish, with other Mediterranean countries, a wider research network in the field of urban morphology; d) to develop links with other organisation concerned with the built environment in Cyprus and the Mediterranean basin; e) to develop and broaden collaborative studies on urban form at the national and international level, in particular across the Mediterranean basin, through cooperation with different institutions and other regional ISUF networks.

Since its inception, CyNUM has expanded to include a variety of members from different institutions and backgrounds. Prior to the establishment of the network, key members' research activities were relatively limited to individual research projects, design competitions and workshops within their respective institutions. Notable research by the network members included diachronic syntactic studies,[1] comparative case studies[2], environment-behaviour studies,[3] morphological studies[4] and the Muratorian or Italian school of typo-morphological studies finalised to architectural design.[5] These pieces of research were disseminated collectively - in summary format - through the network's website in a dedicated section, aimed at providing researchers with open access baseline information on Cypriot cities. These works also highlight that initially there were strong and discrete linkages between individual researchers and affiliated institutions with specific approaches prevalent

where the scholars had trained. The next section describes how the work of researchers and the collaborative work of the network developed in the six years following its foundation up to the present day.

THE NETWORK'S ACTIVITIES TO THE PRESENT DAY

CyNUM decided to initiate its activities with a programme of knowledge exchange between the members, other local researchers, members of other established ISUF regional networks, as well as international researchers. These comprised a seminar series, covering both strictly morphological topics and broader related themes with contributions from external researchers, and the 1st CyNUM regional conference, *Urban Morphology in South-Eastern Mediterranean Cities: Challenges and Opportunities*, which took place in parallel with the AESOP's Thematic Group for Public Spaces and Urban Cultures meeting. The regional conference resulted in the publication of proceedings comprising 28 papers,[6] presenting mostly research work on Cypriot cities. The papers ranged in focus from methodological applications, urban sprawl and fringe belts, the relationship between urban form and social phenomena, urban and architectural design, and urban conflicts. This publication constitutes a significant collection of work dedicated to the urban form of Cypriot cities, which is unique as a collective effort to compile ongoing research across the island.

Having gained an overview of past and ongoing research, members of the network formally reviewed how different morphological approaches had been deployed in Cyprus, looking at studies dating back to the 1980s. The related paper revealed the focus on two approaches, mentioned in the previous section, and specific themes (relating urban form to physical divisions and social interactions) which featured quite prominently in the literature.[7]

Between 2017 and 2020, the project *EPUM: Emerging Perspectives in Urban Morphology*, funded by Erasmus+ and led by University of Cyprus, brought together well-known urban morphologists, including long-standing members of the ISUF community to explore the integration of urban form research and teaching approaches through pedagogic innovation. The final project workshop in Nicosia, in September 2019, had as a case study an area close to the buffer zone in the southern part of the city - research published in the proceedings of the first regional conference served as a background study to the activities of the workshop.[8] Students explored possible design options to create connections across the buffer zone; during the workshop site visits and fieldwork were carried out in both parts of the city.

The 26th ISUF International Conference was hosted by CyNUM in Nicosia in July 2019 (figure 1). The general theme of the conference, *Cities as Assemblages*, provided a platform to discuss how we conceptualise cities and

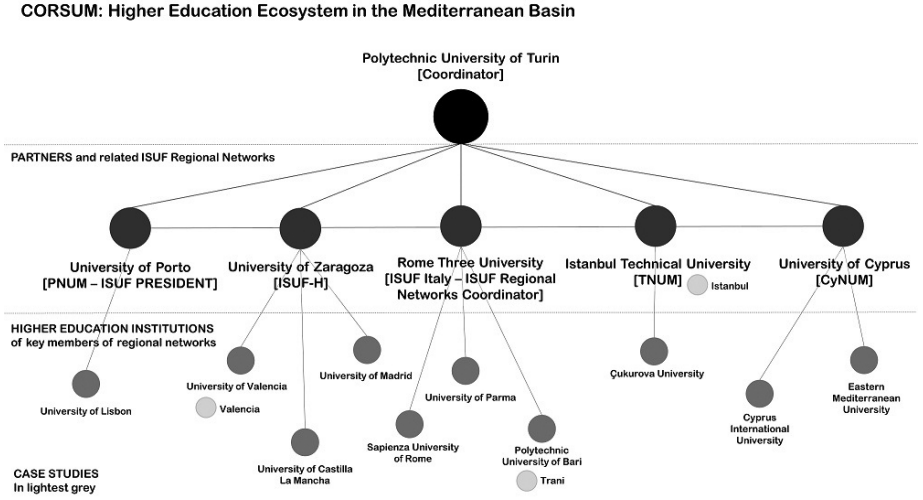
describe the processes of their emergence and transformation, as well as how we design methodologies to comprehensively assess the social and physical elements of cities and their interrelations. The conference welcomed 250 delegates with almost 130 papers published in the proceedings in 3 volumes.[9] This collection, as an expected outcome of the international conference, has a global outlook, with only 8 papers focusing on Cyprus - theory, multidisciplinary methodological approaches and design applications feature as prominent themes.

The 2nd CyNUM regional conference, *Transformation and Conservation of Urban Form in South Eastern Mediterranean Cities*, which took place in Famagusta was held between 7-9 April 2023. The regional conference resulted in 18 papers, presenting mostly research work on South Eastern Mediterranean Cities. The papers ranged in focus from methodological applications, urban conservation, cultural heritages and fringe belts, the relationship between transformation and conservation of urban form and social phenomena, urban and architectural design. This conference constitutes a significant collection of work dedicated to the transformation and conservation of urban form not only in Cypriot cities but also the region, which is unique as a collective effort to compile ongoing research across the region.

Individual research work during these years continued, establishing previous and ongoing research on various aspects and frameworks of diachronic analysis,[10] urban morphology and green spaces,[11] integrated methodologies in the field of urban morphology,[12] urban morphology within architecture and urban planning curricula,[13] as well as Muratorian typo-morphological studies and digital survey campaigns of heritage sites in Cyprus finalised to architectural design and restoration.[14] During this period, the network's research has specialised and diversity has increased with greater interaction between scholars from different disciplines and different fields of study within the network. This has led to the network developing into a platform for multidisciplinary studies focusing on issues and challenges affecting Cypriot and Mediterranean Cities, influencing current and future directions of research in the region.

CURRENT DEVELOPMENTS AND CRITICAL REFLECTION ON FUTURE RESEARCH DIRECTIONS

In recent times, a strategic decision was made by some members of the network to focus on securing research funding to increase capacity and develop the assets for Cyprus to become a centre of excellence in the field of urban form analysis in the wider Mediterranean region. This effort led to the implementation of two ongoing projects: *Knowledge Alliance for Evidence-Based Urban Practices (KAEBUP)*, funded by Erasmus+, and *Twinning Towards Research Excellence*



UP: Fig. 1. Panel session at the 26th ISUF International Conference

MIDDLE: Fig. 2. Poster advertising the Call for Papers of the 3rd CyNUM Regional Conference

DOWN: Fig. 3. CORSUM higher education ecosystem in the Mediterranean basin

in Evidence-Based Urban Planning and Design (TWIN2EXPAND), funded by Horizon Europe. Within this strategy, the thematic focus of the projects on the relationship between research and practice, and on evidence-based design (EBD) wants establish urban morphology as an intrinsic fundamental element of EBD and as a paramount science in design, planning and urban governance practice. The 3rd CyNUM Regional Conference will take place jointly with the KAEBUP project final event (figure 2).

In order to also develop capacity in the geographical context of the island, an Erasmus+ funding proposal is currently being developed through a collaboration among the ISUF regional networks in the Mediterranean basin and higher education institutions of representatives of the networks. The proposal: *Comparative Research School on the Urban Form of Mediterranean Port Cities (CORSUM)* aims at establishing a strong higher education ecosystem in the field of urban studies in the Mediterranean basin, providing the resources to undertake systematic comparative research of Mediterranean port cities. The project, therefore, refers back to the objective of the network of creating a wider Mediterranean network and trying to formalise collaboration for comparative research. The starting ecosystem of CORSUM and its case studies is based on the relationships between relevant universities and ISUF regional networks (figure 3).

The expected outputs of the project, including, among others, an ecosystem framework, a collaborative curriculum of urban form analysis, a comparative research framework for urban form analysis, and a digital survey of Mediterranean port cities are expected to set the basis for the establishment of a Pan-Mediterranean network of urban morphology open to scholars across the three continents in the region for long-term collaboration.

With local research becoming more specialised and research capacity increasing through cross-sectoral projects comprising leading European universities as well as design practices, CyNUM has the ambition to become a focal organisation of reference in a wider scholarly network in the Mediterranean. While the road towards research excellence still requires some time to reap the benefits of ongoing projects and increasing the output of high-impact research, the network is proceeding on a steady course towards achieving its founding objectives and contributing a significant wealth of knowledge to the field of urban morphology.

NOTES

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3. Erincik Edgü, Meray Taluğ, and Nezire Özgece, "*Divided shopping: A syntactic approach to consumer behaviour," AlZ ITU Journal of the Faculty of Architecture* 12, no. 3 (2015): 175-188; Nezire Özgece, Erincik Edgü, and Meray Taluğ, "Exploring children's perceptions and experiences of outdoor spaces," in *Proceedings of 10th International Space Syntax Symposium*, ed. Kayvan Karimi et al. (London: Space Syntax Laboratory, The Bartlett School of Architecture, University College London, 2015); Nezire Özgece, *Neighbourhood Concept and Built Environment Relations – A Case Study of Three Neighbourhoods in Gazimağusa, Northern Cyprus* (London: LAP Lambert Academic Publishing, 2013).

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7. Nadia Charalambous, Nevter Zafer Cömert, and Ilaria Geddes, **"**The study of urban form in Cyprus," *Urban Morphology* 23, no. 1 (2019): 69-82.

8. Ilaria Geddes, "Persistence at the edge: the socio-economic make-up and configurational properties of Chrysaliniotissa and Agios Kassianos, Nicosia," in U*rban Morphology in South-Eastern Mediterranean Cities: Challenges and Opportunities. Proceedings of the 1st Cyprus Network of Urban Morphology Regional Conference*, eds. Nadia Charalambous, Nevter Zafer Cömert, and Şebnem Hoşkara, (Nicosia: CyNUM, 2018), 174-186.

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URBAN MORPHOLOGY ON THE SOUTHERN AFRICAN PERIPHERY

ABSTRACT

Urban form in African cities is dynamic, unpredictable and in constant flux. Urban morphology remains mostly undocumented in Southern Africa as an emerging region. Current processes of informal land occupation, changing suburbia and incremental settlement transformation patterns present fragile, yet interesting morphological characteristics that are worthy of interpretation. How are we understanding, representing, and anticipating changing southern urban form and what is the value-add of understanding urban morphology in Southern Africa? In the absence of any formalised network of ISUF in Southern Africa, there is the potential to make a meaningful contribution to urban morphology and its associated processes and agents. Three case study perspectives from practice, research and teaching are explained to understand urban form in South Africa, as follows: 1). community-led data collection on urban form and social practice based on evidence from experiences in Cape Town townships; 2). area-based partnerships based on examples from informal settlement upgrading in Khayelitsha; and 3). deliberate and engaged teaching and learning currently taking place in the urban design programme at the University of Cape Town. Urban morphological approaches in the global south must be multi-scalar, relevant, valuable, and most importantly, affordable. This requires stripping out of irrelevant principles and techniques and focusing on low-cost, low maintenance and sustainable AI and labour-intensive of understanding the changing city. The future development of African cities needs to take a significant stand on the role of socio-economic realities, political action, local agency, and their relationships with urban form.

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KEY WORDS
URBAN MORPHOLOGY
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Urban form in African cities is dynamic, unpredictable and in constant flux. Urban morphology remains mostly undocumented in Southern Africa as an emerging ISUF region. Current processes of informal occupation of peripheral land,[1] changing suburbia[2] and incremental settlement transformation patterns present fragile, yet interesting morphological characteristics that are worthy of interpretation.[3] In addition, large portions of urban centres, and infrastructure are yet to be built, bringing expectations of immense and rapid growth that will require ongoing evaluation of the changing shape of African cities. How are we understanding, representing, and anticipating changing southern urban form?

One may build on Vitor Oliveira's[4] question of what is the value-add of understanding urban morphology in Southern Africa. In the absence of any formalised network of ISUF in Southern Africa, there is the potential to make a meaningful contribution to urban morphology and its associated processes and agents. With this starting point, I would like to offer a view of urban morphology from Southern Africa.

Contextually, South African cities present examples of vast spatial inequality with fragmented and racially segregated urban neighbourhoods, and mono-functional land use as relics of modernist and apartheid spatial planning.[5] The resultant character consists of an odd mix of dispersed growth patterns and inadequate urban performance with infill urban areas, developer-led office nodes and shopping malls, 'fringe belt'[6] townships and expanding new informal growth.

Township settlements contain low-density sprawl of informal and individual state-subsidised housing, poorly designed urban spaces with minimal or collapsing infrastructure and inaccessible and low-quality public spaces and facilities. Reinforcing a legacy of poverty and inequality from the smallest to the largest scale through all the elements of the urban form including the region, settlement, block, plot, street, and building. So, how do we address the apparent indifferences between historical influences of urban form against the future of developing safe and resilient neighbourhoods in Southern African cities?

I feel there is much to learn from the urban transformation that is occurring on the periphery. The term 'periphery' builds on Caldeira's argument to intentionally de-centre northern concepts, theoretically, practically, and visually by understanding *peripheral urbanism.*[7] Peripheral refers not only to the structural and physical location in space but the position in policy (and power in government), practice (the role of urbanists), and academic platforms (research, teaching, and learning) as it upsets the power hierarchy of actors and stakeholders who, as Caldeira states, "engage transversally with official logics". Within this theoretical context, my intention is to outline three perspectives that I have used in practice, research, and teaching to understand urban morphology in Southern Africa.

Firstly, community-led 'off-grid' data collection and an evidence-based approach demonstrates the reality of existing urban form and measures the

impact of wicked problems in local environments. This includes ongoing enumerations, household surveys and social mappings, particularly at the building and street scale. Resident-based information, social networks and local knowledge are used to understand spatial informants but also to identify vulnerabilities and risks, assets, and capabilities to guide the co-design of safe neighbourhoods. At the same time, digital mappings show the historical and changing building footprint at the neighbourhood and territory scale. The Violence Prevention through Urban Upgrading[8] research in Cape Town highlights multi-layered, open-source mapping software and simple low-cost, digital monitoring techniques can be used as design tools to define spaces for public intervention and monitor the activation of public spaces and buildings. This is often a field that is under-resourced and under-capacitated in peripheral settings (policy and practice) but holds immense value to urban morphology.

Secondly, an area-based partnership approach encourages people-centred design with environmental responsibility, social justice, and economic strength at the local neighbourhood scale. The approach looks at designing strategically located & impact-orientated public projects based on phased intervention possibilities. This is an unfolding and reinforcement of a 'commons'[9] as opposed to a 'plot burgage', within which peripheral space holds the new ways of understanding emerging commons, networks, and hybridity on urban form. An area-based approach is used for upgrading informal settlements and implementation of spatial reconfiguration plans or action frameworks delineating an incremental public realm. The informal settlement is seen within the territory and connected neighbourhoods. Urban blocks (often unusual in urban shape) define an alternative infrastructure and collective tenure systems. Streets are mostly walkways, interspersed with a network of small public spaces and safe access routes. Buildings are expressed as dwellings.

The frameworks guide future legal land recognition, service delivery and housing scenarios. The approach supports inclusive participation including the capacity to deliver sustainable development goals (SDGs) aligned to Africa's Agenda 2063. through partnerships between communities, interested stakeholders, intermediary organisations, and local municipalities. Monitoring and evaluation of urban transformation are viewed as priorities for continuous and open engagement between all parties.

Thirdly, a deliberate and engaged teaching and learning approach enables the co-production of knowledge between students, partners, and communities around the changing nature of urban form and production of space. There is something intriguing about the current emerging urban form situated within the southern periphery. Local agency and an everyday culture (as explained by a local agent from Gugulethu) in occupied space reveal a dynamic urban change taking shape in township areas in Cape Town. It is here that self-built infrastructure overlays the rigours of engineered service delivery patterns and brings into question the role of the urbanist. Not only does this add a sociological dimension to urban morphology but it encourages debating the

need for change in the study of urban form beyond the academy in the context of the southern periphery.

In summary, I argue that urban morphological approaches in the global south must be multi-scalar, relevant, valuable, and most importantly, affordable.[10] This requires a critical reflection on not just change but flux, including stripping out of irrelevant principles and techniques and focusing on low-cost, low maintenance and sustainable AI and labour-intensive ways of understanding the changing city. The future development of African cities needs to take a significant stand on the interdependence of morphological systems including socio-economic realities and the role of political action, local agency, and their relationships with urban from.

NOTES

1. Meth, Goodfellow, Todes and Charlton's "Conceptualizing African urban peripheries" note the rising interest in peri-urban spaces in the African context. They argue for a need to understand the lived experiences of urban change in urban peripheral space in South Africa and Ethiopia in Paula Meth, Tom Goodfellow, Alison Todes, and Sarah Charlton, "Conceptualizing African urban peripheries," *International Journal of Urban and Regional Research* 45, no. 6 (2021): 985-1007.

2. Buire comments on the lack of attention to the changing suburbia or even the very notion of suburbia and suburbanism or a lens through which such spaces are analysed, arguing, 'Spatially, we want to understand not only where the cities are growing, but also which forms do they take…', where, 'the practices and discourses of those who inhabit these new urban spaces on a daily basis are essential to understand the socio-cultural dimension of the suburbs' in Chloé Buire, "Suburbanisms in Africa? Spatial growth and social transformation in new urban peripheries: Introduction to the cluster, " *African Studies 73*(2) (2014): 243; Butcher Mabin, and Bloch in "Peripheries, suburbanisms and change in sub-Saharan African cities," *Social Dynamics* 39, no. 2 (2013): 167-190, argue, 'our African location … demands that we approach the city from inside and out, work with a more fluid notion of the relationship between formal and informal habitats – and at the same time refuse African cities any exceptional status', on page 182.

3. Chirisa and Matamanda in "Forces shaping urban morphology in Southern Africa Today: Unequal interplay among people, practice and policy," *Journal of Urbanism: International Research on Placemaking and Urban Sustainability*, (2019), note the spatial transformation and changing urban form in Southern African cities post-independence that requires further attention.

4. Email conversation with Vitor Oliviera in early 2020 around developing a Southern African ISUF network.

5. David Dewar, "A Transformational Path for Cape Town, South Africa," in *Transforming Distressed Global Communities*, 255-268 (Routledge, 2016), notes the translation of the political ideology within South Africa combined with the impact of a modernist approach resulted in the idea of separation that extended to a massive racial divide where controlled neighbourhood units were developed to contain people and remove any possibility for social unrest. Today, this has resulted in continued urban sprawl and the suburban model of mass housing; Mono-functional housing developments continue to be surrounded by buffer strips resulting in large portions of left-over spaces.

6. Oliviera refers to the several dimensions and concepts of the fringe belt, in Oliveira, Vítor, "An introduction to the work of JWR Whitehand," in *JWR Whitehand and the historico-geographical approach to urban morphology*, 1-32 (Cham: Springer International Publishing, 2018). In this case, I refer to fringe belt townships in Cape Town, South Africa.

7. Caldeira uses the notion of peripheral urbanization to analyse the modes of production of space and self-constructed neighbourhoods in cities of the global South. Here Caldeira argues, '…peripheral urbanisation means simultaneously to de-centre urban theory and to offer a bold characterization of modes of the production of space that are different from those that generated the cities of the North Atlantic,' in Teresa PR Caldeira, "Peripheral urbanization: Autoconstruction, transversal logics, and politics in cities of the global south," *Environment and Planning D: Society and Space* 35, no. 1 (2017): 3-4.

8. Violence Prevention through Urban Upgrading (VPUU) Non-profit Company (NPC) has conducted research in peripheral urban settlements in Cape Town, see Kathryn Ewing, "Pockets of Promise in Gugulethu," *The Architectural Review* 1493 (2022): 26–29; Kathryn Ewing, "Spaces of transformative practice: Co-producing,(re) making and translating fractional urban space in Gugulethu, Cape Town," *Urban Forum* vol. 32, no. 4 (2021): 395-413; and Kathryn Ewing, and Michael Krause, "EMTHONJENI—Public space as smart learning networks: A case study of the violence prevention through urban upgrading methodology in Cape Town," in *Shaping smart for better cities*, 339-356 (Academic Press, 2021).

9. Iain Low in Palmer, Henrietta. *The Language of the Becoming City. Making spatial justice from conflicts, commons, networks and hybridity*. 2021, refers to the Violence Prevention through Urban Upgrading projects as 'commons'.

10. Larkham argues, 'Urban morphological approaches and analyses must be seen to be relevant, practicable, valuable, but also affordable. Past approaches have often been seen to be time-consuming, expensive and perhaps not well communicated in forms of words that related well to these problems,' Larkham, Peter. "The need for change in the study of urban form." *Urban Morphology* 26, no. 1 (2022), 3. See also concerning the interdependence of morphological systems in Chrisna du Plessis, Karina Landman, Darren Nel, and Edna Peres, "A 'resilient' urban morphology: TRUST C. Du Plessis, K. Landman, D. Nel and E. Peres," *Urban Morphology* 19, no. 2 (2015): 183-184, to understand the future of understanding and researching urban form in Southern Africa.

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SOME UNEXPECTED TRAJECTORIES OF URBAN MORPHOLOGY IN FRANCE

ABSTRACT

This paper is not un update of Darin's account on the study of urban form in France in 1998. Rather, it's a complement to it, dealing with two overlooked issues that produced unexpected trajectories for urban morphology in France. The first is Merlin's 1988 publication of an important book on urban morphology and plot systems, after the organization of an international conference on the subject. Produced at the request of the French Ministry of Urbanism, this work was extremely critical of the emerging field of urban morphology and exerted a long-lasting negative influence on its development in France, namely in the field of urban planning. The second is the contribution to urban morphology by theoretical and quantitative geographers. Much of this contribution is indeed posterior to Darin's account, but it shows that the study of urban form can now count on two different traditions in France: finer scale and design-oriented urban morphology within the schools of architecture and larger scale, sometimes trans-scale, computer-aided urban morphology from quantitative geography. Huge potential lies in engaging collaborations among these two traditions.

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Research in urban morphology in France has already been thoroughly presented by M. Darin (1998) up to the end of the 1990s. His paper started with the forerunners of morphological research before WWII, Pierre Lavedan and Michel Poëte. After the 1970s, great attention was given to the so-called French school of urban morphology, strongly marked by the founding works of the schools of architecture of Paris-Belleville, Paris-La-Défense and Versailles, as well-as some other schools outside the capital region (Marseille, Grenoble, Lille, Nantes and Nancy). A quick overview was also given to morphological research outside of the schools of architectures, in urban history, art history and geography.

The goal of the present paper is not to update such a remarkable paper. Working within the community of French geographers, my knowledge of architectural research in urban morphology is limited and not first-hand. I will thus bring some attention to two more specific aspects of the development of urban morphological research in France, which are perhaps less known within the international community of urban morphologists. The first is the series of events that lead to the publication of the book "*Morphologie Urbaine et Parcellaire*" by Pierre Merlin et al.[1] We will see how, unexpectedly, this rich anthology of contributions from eminent urban morphologists exerted a long-lasting negative impact on the role that urban morphology could play in academia and on national urban policies. The second is an overview of morphological research carried out in the last twenty years or so by theoretical and quantitative geographers in France, a community that was overlooked by Darin's original paper.

USING URBAN MORPHOLOGISTS AGAINST URBAN MORPHOLOGY.

The genesis of "Morphologie Urbaine et Parcellaire" is fundamental to understand the scope and, ultimately, the outcome of the book. In what follows, I'll try to remain as factual as possible. My eventual interpretations will always be highlighted as such. Insight of the genesis of the book is indeed given directly from its authors and the workflow of the related conference was double-checked with Ivor Samuels, who took part in it.

In France, like in other countries, and maybe more than in other countries, the praxis of urban planning from the 1950s and up to the 1980s had been strongly rooted in the functionalist approach. Modernist forms were embraced since the 1950s (the first "cité radieuse" by Le Corbusier was built in Marseille in 1952, the second in Rezé in 1955), and later shaped many large housing projects. Growing criticism arose in the 1970s-1980s, among which one from the emerging field of urban morphology. For one, the work by Castex et al. (1977) is exemplary in its critique of the progressive dissolution of the perimeter block through the history of modernism. A French specificity, at least within western countries, is that the top-down governance of the French administration had

had an important role in favouring both functionalism and the new modernist forms, both seen as a way to accelerate the modernization of the country after WWII.[2] However, the very top of the governmental decision-making process was being affected by these criticisms, as witnessed by the 1973 circular by minister O. Guichard, putting an end to the development of large functionalist public housing projects.

In the mid-1980s, the French Ministry of Urbanism, Housing and Transportation was finally considering the emerging approaches of urban morphology. In 1985, M. Roullier, in charge of research and innovation at the Ministry, looked for academics to produce a report on urban morphology, its conceptual basis, its methods and its pertinence for the urban planning praxis. Was the Ministry interested in understanding the role that urban morphology could play in improving its approaches to urban planning? Or was it disturbed by the fact that the success of urban morphology would necessitate a complete renewal of its policies, praxis and, probably, even internal culture?

What we know is that the Ministry did not ask a critical assessment of the new research field from the leading groups of French urban morphologists (those accounted for by Darin, who were in full activity in the mid-1980s). On the contrary, Roullier solicited the research unit Theory of Urban Mutations in Developed Countries at University Paris VIII, led by Pierre Merlin. Merlin was the leading figure of urban planning in French academia at the time and had strong connections with the French central administration. He had just become the president of the French National Council for Higher Education and Research (CNESER), a position that he would hold until 2003. He also participated to the creation of the French Association for the Promotion of Teaching and Research in Urbanism and Planning (APERAU), of which he will be president between 1992 and 2000. He had previously contributed to several public policies of the French government in urban and regional planning and was recognized in academia for his highly praised development of the theory of general cost of transportation. In this endeavour for the Ministry, Merlin associated his colleague Françoise Choay, a leading theorist of urbanism in France, author of the remarkable "Urbanisme: utopies et réalités"[3] and promoter in France of a new reading of the urban and architectural theory of Leon Battista Alberti.[4] Despite their intellectual stature, neither Merlin nor Choay were specialists in urban morphology or active in the urban morphological debate.

They thus invited eleven leading scholars and practitioners who were differently related to the emerging field of urban morphology, to present their viewpoints at an international conference at the prestigious site of the Royal Saltworks of Arc-et-Senans (October 28th-29th 1985). Special attention was given to three countries where urban morphology seemed particularly important: Italy, Britain and the US. Four invited experts were from Italy: Vittorio Gregotti (architect at IUAV Venice), Bernardo Secchi (urban planner at IUAV Venice), Sergio Crotti and Ernesto D'Alfonso (both architects at Milano Politecnico). Three were from Britain: Bill Hillier (architect at the Barlett School, UCL), Ivor Samuels

(architect at the Joint Center for Urban Design, Oxford Polytechnic) and Micha Bandini (architect at the London Architectural Association). Three were from North America: Stanford Anderson (architect at MIT), George Baird (architect at the University of Toronto) and John Whiteman (philosopher, architect and urban planner at Harvard). One was from Switzerland, the architect and urban semiologist Albert Lévy (University of Geneva). None of the French urban morphologists was invited to the conference, and the point of view of Merlin and Choay was considered as a last contribution representing the French community. These twelve contributions made up the theoretical part of the conference, dealing with goals, concepts, theories and methods of urban morphology. The second part of the event was dedicated to more specific advancements in the role of plot-patterns in urban morphology. Mainly carried out by young researchers from the same institutions, these contributions were published in the second tome of the aforementioned book. Research on the role of the plot system in urban morphology was apparently the main reason for the conference. Even in this respect, it is from my point of view surprising that French urban morphologists were not invited to the conference, knowing the leading role that the French school (and more specifically the Versailles school) had had in first highlighting the role of the plot system in morphological processes.[5]

However, what interests us most here is the work carried out with the experts, which was published in the first tome of the book and was used to produce the official report demanded by the Ministry. The experts received individually a questionnaire in preparation of the event, asking them to define a certain number of terms (morphology, typology, urban design, urban structure, etc.) and identify recognized leading figures and seminal works in the field. They were also invited to write a personal contribution on the vast subject-matter of the new emerging approach of urban morphology in their countries, which was the object of their oral presentation at the conference.

Urban morphology is characterized by different theoretical and methodological views on the way to study its very object of research (the form of the physical city and its transformation processes over time). This is still true today and was even more the case in the mid-80s, when many scholars and practitioners could declare an interest in urban morphology without inscribing their work in any common scientific or professional institution. Despite two decades of efforts by ISUF (established in 1994) to create a common language or, at least, a common arena of discussion on urban morphology, Gauthier and Gilliland (2006) could thus observe at the beginning of the 2000s how the wide variety of disciplinary, linguistic and cultural backgrounds of urban morphologists was an inevitable source of misunderstanding in the definition of common concepts, methods and aims for the emerging interdisciplinary field. The first tome of "*Morphologie Urbaine and Parcellaire*" is thus an extremely rich and interesting text, confronting diverse and sometimes divergent positions on the very concepts and motivations of the morphological approaches (the plural is

mandatory), on their role in architecture and planning, and even on a renewed relationship between architecture, urban design and urban planning.

However, Merlin and Choay went beyond a simple anthology and proposed a quantitative and qualitative synthesis of the viewpoints, which was the very demand of the French Ministry. Their protocol was neither Delphi (which could have been allowed by their pre-established questionnaire) nor focus group, for which the meeting in Arc-et-Senans could have offered an excellent opportunity. Actually, both Delphi and focus group aim at helping participants identify common points and possibly converge towards a consensus, although retaining the different opinions that resist this attempt of convergence. Experts were neither confronted with their fellows' answers to the questionnaire, nor asked to participate in a common discussion to elaborate consensual proposals. The organizer's goal was not to arrive to any sort of consensus, be it full of nuances and exceptions and hard to obtain. They limited themselves to take stock of the existing divergences among the experts (including themselves in the observed panel) and come to the following conclusions, which are first stated in the introduction of the book, later developed in its first chapter, and constitute the core of the report produced for the French Ministry:

> *The morphological approach has no serious scientific bases (Introduction, p. 7). There is no agreement among international experts of this approach on common concepts, common historical roots and founding authors or texts. Therefore, we cannot be surprised by its lack of theoretical content (ibid p.7). The success of the urban morphology fashion in some professional or academic circles is proportional to its conceptual emptiness.*[6]

Even methodologically, the conclusion is harsh:

> *Urban morphology has not been able to develop any specific methodology, disseminated in the praxis and recognized by all (ibid, p. 61). As a consequence, the impact of urban morphology both in higher education and training and in institutions is insignificant, with the possible exception of Italy.*[7]

Merlin being the only author of these texts, we can infer that these conclusions are more Merlin's than Choay's. Inasmuch they were integrated in the report for the Ministry, their logical consequence in terms of policy is clear: there is no need to modify the functionalist approach to planning by integrating the new insight of urban morphology. We are thus not surprised that no sign of renewal in urban planning policies and practices was observed at the French Ministry of Urbanism, Housing and Transportation in the following years.

In my opinion, leaving deliberately aside the community of French urban morphologists, two leading figures of French urban planning had organized a relevant event, bringing together internationally renowned urban morphologists,

but had used this event against the emergence of urban morphology in France. Morphological research remained a niche of some schools of architecture and never played a significant role in the French urban planning institutes. Of course, this didn't prevent French urban morphologist from carrying on their research agenda and even their cultural battle, with some success in professional praxis. And it did not even make the French Ministry of Urbanism, Housing and Transportation completely impervious to any interest in urban morphology, as witnessed by Levy and Spigai's report for the Ministry on the quality of urban form in contemporary French urbanization.[8]

But urban morphology underperformed in both its research and policy potential, beyond heritage conservation. The Ministry of Urbanism and Transportation (which had between them incorporated the responsibility of the Environment) and French research agencies renewed their interest in urban form at the end of the 1990s and at the beginning of the 2000s, within the new agenda of sustainable urban development. We can only regret that early debates on urban densification to contain urban sprawl, just like the latest policy of net zero net land take to protect natural and agricultural land, have made so little consideration of urban morphological insight on these very issues.

In the most recent years, local planning agencies have shown a sincere and pragmatic interest in urban morphology, as witnessed by the growing number of morphological atlases of French cities: sampling urban fragments as in Marseille (AGAM 2005), or covering the whole urban area as in Paris/Ile-de-France region (IAU-Idf 2016) and Lille (ADULM 2016). The beautiful cycle of seminars "*Morphogenèse et dynamiques urbaines*" (Franceschelli et al. 2012) has also been organized by several academic institutions (EHESS, ENSAD, FMSH) in partnership with PUCA (*Plan Urbanisme Construction Architecture*), a governmental agency particularly linked to the Ministry of Urbanism.

However, this movement has not completely rehabilitated urban morphology in ministerial and academic circles of urban planning. Merlin's book continues to exert a distant, but never extinguished negative influence on urban morphology. New research projects in urban morphology have always to first overcome that peremptory judgement formulated in the mid-1980s and show that urban morphology has indeed taken stock of those early hesitations and is now capable of a more theoretical and methodological coherence.

URBAN MORPHOLOGY WHERE YOU WOULDN'T EXPECT IT: THE CONTRIBUTION OF THEORETICAL AND QUANTITATIVE GEOGRAPHERS.

The renewed interest in urban form at the end of the 1990s also motivated different disciplinary traditions to study urban morphological issues. Urban geography has always been a founding discipline of urban morphology, as

witnessed by the works of German urban geographers in the inter-war period and by the historico-geographical approach to urban morphology developed at the University of Birmingham after M.R.G. Conzen's seminal work. This is true in France as well. Darin (1998) thus cites the early contribution by Marcel Poëte on the forms of French cities, but also the more recent work by Marcel Roncayolo (1996) on the genesis of urban forms in Marseille. However, all these works belong to the specific tradition of cultural and historical urban geography.

During the 1970s, with a delay of 10-20 years in respect to English-speaking countries, a new research tradition emerged in French geography: theoretical and quantitative geography. Its origins date back to the new geography movement, which can be also linked to Walter Isard's regional science in American economics during the 1950s. Works like "Locational analysis in human geography"[9] or "Models in geography" began to have an audience in France, passing through young colleagues who had started their academic career in Canada. Urban geography was also concerned by the new theoretical and quantitative approach. The new domain of urban spatial analysis was established. However, the kind of problems treated by French quantitative urban geographers, were mainly urban regional systems, urban factorial analysis within the city, city/transportation interaction seen through the lenses of land use and mobility flows, and urban locational analysis at different scales. Urban form was not the focus of quantitative urban geographers. France academia lacked the equivalent of the Centre for the Land Use and Build Form Studies at Cambridge University,[10] which was seminal in introducing quantitative approaches in the study of urban form.

Several factors contributed to a partial change in the research landscape during the 1990s and 2000s. First of all, the already mentioned renewed interest in urban form within policies of sustainable urban development. Secondly, the diffusion of geographical information systems, both within academia and local urban planning departments, as a support for urban spatial analysis. Thirdly, the new availability of intra-urban data in the context of technological advancements and the open data movement: more precise remote sensing data (allowing meaningful intra-urban analysis at metric scale) and urban vector data (first from national and/or local agencies, later from collaborative platforms like OSM) were now available. Since 2006, the French National Geographic Institute IGN has opened its *Géoportail* initiative, a web-based platform giving access to the BD Topo, a nation-wide vector description of metric precision, including 2.5D buildings and streets, BD Ortho, a nation-wide orthorectified high-resolution raster image, and the numeric version of the national Cadastre. Finally, the lowering cost of computing power has allowed the development of faster and more sophisticated algorithms in urban spatial analysis.

The first group of French quantitative urban geographers developing a research agenda on urban form has been the Théma research unit in Besançon. Pierre

Frankhauser wrote a seminal book on fractal analysis of urban space,[11] which was published the very same year as Batty and Longley's at UCL. Fractal analysis of urban forms mainly addresses the question of the distribution in space, and through different scales of observation, of built-up elements and voids within the city. It is a very specific approach to urban morphology, in some respects just as innovative in the urban morphological agenda, as Bill Hillier's space syntax. The former focuses on the full-void spatial distribution of build-up forms, the latter on the topological properties of networks of axial lines within the voids. Both innovate in studying urban form through geographic scales within a unique geo-computational approach. Intense collaboration has later been established between French geographers at Théma and the Centre for Operation Research and Econometrics (CORE) at the Catholic University of Louvain-la-Neuve, Belgium, around Isabelle Thomas. Fractal analysis of built-up forms has been used to study Brussels and its periphery[12] and later to differentiate and characterize whole cities and neighbourhoods in Wallonia[13] and in Europe.[14] Fractal analysis has also been extended to the street network in the case of Antwerp.[15] Tannier (2023, in press) gives a general overview of fractal analysis in urban geography, synthesising research at Théma and CORE. Another work giving an overview on urban planning challenges for fractal analysis is Dupuy (2017), integrating contributions beyond Théma and CORE. In most cases, however, geographers working on fractal analysis of urban form have failed to connect their new insight into urban form with the existing corpus of knowledge produced by urban morphology. Spatial analysis of urban form at CORE has not been limited to fractal analysis, as witnessed by Caruso et al. (2017). Within Théma, other geographers worked on the link between urban morphology and mobility behaviours in urban space.[16]

A third group of quantitative urban geographers working on urban form was established around Dominique Badariotti at the LIVE research unit at the University of Strasbourg (including a period of activity at the University of Pau). Badariotti was first interested in possible applications of fractal analysis of urban form in planning,[17] while rooting his approach to the morphological process in the urban morphology and planning literature.[18] He later worked at the development of a new spatial analysis protocol to study topological neighbourhoods of buildings within the city, which was applied to the cities of Strasbourg and Pau,[19] introducing a new network dimension in urban morphology, beyond street networks. His team also worked at a morphogenetic model of urban sprawl, which was never applied to a precise case study.[20] Research at LIVE has later been developed towards the more classical issue of the link between mobility and urban form,[21] less focused on the study of urban forms and their evolution over time.

The fourth group of French (or French-speaking concerning CORE) quantitative geographers having invested in urban morphological issues is ESPACE, and more specifically its unit at Côte d'Azur University in Nice, around Giovanni

Fusco. This group followed a reversed trajectory compared to the one in Strasbourg. First interested in the interaction between urban form and urban mobility,[22] it later focused increasingly on urban morphology issues. Fractal analysis played a minor role for morphological research at ESPACE, and was mainly used to characterise retail fabrics in the city, within the protocol of Retail Fabric Assessment.[23] Building typology was also addressed by quantitative geographers at ESPACE, with computer-aided protocols capable of processing data of a whole metropolitan area[24] or even for the whole of France.[25] Above all, geographers at ESPACE developed the AI-based data-driven protocol Multiple Fabric Assessment (MFA) to identify and characterize urban fabric types within large metropolitan areas.[26] Following the Italian tradition of urban morphology, the basic unit of analysis for MFA is the street-segment, and its goal is typifying the organization of plots and buildings in a proximity band around it. The latter is an operationalization of the "*banda di pertinenza*"[27] and the analysis of its skeletal streetscape[28] allows the consideration of the pedestrian view of the urban fabric. MFA was used to study urban forms on the French Riviera,[29] Marseille,[30] Osaka,[31] Bruxelles, Izmir (forthcoming) and in a comparative analysis of Lyon, Marseille, Lille and the French Riviera.[32] Geographers at ESPACE are presently working on a morphological atlas of French cities, using the MFA protocol. Other research subjects at ESPACE are the forms of self-organized urbanisation,[33] morphological resilience,[34] and the morphological process.[35] Many of these works have been presented within the ISUF conferences, which resulted in a more regular participation of French quantitative urban geographers to international urban morphological research.

Other quantitative geocomputational contributions to the analysis of urban form came from research units outside of, but close to, theoretical and quantitative geography. This is the case for the works of Olivier Bonin and Jean-Paul Hubert at LVMT, Gustave Eiffel University (formerly IFSTTAR) in Paris. Baro et al. (2016) proposes thus a new approach to urban morphological analysis using raster socio-economic and building data. The application of their protocol produces morphological regions for French cities. Bonin also worked with Pierre Frankhauser to a new urban model, Franctalopolis, integrating a fractal approach to urban planning.

Interdisciplinary research between physicists and geographers has also contributed to the agenda of computational urban morphology. The research group around Marc Barthélémy at the Center of Social Analysis and Mathematics at EHESS in Paris has worked more specifically on the analysis and on the morphogenesis of urban street networks.[36] The same can be said for the Morphocity research group between MSC and LAVUE research units in Paris, federating physicists like Stéphane Duady and architects/morphologists like Philippe Bonnin. Lagesse et al. (2016) is an example of the contribution of this research group to the quantitative analysis of urban street networks, applied to the city of Paris.

Quantitative computer-aided approaches to urban form have also been developed in engineering, architecture, urban geography and planning research on energy consumption (consumption model related to different urban forms and building types), urban climates (urban micro-climate, urban heat island) and urban pollution (dispersion of air pollutants, noise), but these applied domains of urban morphology will not be considered in this account.

In conclusion, theoretical and quantitative urban geography has increasingly contributed to research in urban morphology in France (and in French-speaking Belgium) in the last two to three decades. These contributions come from a small number of research groups which have often collaborated and worked in interdisciplinary contexts. Methodological innovation has been a main focus of quantitative urban geographers, allowing for innovative applications, which have been used in different research agendas. Globally, they worked at the emergence of the domain of computer-aided urban morphometrics, but in many cases they overlooked the connection with the tradition of urban morphological research and participation to the ISUF network. The geographic scales of their works are extremely varied, and generally wider than architectural and urban design research in urban morphology. Some approaches, like fractal analysis of urban form, are more specifically trans-scalar and applied to a range of geographical scales. A wider and deeper dialogue between quantitative and qualitative approaches to urban morphology, among all the disciplines of urban morphology and first among architecture, geography, and urban planning, could only be beneficial to the advancement of the urban morphological agenda and to its contribution to the understanding and the answers to the current challenges of our urban world.

NOTES

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7. (*ibid*, p. 61)

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11. (Martin et al. 1972)

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17. See : C. Genre-Grandpierre, and J.-C. Foltête. "Morphologie urbaine et mobilité en marche," *Cybergeo: European Journal of Geography*, 248 (2003).

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TRACING THE ROOTS OF URBAN MORPHOLOGY THROUGH ACADEMIC ENGAGEMENT IN THE FIELD OF ARCHITECTURE IN SERBIA

ABSTRACT

Even though the Serbian Network of Urban Morphology (SNUM) is one of the youngest networks within the International Seminar on Urban Form (ISUF), it is believed that each of the networks is grounded and developed on the knowledge coming from the synthesis of science, practice, and education. This research aims to trace the origins of urban morphology in the context of Serbia by assessing the academic engagement of key scholars over time. The research builds on previous findings concerning the origins and genesis of teaching urban morphology in Serbia and a review of academic and practical thoughts and actions in Belgrade. Using data collection, content analysis of annual Faculty books and programs, retrospective faculty books, internal documents, accreditation documents, lecture notes, books, and editions in the subject field and by diagramming and visualization, research tends to establish a broad and detailed framework for creating timelines and identifying clusters. Periodization identifies four different periods that are metaphorically named according to plant growth - formation of Fertile ground, Suitable climate, Sprouts, and Shoots while the clustering enables the detection of the continuity of urban morphology in three scientific fields in the faculty – architecture, urbanism, and history. The metaphor with plant growth is significant for underlining that the roots of any field of study are of immense importance, both for understanding its origin, starting ground, and intellectual heritage, and for its proper growth.

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KEY WORDS

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INTRODUCTION

The Serbian Network of Urban Morphology (SNUM) was established in 2016, within the framework of regional networks of the International Seminar on Urban Form (ISUF). The main points of interest of SNUM include the evolution of urban form in Serbia, the relationship between research and practice, and the teaching of urban form. Over the last five years, SNUM aimed at demystifying the origins of the teaching of urban form and urban morphology in Serbia (within the ISUF Italy conference[1]), conducting a review of academic and practical thought (ISUF 2022 Conference[2]), and tracing changes in urban tissues both in specific case studies[3] and in comparison to other post-socialist countries (ISUF small grant and cooperation with Polish and UK scholars[4]). These activities had immense importance for the researchers, regarding networking, personal and professional development, and greater engagement within ISUF.

These activities have also initiated thinking and understanding of the position within the current research environment and in relation to different schools of urban morphology. The paper aims at approaching the study of knowledge on urban form from the standpoint of its evolutionary genesis in Serbia, directed toward understanding the roots of studying urban form through academic engagement, identifying both forefathers and role models, and detecting points, nodes, and networks/contacts where study began, arose, or was derived.

The endeavor to introduce and develop morphological studies at the University of Belgrade – Faculty of Architecture (UBFA) actively lasts for more than three decades, but its roots can be traced long before. These endeavors can be detected through four stages which are metaphorically named: (1) Formation of fertile ground, (2) Suitable climate, (3) Sprouts, and (4) Shoots. The metaphor of plant cultivation – from fertile soil and planting seeds to the first sprouts and shoots, insinuates an approach that reveals how a certain idea, in this case, the idea of the study of urban form, has been "rooted" in the education of architects in Serbia over a long period of time. This process is conditioned by changes in the social context, shaped by influences of the scientific and professional training of key figures, and groomed during Faculty educational reforms that opened up possibilities for teaching urban morphology at different study levels. The stages are described to gain insight into personalities and their academic engagement revealing individual contributions to the development of interest in morphological studies within the education of architects and the culture of design and planning.

METHODOLOGY

The initial assumption of the paper is based on the idea of the existence of a strong connection between the academic engagement of individuals and the development of a specific field of research in a certain region. The main elements of academic engagement are seen through education, establishing

courses, and modules, and publishing books, textbooks, and lectures. The research addresses the period from 1846 to 2022. Taking into consideration that the selected time frame predominantly covers the period before the digital era, this research gives more weight to the published and printed material and original lecture notes.

The study aims to identify the key figures who transferred knowledge, courses, and terms through the identification of inflows and influences, and to establish a connection with already established and commonly known schools of thought within the field of urban morphology. The research was performed in four phases: (1) data collection, (2) content analysis, (3) diagramming and visualization, and (4) periodization and clustering. The first phase implied the collection of documents and material from the library of the University of Belgrade, Faculty of Architecture, Archive material of the Department of postgraduate and doctoral studies, office libraries, and personal archives. In the second phase, content analysis was conducted for the following research materials (a) annual course books and study programs: 1971-72, 1972-73, 1978, 1985, 1998, 2000/2001, 2003/2004, and 2006[5], b) retrospective course books: books of courses and memorial books with unpublished manuscripts from 1948-1995, c) internal documents: postgraduate study program from 1960/61 until 1990/1991, 2003 d) accreditation documents: Ph.D. study programs from 2005, 2014 and 2021, e) Ranko Radović lecture notes, f) books and editions in the subject field: Urban forms (1998), and Agora editions. In the third phase, data visualization and diagramming were performed through two different methods: 1) establishing relations among key figures with a particular focus on understanding their academic background and engagement (both at home and abroad), to trace the routes and relations (detected through mentoring work, collaboration, and influences), and 2) mapping courses at different study levels, generated didactic material as well as additional academic engagement. In the fourth phase, periodization and detection of the presence of urban morphology in different scientific fields within the school (architecture, urbanism, history) were performed to detect specific periods and trace the continuity of the study of urban form.

"FERTILE GROUND": THE END OF 19TH AND BEGINNING OF 20TH CENTURY- PROGENITORS OF URBAN THOUGHT AND PRACTICE OF EUROPEAN URBANISM

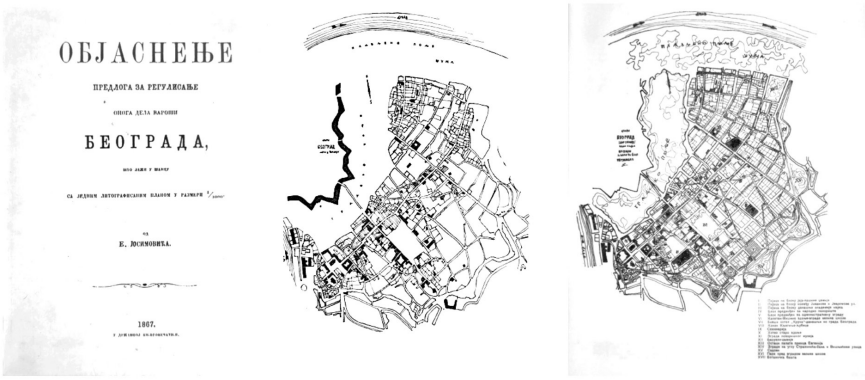
Relying on the knowledge and experience gained during his studies in Austria-Hungary where he completed Philosophy, Natural Sciences and the Polytechnic, Emilijan Josimović had a significant role in the introduction of urbanism in higher education and settlement organization practice in Serbia following the example of European cities. While teaching architecture and practical geometry at the Great School, founded in 1846, Josimović sought to transfer knowledge gained through the practical experience of drafting and implementing plans in Serbia in the second half of the 19th century. In addition

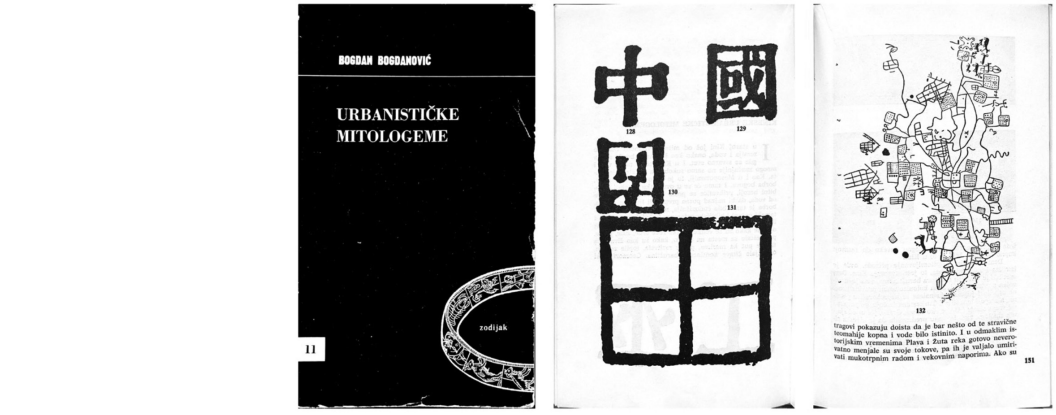
to the *Plan for the development of Belgrade* with *Proposal justification* (1867, Figure 1), Josimović also prepared the textbook *Civil Architecture and Road Construction* (1860), in which he provided an elaboration of urban characteristics of residential buildings[6].

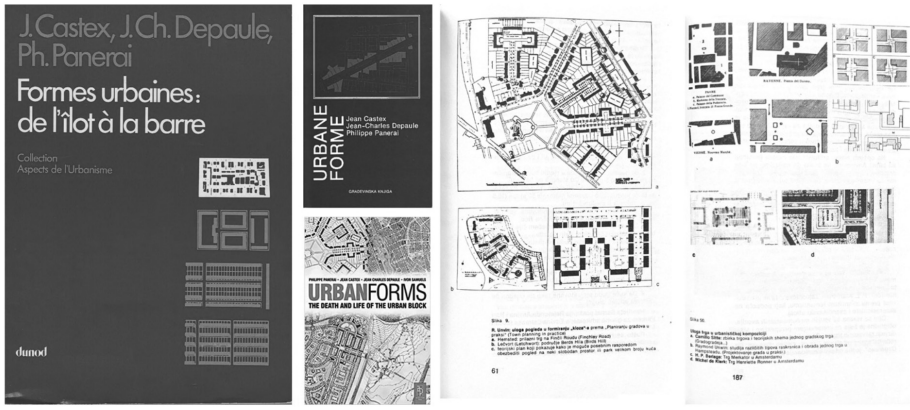
During the first decade of the 20th century, significant experience from establishing new and reconstructing the old towns in Serbia was gained and prerequisites were developed for the creation of the Department of Architecture at the Technical Faculty and accordingly for the development of teaching in the field of urban planning. Branko Tanazević brought his personal experience of studying architecture at Munich and organized the course *Town Planning*, for which he prepared a collection of lectures in 1909. Based on this collection, it is possible to trace his references to German examples of town planning - Stübben's work Der Stadtebau (edition 1907), which enabled students of the architecture department to get acquainted with the current approach in town planning and garden squares (parks) as well as to compare it with Camillo Sitte's approach[7]. Based on Josimović's works and the content of Tanezević's lectures along with their specializations in Vienna and Munich, it can be concluded that during the second half of the 19th century and the beginning of the 20th century, town planning in Serbia followed principles of the Austro-Hungarian and German school of town planning. The works of Josimović and Tanazević represent the foundation of urbanist thought and practice, which can be metaphorically presented as a fertile ground for the education of urbanists taking European schools as role models.

"SUITABLE CLIMATE": PERIOD AFTER WORLD WAR I - UNITY OF ARCHITECTURAL AND URBAN THOUGHT AND CREATIVITY IN THE RECONSTRUCTION AND PLANNING OF NEW TOWNS

After World War I, Mihajlo Radovanović made a significant contribution to the development of education in the field of urbanism. Radovanović incorporated experience from his specialization studies at the Urban Institute of the Sorbonne (1926-1928) into the teaching process at the Technical Faculty in Belgrade and modernized the program and methodology within the *Town Planning* course. Immediately after World War II, Nikola Dobrović (who studied architecture in Prague, Czech Republic), Branko Maksimović (who finished doctoral studies in Ljubljana, Slovenia) and Branislav Kojić (who finished the course in Nice and studies in Paris, France) made a special contribution to the study of the history of urbanism, towns in the Balkan region and the practice of urban planning perceivable through a large number of courses and textbooks in the domain of history, application of typology and urban planning techniques.[8] At that time, courses on *Town Planning*, *arrangement of villages*, and *Garden Architecture* were held at the Faculty. Nikola Dobrović published the textbooks *Urbanism Through the centuries - Yugoslavia* (1950), *Urbanism of the old age* (1951), and *Technique of Urbanism - urban traffic 1a. elements* (1954) and *1b.*







UP: Fig. 1. Proposal rationale for the urban regulation of the part of Belgrade inside the moat (1867)

MIDDLE: Fig. 2. Urban mythologems by Bogdan Bogdanović (1966)

DOWN: Fig. 3. Urban forms, original- French edition (1977), serbian edition (1989), UK editions (2003)

patterns (1957); Branko Maksimović introduced the history of urbanism into the teaching and prepared the textbook *Urbanism - the basics of town planning* (1957). Banislav Kojić was responsible for the study of villages (rural studies, further continued within UBFA by Milorad Ribar and Aleksandar Videnović) and the typology of squares, which he published in 1970 in the book *Towns in Serbia from XIX Century*.

The teaching of the history of urbanism was developed according to the ideas of new teaching staff focused on the technical aspects of urbanism (Branislav Mirković taught the *Basics of Urbanism* and edited the textbooks *Basics of Urbanism* Ia and IIa (1964) and Ib and IIb (1968)), spatial and programmatic aspects of settlement organization (Oliver Minić taught the course *Social Centers*) and the history of the city (Bogdan Bogdanović taught *Settlement Development* and published *Small Urbanism* (1958) and *Urban Mythologems* (1966, Figure 2)).[9]

The need for professional training and engagement of architects in the urban practice of reconstruction and planning of new settlements is common for each of the post-war periods. Accordingly, this state created a suitable climate for the more intensive and integral development of architecture and urbanism studies at the Technical Faculty. The need for professional staff in the field of urban planning is evidenced by a document sent by the Association of Yugoslav Engineers and Architects to the Technical Faculty in Belgrade in 1933, where it is noted that more attention should be paid to the course of town planning,[10] and this standpoint is also confirmed through the establishment of the Institute of Town Planning immediately after, led by M. Radovanović.

Thus, in 1947, the founding of the Republic Institute of Urban Planning, the launching of the competition for the master plan of New Belgrade, and the establishment of new mining and industrial settlements conditioned the active engagement of a greater number of experts and caused the need for better education and training. With the increase in the number of students, the need for new teaching staff in the field of planning and design was also growing. This is a significant time for the development of the subject matter not only at the undergraduate but also at a postgraduate level (master's and doctoral). This period is marked by the reconstruction of the country within a specific socio-economic context and it is represented as a period of a "suitable climate" for the development of specific approaches in urban planning, but also as a period of the emergence of personalities who inspired generations of architectural students to explore the city.

"SPROUTS": INSPIRERS - ELEMENTS OF URBAN MORPHOLOGY IN TEACHING AT THE UNDERGRADUATE LEVEL

In accordance with the protests that marked the year 1968 all over the world, and the idea of liberalizing the system, teaching at the Faculty of Architecture in Belgrade was reviewed and reformed by the dean Bogdan Bogdanović

(under the influence of his study visit to the USA and France). The New School brought a series of innovations, of which the introduction of several new courses led by the protagonists of the New School is significant for this research: 1) *Urbanology* and *Urban Environment* (led by Bogdan Bogdanović) and 2) *Architectural Analysis* (led by Branislav Milenkovic)[11](Andjelković, 1972; Andjelkovic, 1973). Later on, their successors, Dimitrije Mladenović, Ranko Radović, and Zoran Nikezić, introduced elements of urban form and urban morphology in their courses, providing a starting point for the study of urban morphology and typology.[12] The influence of the French school is present through the professional training of Bogdan Bogdanović and the scientific verification of Ranko Radović (doctorate at the Sorbonne).

The study program that has been implemented since 1985 is significant for this research since it contains courses with elements of urban morphology: *Urban Technique* (led by Dimitrije Mladenović), *Urban Reconstruction and remodulation* (led by Sima Miljković) and *History of the City* (led by Bogdan Bogdanović).[13] An additional study program of interest is the one implemented in 1993, where elements of urban morphology were integrated to a large extent into various courses: *Urban Environment and Urbanization* (led by Zoran Nikezić) and *Urban Technique and Composition* (led by Mladenović Dimitrije and Petar Arsić).[14] In the Urban Reconstruction module, the following elective courses were established: *Urban Structure, Urban Reconstruction, Urban Technique and Composition II, and Development of Architecture*. It is possible to highlight the course *Public Spaces of the City* (led by Nada Lazarevic Bajec) which had a specific thematic unit devoted to functional and morphological analysis (urban life and urban form).[15] The reference to the French school of thought can be traced through the way courses were named in the context of UBFA. Namely, in the French context Frederick Gibberd's book Town Design was translated as *Urban composition* (fr. *Composition urbaine*), while the origin of the term Urbanistic techniques (fr. *Les techniques de l'urbanisme*) can be found in numerous editions published by Presses Universitaires De France (with the first edition published in 1953).

Moreover, the French influence can be also traced through the activity of the local editorial office Agora within the publisher Gradjevinska knjiga, where Ranko Radović had an important and active role over time. The Book *Formes Urbaines - De l'ilot à la barre* written by Jean Castex, Jean-Charles Depaule, and Philippe Pannerai was translated into Serbian and published in 1989 (Figure 3). The book is characterized as a morphological study based on historical examples: architectural, at the scales of urban tissue, that permits the social as well[16]. By trying to trace back the influence of the French approach to the study of urban form, Darin has marked the links of the School of Architecture at Versailles with the Italian Typomorphological School of urban analysis[17], while Samuels additionally highlights the links to German traditions of morphological study[18]. It is worth mentioning that the book has been translated into Serbo-Croat in line with translations into Italian, Spanish,

Dutch, and German, while the English translation appeared 25 years after the publication.[19] This knowledge gives us reason to think that, at that time, architectural education at UBFA was on the trail of current approaches to urban form and was able to follow the intellectual pace within the field.

It is worth mentioning that the editorial board for the book edition consisted of Ranko Radović, Aleksandar Laslo (Croatian architecture critic and theorist), and Aleš Vodopivec (Slovenian architect), while the translation was handled by architects Mirjana Mihajlović – Ristivojević and Gradimir Bosnic, and professionally edited by architect Živojin Kara-Pešić. For him, this book is important due to the fact that it was published along with such "fundamental classics" as: Ebenezer Howard's Garden Cities of Tomorrow, followed both by fundamental American works such as Kevin Lynch's The Image of the City, Christopher Alexander's Notes on the Synthesis of Form and Robert Venturi's Complexity and Contradiction in Architecture. He also underlines the French approach to expression and appreciation of the reciprocity of the social and spatial in the city, admiring the author's urbo-morphological approach to the well-known case studies for which this kind of analysis was not performed to that date. This book has been perceived as an indispensable part of the bibliography within previously mentioned courses.

"SHOOTS" - PROTAGONISTS OF URBAN MORPHOLOGY AT POST-GRADUATE AND UNDERGRADUATE LEVEL OF ARCHITECTURAL STUDIES IN BELGRADE

Postgraduate studies at the Faculty of Architecture have been organized since 1961, mainly in three scientific fields: urbanism, architecture, and history (development of architecture and settlements). Morphological studies were gradually introduced into scientific research within all three areas, first through individual courses and then as a specific module. Ranko Radović taught *Principles of Formation and Typology of Urban Spaces* from 1983 within the module Contemporary Architecture and Urbanism (within the field of history - development of architecture and settlements).[20] The importance of Ranko Radović for urban morphology is particularly confirmed by his published books *Physical Structure of the City* and *Urban Form: Basics, Theory, and Practice* (Figure 4), as well as a series of thematic lectures as part of the open to the public course of urban design that he gave at the Kolarac National University. Additionally, after leaving UBAF in 1992 through his academic engagement in Japan, and Finland after establishing the Architectural studies department at the Technical Faculty of Novi Sad. During this series of three hour lectures delivered from January to May 1998, Radović covered topics of (1) *L'art urbain – hope or illusion*, (2) *Forces and challenges of the art of town planning*, (3) *About urban morphology, but truthfully*, (4*) Urban design / a bridge between planning and architecture* (5) *A brief and critical history*

of urban design (6) *Principles and methods of urban design*, (7) *Typology of urban spaces*, (8) *Anatomy and structure of urban planning*, (9) *Postmodern culture and urban design today*, (10) *Urban design and its language*, (11) *Urban design, and social context*, (12) *Urban design and urban equipment*, (13) *Urban design case studies,* and (14) prospects of urban design.[21] Here, we can trace the importance given both to urban morphology and typology in the study of urban form. According to Radović, typology in architecture and urban morphology is important not only for the form but much more for the substantial, social, and functional.

In the third lecture concerned with urban morphology, Radovic states that urban morphology and urban form have become the consequences of economic, social, and all other sectoral studies and goals. In this lecture, Radović highlights his personal endeavor to give urban morphology a more significant place in the context of planning: (1) within the subsection on physical structures included in the General Urban Plan of Belgrade 1969/1971, and (2) within a symposium organized by the Urban Planning Institute in 1976 where he tried to present urban morphology as an integral part of planning (in addition to traffic and land use), but this manuscript was never published. Even then, Radović states that with the so-called resistance to physical determinism in working with the city and in the city, practically the entire physical aspect of planning was secluded from urbanism, along with elements of urban morphology (verification and control of the concept – program parameters in relation to quantity, quality, and typology). Thus, according to the author, "visual representation of physical structure" became just a euphemistic name for superficial simulation.".[22]

The period of the 1990s, when the courses led by Dimitrije Mladenovic (field Urbanism), Branislav Milenković (field Architectural organization of space), and Miloš Bobić (Architectural organization of space) were accredited, is of importance for the development of urban morphology at the postgraduate level in architectural education in Serbia. The greater representation of morphological research at this level of study is confirmed through a series of courses: (a) *Typological and morphological conclusions* - a course realized within the Urban Renewal / Reconstruction course; (b) *Topology, typology, morphology* (D. Mladenović) - a course realized in the module Architectural organization of space; (c) *Morphology and typology of the residential environment* (M. Bobić) - a course realized in the Housing module; and (d) *Morphology of the city* (M. Bobić, D. Mladenović, R. Radović, and Nada Lazarević Bajec) - the course was implemented in the module Urban and Spatial Planning and Urban Design as an elective subject in the field of Urban Design.[23] In the continuation of her academic career, Lazarevic Bajec devoted herself to innovate teaching and subject matter in the field of urban planning and perform and inspire valuable scientific research in this field.

In 1991, Bobić started the *Morphology of Organized Space and Time* module at the postgraduate level, which stands out as a unique case in which teaching of urban morphology grew to an entire study program at the postgraduate level.[24]

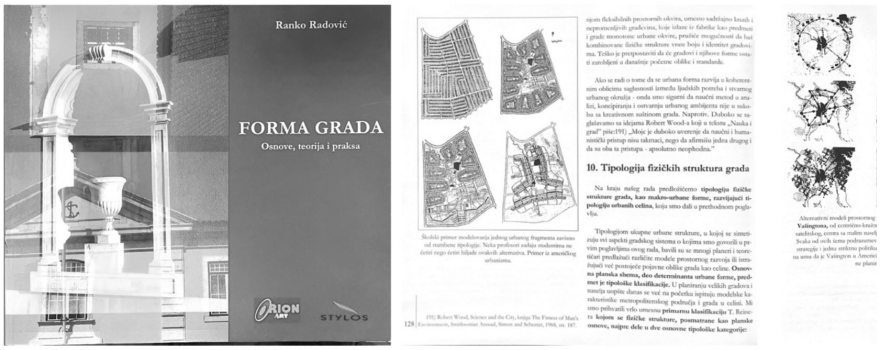
His importance for research in this area and outside the school framework is further confirmed by his activities in editing the magazine *Komunikacije* and through published works in English: (1) *The Role of Time Function in City Spatial Structures: Past and Present* (1990); (2) *A Pattern Image: A Typological Tool for Quality in Urban Planning* (1994, Figure 5) and (3) *Between the Edges: Street-building Transition as Urbanity Interface* (2004).

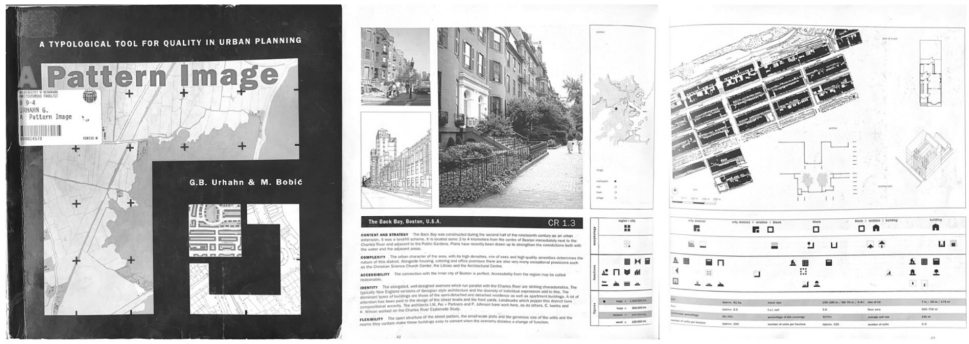
The first book aims to "establish the historical complexity, meaning and role of the time function in constituting city space through an analysis of morphological patterns and the social context, and to establish critical points in the time-space relation in the process of the genesis and utilization of the modern, planned city".[25] The second book provides "broad range of built environments suitable for future urban planning and studies the structures necessary to determine their visual success" and it is intended as a manual for specialists as well as a reference for ordinary users.[26] The third book deals with the interaction between public and private domains and can be perceived as "attempt to make a breakthrough in understanding contemporary city conditions that are under the influence of three combined forces: free housing market, excessive state control, and professional inertia".[27] The book is structured into five parts, of which the fourth deals with Interface Morphology, where various transition configurations are considered to be used as criteria for the classification of the basic types of interfaces, while the fifth deals with Interface Typology defining seven types.

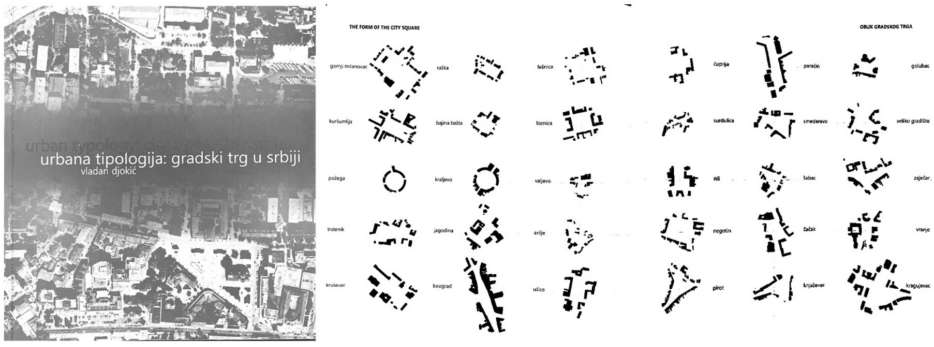
In mentoring and pedagogical work, Zoran Nikezić provided a broad base for morphological research of the city on the subject of *Urban environment and urbanization* and with the preparation of the textbook *Built Environment and architecture*. In addition, during this period, in their final years of study (VII-IX semesters), students were introduced to eleven programs, one of which is relevant to the study of urban morphology: the Urban Reconstruction and Urban Composition program. Within this module, the courses are organized: *Urban Reconstruction*, *Urban Composition*, *Cartography and Urban Infrastructure*, and *Styles and Urban Forms*.[28]

The UBAF study program dating from 1993 was implemented until the education reform in accordance with the Bologna Declaration and studies according to European standards (2006). Since 2003, the choice of courses has been expanded, and urban morphology was studied within the elective group of courses: (1) *Protection and Revitalization of historical urban entities*, on the course: *Development and Typology of urban spaces*. In the elective group of subjects Urban Reconstruction, the following subjects are organized: *Urban Morphology* (Vladan Djokić), *Urban Reconstruction* (Eva Vaništa Lazarević), *Urban Composition 2* (D. Mladenović), *Development of Architecture and Settlement 2*.[29]

The continuity of urban morphology in postgraduate studies since 2003 was continued by Vladan Djokić (master's degree in the USA) and Aleksandra Đukić with elective subjects in the postgraduate program Urban planning, design and management: *Morphology and typology of urban spaces* (V. Djokić)







UP: Fig. 4. Urban form: basics, theory and practice (2003), Ranko Radović

MIDDLE: Fig. 5. A pattern immage – a typological tool for quality in urban planning (1994), Bobić Miloš

DOWN: Fig. 6. Urban Typology: City Square in Serbia (2009), Djokić Vladan

and, *Morphological patterns of microenvironments* (A. Djukic)[30]. Since 2005, As part of Doctoral studies, the following courses have been organized: *Morphology and Typology of the City* as a part of the research project, from 2014 as a part of the research seminar within the module Urbanism, and elective subject *Urban patterns* (A. Đukić). From 2021, the course *Urban Morphology and typology* is a part of Research Lab 1-U: Typomorphological Studies in Architecture and Urbanism: Morphology and Typology. In the study program accredited by RIBA since 2014, the course *Urban Morphology* (V. Djokić) has been included as a compulsory course in the first year of bachelor and integrated academic studies in Architecture given to 304 students per year, enabling all students to get acquainted with a fundamental knowledge of urban morphology. With the introduction of the mandatory subject *Urban Morphology* in the Bachelor and Integrated Studies of Architecture course , textbooks were prepared in Serbian and English, *Urban Morphology – City and City Square* (2004)[31] and *Urban Typology: City Square in Serbia* (2009, Figure 6)[32], as well as by establishing the Serbian network of Urban morphology (SNUM) in 2016 and the establishment of a research unit MorphoLab: a Laboratory for urban morphology and typology in 2021, Vladan Djokić joins Ranko Radović and Miloš Bobić in contributing to learning and studying urban morphology architecture studies in Belgrade.

In his books, Djokić connects the historical - morphogenetic approach and typology, linking relevant research from the field of urban morphology from the UK, USA, and Italy but also highlighting key figures from the local context who devoted the majority or part of their research to urban morphology.

SYNTHESIS

Based on the content analysis and data visualization in the form of a diagram, developed to map key figures chronologically and establish relationships among them (Figure 7), it is recognized that the original thought on urban form dates from the mid-19th century and it is related to the action of Josimovic E. who brought his practical experience into the academic environment. Together with the work of Tanezevic B., the connection with schools of thought from Germany and Austria-Hungary are evident. The thought is further transmitted to the period of the beginning of the twentieth century, within which Radovanovic's activities stand out, specifically his endeavor to strengthen the role of urbanism in technical faculties.

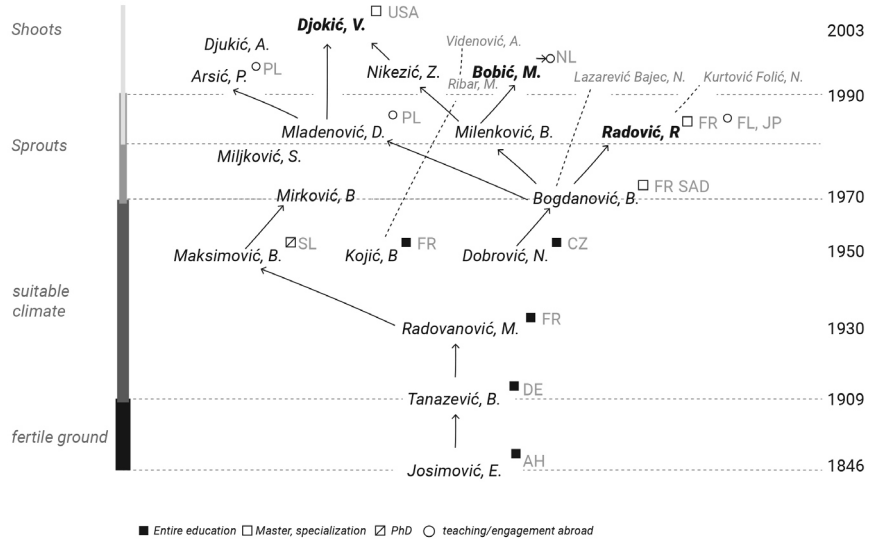
In the middle of the 20th century, the tree becomes more complex and several personalities became significant for the study of urban form, whose contribution is based equally on practical and academic arenas. On the transition from fertile soil to sprouts, the reforming spirit of Bogdan Bogdanovic and the importance of thinking about the city stands out, while the first sprouts appear with the work of Ranko Radovic (with a strong influence of the French school),

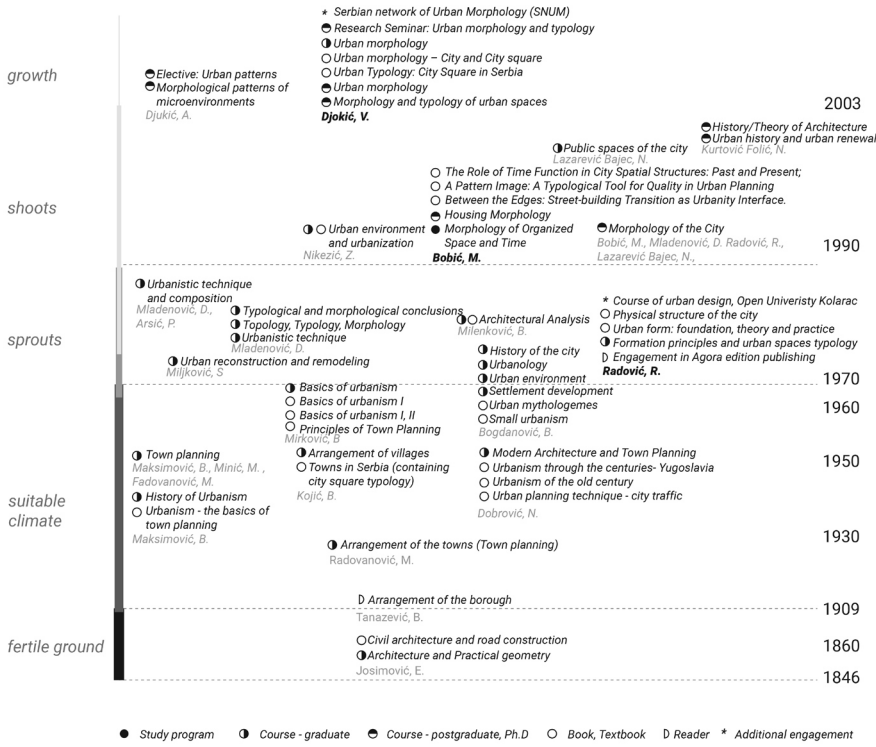
Milenkovic, B., and Mladenovic, D. (who developed strong ties with the Polish approach and school of thought). In addition to the distinct importance of Nikezić, Z. in the mentoring and academic sense, the achievement of Bobić, M. stands out, who, in addition to individual courses, conceptualized the first postgraduate course on urban morphology and had active publishing, practical and academic engagement, first in Serbia and then in the Netherlands. Finally, in the 21st century, Djokic, V. stands out as an academic who introduced and implemented courses of urban morphology both as a compulsory subject in the first year of the bachelor and single cycle-studies and elective courses and design studios at Master 's and Ph.D. level, and formed the research lab thus completing the cycle of learning and studying the topic of urban morphology.

Looking at the aspects of courses (Figure 8), didactic material, and additional engagement, it is recognized that thought is dominantly developed through the complexity of study programs and course profiles with the parallel support of a didactic framework made up of books and textbooks. Although continuity is recognized in the development of thought and action, as well as in publishing activity, it is also recognized that studies on urban form are present as an indirect object of research in the research and practice of urbanism, town arrangement, and planning (both from a historical and technical point of view), while the articulation of urban morphology and typology appeared in the 1970s, the use of the term was intensified from the 1990s onwards. When combining academic engagement and additional involvement– e.g. through the course of urban design (Radović, R.), a rich publishing activity (Bobić, M.), and the founding of SNUM (Djokić, V.), it is possible to highlight the importance of these three figures in the context of Serbia.

CONCLUSION

Looking at the overall development, it can be concluded that in different periods of time, within the framework of numerous study programs, significant strides were made in the communication of urban morphology in all three teaching areas and at all study levels in architecture (Figure 9): history (Nikola Dobrović – Bogdan Bogdanović – Ranko Radović), architecture (Branislav Kojić – Branislav Milenković – Miloš Bobić) and urban planning (Mihajlo Radovanović – Bogdan Bogdanović – Dimitrije Mladenović – Zoran Nikezić – Vladan Đokić). Prominent achievements in transferring knowledge and inspiring new generations for urban morphology, these scholars, working in different periods together, achieved continuity in the study of urban morphology in architecture studies in Belgrade. We could state that it is no coincidence that three decades of development of urban morphology at the Faculty of Architecture coincide with 30 years of ISUF which confirms the efforts of individuals to enable the school to keep pace with the world.





UP: Fig. 7. Relations among key figures - mapping of academic background and academic engagement

DOWN: Fig. 8. Academic engagement map - courses within different study levels, produced didactic material and other engagement

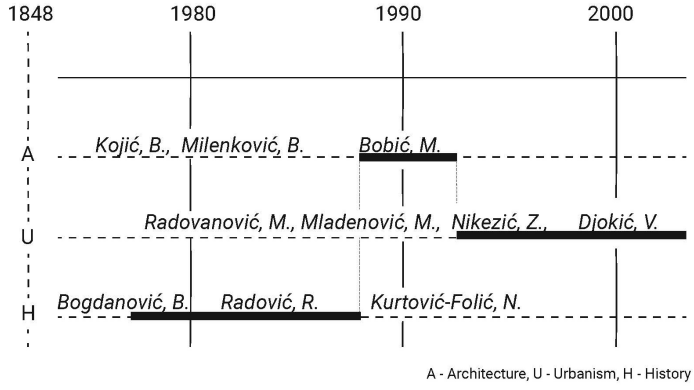


Fig. 9. Spatial distribution of conference papers based on the location of case studies

NOTES

1. Vladan Djokić, Milica Milojević, Aleksandra Djordjević, and Mladen Pešić, "Urban morphology education in Serbia: Origin, genesis and new tendencies, " In: *Proceedings of the 5th ISUFitaly International Conference urban substrata and city regeneration. Morphological Legacies as a Design Tool,* ed. Guiseppe Strappa, Paolo Carlotti, Mateo Leva (Rome: ISUF ITALY, 2020), 665–674.

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za akreditaciju studijskog programa (Beograd: UBFA2014); Anon, *Study program structure (Struktura nastavnog programa) (*Beograd: UBFA, 2021).

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7. Ibid.

8. Ibid.

9. Ibid.

10. Ibid.

11. Borivoj Andjelković, *Faculty of Architecture Belgrade School book 1972-73* [*serb*. *Arhitektonski fakultet Beograd Školska knjiga*] (Belgrade: UBFA, 1972); Borivoj Andjelković, *Faculty of Architecture Belgrade School book 1973-74 [serb.. Arhitektonski fakultet Beograd Školska knjiga*] (Belgrade:UBFA, 1973).

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URBAN MORPHOLOGY STUDIES IN THE RUSSIAN SCIENTIFIC TRADITION

ABSTRACT

The formation of urban morphological science in Russia can be attributed to the 1950s, with the interest in the study of the urban history. The development of morphological research can be divided into four major periods. The first one is associated with the creation of methods for studying the development of urban form and architectural typology depending on land use and land ownership in the pre-socialist period (N. Gulyanitskyi, V. Lavrov, E. Kirichenko). The second can be characterized as predictive-conceptual. It was concluded that new modernist cities built in the 60-70s evolved according to the laws of the historical city and are little controlled by centralized urban planning (A. Gutnov). The third period is connected with the ideas relating to landscape unity and heterogeneity, the nexus of physical, biological and social processes. The mapping of morphological units was part of the historico-morphological and landscape approach to urban structural analysis (V. Gutsalenko, I. Kukina). At the present period one should state the introduction of the morphological high-technology methods under the pressure of the political and planning Codes adopted at the end of the twentieth century. They restore the forms of land ownership and uses, which change the urban form (A. Bolshakov, E. Logunova).

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INTRODUCTION

The emergence of a knowledge system about city morphology in Russian science can be dated approximately to the middle of the twentieth century, during active studies in the urban planning field. Previously, for more than a hundred years scholars accumulated considerable experience in the study of the structure of individual cities, their spatial composition the development of architectural typology. Morphological knowledge formation can be divided into four periods. Each of them corresponds to the problems, research methods and certain discoveries.

The study employs a historical periodization method that is a subject of debate. Its complexity lies in the formation of criteria systems for evaluating each period of morphological knowledge. Urban morphology studies are associated with different fields of knowledge and methodologies characteristic of each of those fields. It cannot be claimed that in this case, periods of study are arranged in strict retrospection. Rather, one should note the sequence of the beginning of a certain period in connection with emerging research and applied problems in urban design. Accordingly, different research methods are adapted. The beginning of each a period is linked to fundamental publications that initiate scientific discussions. Then the methodology of research is enriched, and knowledge is updated.

In the field of historical, archival and archaeological studies of city structures, the comparative-historical method, methods of specific and logical analysis, chronology, periodization, and actualization are used. The criteria for analysis are artefacts. In the field of urban theory, which primarily uses the method of logical analysis, the following criteria for analysis are used: landscape form, morphotypes and archetype of development. The most important is the method of morphological zoning in correlation with the external form of the landscape and the method of analogies - the study of the boundaries of phenomena distribution (by analogy with the ecology method) in correlation with geographical studies for the needs of the city. In applied urban design and planning, one can observe the development of computational and graphic methods in the study of urban form which was necessitated by the pressure to understand environmental parameters such as voids, densities, closeness, flow of spaces, etc.

The significance and integration of research methods in research practice will increase since the process of science integration is manifested in increasingly widespread borrowing of each science’s research methods from other scientific fields.

In the first period the documents of state and regional historical archives are systematized and analyzed, field studies and archaeological research are documented. In the second period, the direction of research coincides with the growing criticism of strict functionalism, which was supposed to solve the problems of the industrial city. In this regard, scholars explored not only the first

results of modernist city functioning, they also take interest in the morphology of the historic city in comparison to the modern city under the growing pressure of research in sociology. In this period, they also develop a system of definitions. In the third stage, urban science is enriched with the results of research related to urban planning. Methods of complex applied research are formed based on in-depth study of geography and landscape morphology. The modern period of research requires researchers to possess the tools of high technology, knowledge in the field of applied politics, economics and other spheres, which often leads to the formation of research teams with different specializations and skills, and even representatives of different professions.

HISTORICAL AND ARCHIVAL BASES FOR THE MORPHOLOGY OF THE CITY

The large-scale result of the first 'historical and archival' period of research is a series of collective monographs summarizing almost half a century of activity of the Russian Academy of Architecture and Construction Sciences and its subdivision, the Research Institute of History and Theory of Architecture and Urban Planning.[1] Within the framework of one article, it is impossible to summarize the results of this fundamental research. Therefore, here we will briefly review only the most noteworthy. The results of the first period included studies of the historical cities of Russia, the rules of construction as well as empirical experience.[2] The latter is characterized by an abundance of epic texts, annalistic sketches and, at best, archaeological evidence. The main document regulating the construction of the city was the medieval Code of Laws - Domostroy. The analysis of the texts allowed an understanding of the choice of location for the construction, the requirements for the configuration of the landscape (hills, watersheds, coniferous or deciduous forests, orientation of the main elements of the city and individual buildings).

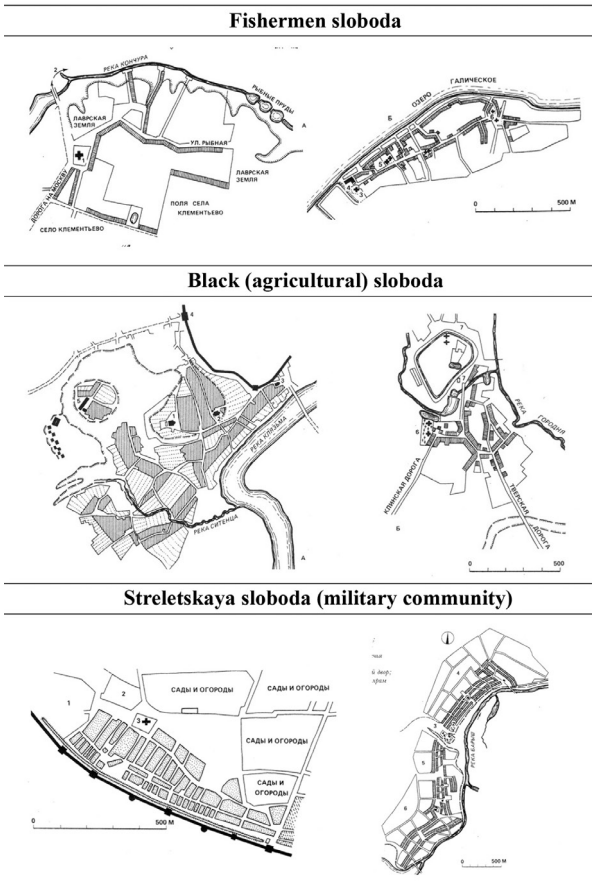
The early medieval town was largely based on associations with the human face and body, it was spiritualized. Detynets (the inner fortress) was the head, the gate was the mouth, the windows and porches of the buildings were the eyes, the forests and groves were public spaces. Each high-rise or particularly picturesque element of the landscape was marked by the most significant building. Movement through the city was guided by architectural landmarks. Roads and paths ran either along watersheds or valleys and completely responded to the pattern of relief. The main buildings of the residential estates were placed in the center of the landholding, while secondary buildings faced the street. Therefore, although apparently chaotic, Old Russian towns, which did not have 'European' dense streets, had a completely rigid hierarchy of buildings and spaces from family landholdings to public spaces and properties of the feudal lord.[3] Before the initial construction and reconstruction regulations introduced by Peter I, Catherine II and Alexander I, studies of the post-Mongol period identify several morphotypes

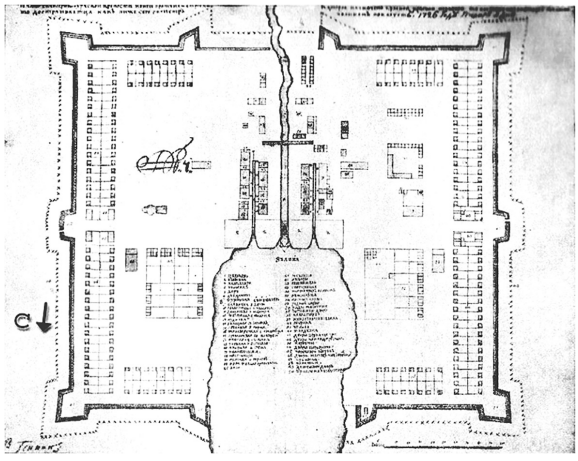
of urban development.[4] Their plans, drawings of the road network, the features of the archetypes of secondary buildings were associated with the specifics of land tenure and land use. The archetype of the main building of the estate was, as a rule, characteristic of its region.

Of all the variety of the studied examples, we should focus on the slobodas (residential communities). Here, with the development of the social structure of the city, crafts and professions, distinctive morphotypes were formed: Streletskaya Sloboda (military), fishermen, black (i.e. residents mainly engaged in agriculture), Yamskaya (transport). Military, black and fishermen slobodas were usually located inside the walls. Fishermen and military had a clear orthogonal pattern of roads: the fishermen slobodas had short, wide roads to the water area for the convenience of moving boats and the catch; military - broad straight streets towards the center and to the city walls for the speed of defensive manoeuvres; in the black slobodas, the most picturesque, the roads lay between the fields. Transport slobodas were formed outside the city gates, forming a junction of converging short roads where carriages were available for travel between cities[5] (Figure 1).

A special city connecting the system of streets and 'ends' is Great Novgorod. The city was governed by the Veche (city assembly) of representatives of the community's noble families, which, if necessary, could invite the knyaz (duke) to perform political functions and could also expel him. While the Great Novgorod Kremlin was built according to the rules common to Russian cities (mainly for the treasury, munitions, seeds, duke's dwelling, and the main cathedral), the morphology of the city is quite unique and consists of the placement of common elements. The street ran picturesquely between the 'ends'. The 'end' was usually a small square, faced by the family temples and residential buildings of the main families of the community, 'turning away' completely from the street. The plan of medieval Great Novgorod as a result has the shape of a curved web with complex irrational junctions.

Another unique morphotype is the factory town.[6] It is interesting because the workers' dwellings, public spaces, factory management, temples, administration dwellings are completely integrated with the production process. The main object and space of the city was a dam and workshops, arranged consecutively according to their energy capacity. At their perimeter there were residential quarters with their own plots of land. The factory town is characteristic of the period of industrial development of the Urals, Siberia and the Far East (Figure 2). Planned urban development involved a radical change in the appearance of the city with an orthogonal layout and streets built up with residential and public buildings and services from the street side.[7] Many Russian cities have acquired an extraordinary combination of morphotypes of the planned and preplanned city, the study of which falls largely in the second stage.





UP: Fig. 1. The urban forms of the Russian medieval slobodas (residential communities) (Gulyanitskyi, 1994)

DOWN: Fig. 2. Scheme of the factory town (Alferov, 1960)

PREDICTIVE-CONCEPTUAL SCIENTIFIC CREATIVITY IN THE STUDY OF THE STRUCTURE OF THE CITY

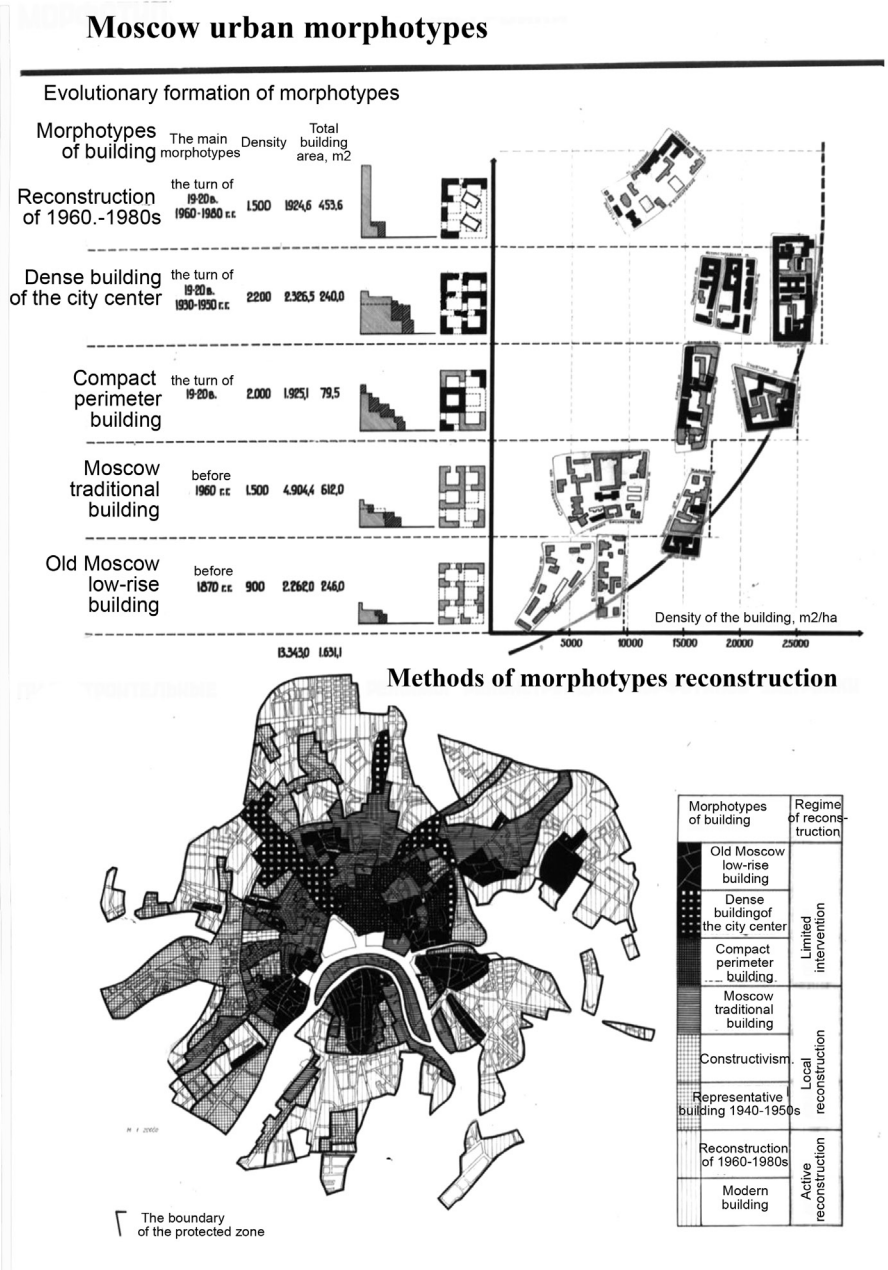
The second period in the development of the study of urban morphology can be characterized as predictive-conceptual. It was concluded that the new modernist cities, built in the 1960-1970s, developed according to the laws of the historic city and did not rely much on the centralized urban planning. The conclusion became more obvious and relevant later, in the early twenty first century, within the body of studies of the post-socialist city with the return of the rights and responsibilities of land tenure and land use. Research of this period was largely focused on the applicability of the results to urban design. A number of works in this stage were related to the analysis of the evolution of the spatial forms and construction of planning structures,[8] architectural form and typology.[9] In the 1980s, Alexey Gutnov, Vitaly Glazychev and later Nina Krainyaya coined the term morphotype.[10] In Russian science it is defined 'as an evolutionary variety of planning and spatial organization of urban development. Morphotype reflects the functional content of development and specifies the spatial organization of the territory and its historical and cultural aspects'. Morphotype is the structure of the district space, a set of relations of quantitative geometric and topological indicators of the development and open space, formed by the dominant social values. Olga Vasina used examples of district development in the European part of the country to prove changes, densification, and division of development within the framework of the 'planned city' built according to the regulations of the period of Catherine II period. Her findings are close to the British school of urban morphology in describing morphological processes. Typically, researchers worked with district development, where each morphological element was limited by urban roads. Among scholars there are different morphotype divisions according to historical affiliation, social aspects, territorial formation principles, and scale.

In relation to the modernist city, given the specifics of free planning, attention often focused on the courtyards. In many works from the 1970s to the mid-1990s there are related classifications: district development, groups (by archetypes), residential groups in the ribbon and high-rise development. Alexey Gutnov who was exploring the phenomenon of the impact of urban environment variability proposed an approach to urban planning objects based on a combination of the principles of rigid regulation and probabilistic choice of object characteristics. The development of urban planning projects and forecasts should be based on comprehensive information about the city by functional-spatial, socio-economic, mathematical and other models. It should be expressed in the design of flexible planning schemes, where 'morphotypes of residential development, placement of individual structures within the general regulations are adjusted each time based on the specific opportunities of the project at a particular stage'.[11]

Nikita Kostrikin's work 'The City Plan as the Basis for the Formation of its Artistic Image' introduces the analysis methodology of city plan composition.[12] It embodies the principle of historical and natural determinism and the concept of morphogenesis - the study of the evolution of form according to its internal (immanent) laws of development of historical, natural and morphological factors. The author proposed the principles of morphogenesis: continuity and correspondence of the form of the plan to its size; as well as a comprehensive method of plan evaluation as the basis for the formation of the artistic image of the city. Vitaly Lavrov described the process of transformation of the planning structure of the historical city as it grew, the formation of the cultural landscape of the city, which led to the multiculturalism of the modern city. The latter conclusion became clearer in the early twenty first century, when researchers distinguish morphotypes and landscape areas non-planned origin.

Despite the fact that the number of researchers, works in the field of urban morphology, dissertations, researched cities and the interest of researchers in this field of science has increased many times, it took several decades for the theoretical ideas to crystallize into normative prescriptions in accordance with the stated goal back in the mid-twentieth century. The parameters of the morphotypes were normalized and became mandatory for design in 1999, and were corrected and confirmed in 2005 by the Research and Design Institute of the Comprehensive Plan of Moscow under the direction of Lidiya Kozhayeva (Figure 3).[13] Morphotypes in this case have developed as the smallest plots with the predominance of any historical archetype. Adjusted for the intensification of community work, a similar plan was proposed for the reconstruction of the historic districts of the center of Samara, based on an assessment of morphotype development. The uniqueness of the latter example lies in the involvement of homeowners in the process of recreation of the environment of the historic city. The fate of the historic core within the boundaries of its plan in the city development strategy is not clear up to now because, unfortunately, in Russian practice the plan as an object of cultural heritage is considered only if the value of architectural objects is recognized.[14]

A distinct body of research in applied urban planning should include the work of Oleg Hauke's group (1961 - onwards) on the possibility of planned development of the suburban zones to achieve coherence of urban structures and overcome the uncontrolled sprawl of large cities. The problem was particularly acute during the period of large-scale construction from the 1960s to the mid-1980s. Two approaches should be noted here: the first was to provide an area for gardens and summer housing for urban residents, woodlands, sports fields, open spaces, recreational centers, and so forth. The second was to create a 'buffer' zone that would soften the impact of the city on the natural and rural environment. Such zones were to minimize building density and maximize open space. Nevertheless, planners are still debating the legal aspects of these zones, which actually comprise a mixture of land uses and are subject to various poorly controlled development processes. A particular difficulty is the



UP: Fig. 3. The scheme of Moscow urban morphotypes and reconstruction (Kozhaeva, 2011)

delineation of urban and suburban areas. A second one is the treatment of urban fringes that has been associated with a growing interest in how cities change their structure. Currently, the return to the study of suburban areas occurs only in connection with the establishment of territories of uncertain morphotypes in the structure of the city and not its boundaries. Some of those territories in the German and British schools of urban morphology are explained by belonging to the former fringe belts of different historical epochs, fragments of which are preserved to the present day.

ENRICHMENT OF ARCHITECTURAL AND URBAN PLANNING KNOWLEDGE BY ADAPTING THE RESULTS OF RESEARCH IN THE FIELD OF PHYSICAL GEOGRAPHY AND ECOLOGY INTO URBAN MORPHOLOGICAL RESEARCH METHODS

The understanding that the study of city form is impossible without researching the geography of its origin and the structure (morphology) of the landscape is documented in historical research. The methodology of the study of city form develops with the adaptation of the results of applied research in related sciences.

In the late 1980s and early 1990s, the Central Research Institute for Urban Design and Planning formulated the concept of 'The Landscape of the City' during the scientific and design work aimed at finding methods and regulations for the reconstruction of historically valuable areas of buildings in modern cities. This concept treats the anthropogenic and natural elements of the city as equivalent components. It contains the following statements: the landscape of the city is an objective reality and represents one of the most essential characteristics of the state of the urban environment, it is the material-spatial basis of the city. The landscape of the city is formed by the interaction and interrelation of natural and anthropogenic factors of the city. The natural factor is formed by the set of natural properties of the natural system, which is affected by the city. The life activity of the city is the main factor that forms its landscape. The functional heterogeneity of this activity is one of the reasons for the differentiation of the city landscape. The typology of the city landscape is formed as a result of the interaction of individual features of leading natural and anthropogenic components. City landscape is characterized by dynamics, development, individuality, ecological heterogeneity, duality and potential.[15] In the group led by Valentina Gutsalenko, the method of landscape zoning of the city is substantiated as a counterbalance to the traditionally accepted structural hierarchy of areas in the system of pre-project analysis for the needs of construction. The following concepts are used:

- ' … landscape distinction - is the primary structural element, which is revealed due to the dominance of the properties of any component - mesoforms of relief (i.e. park, river bend, street space, structure, group of buildings, etc.);

> - landscape area is identified under the condition of a clearly defined urban development process associated with a single landscape factor, against which the properties and attributes of landscape differences are combined within large areas …'.[16]

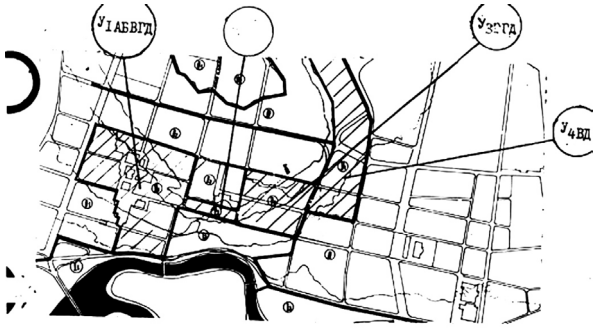
The idea of the potential of a landscape area is of particular importance for research and for making recommendations for further design within the concept. The potential of a landscape area has a dynamic, individuality, its own direction of action and dual nature. It is limited to the stage of any urban development of the territory, but extends to the next stage of development.

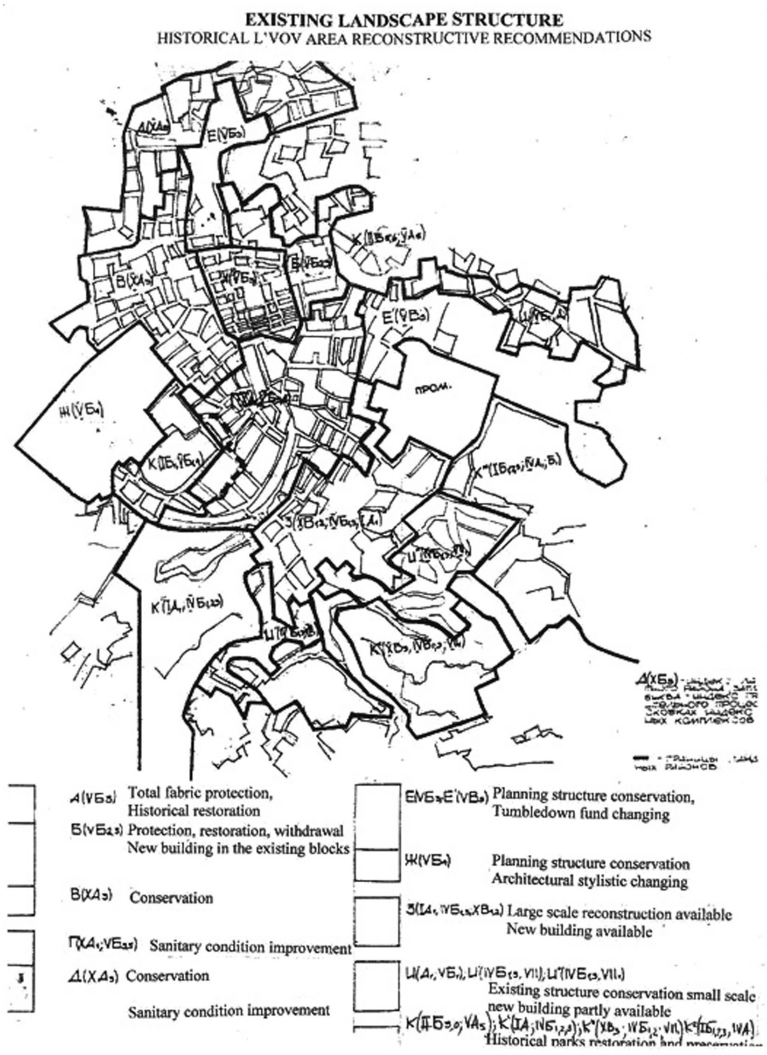
The main hypothesis of the concept is the understanding that the urban form develops historically depending on the physical and geographical features of the settlement site. And its richness can be investigated with the introduction of adapted methods of ecology. A synthesis of a multitude of theoretical and methodological works has led to the understanding that:

> – '…Ecology began to be interpreted as a science that studies the relationship between any (living or non-living organism) object and the environment, synthesizing natural-historical knowledge and conclusions of social sciences about nature and its interaction with society (including specific human activities);
> – The Ecosystem is the integrity that includes organisms (living and non-living) as elements of their environment. For urban planning, it is especially important to emphasize that this kind of integrity does not define the specific boundaries of the system.
> – The Ecological approach is one of interdisciplinary scientific approaches aimed at studying different ecosystems, and mainly at a consideration of the interaction of nature and society. For urban planning, such a view acquires a special meaning, as this kind of activity of society should be devoted to the search for optimal variants of such interaction …'.

Another direction was the landscape approach, which defined the basic concepts, the formulation of the main terms directly related to urban design. Unlike the ecological approach, the landscape approach entails the establishment of boundaries of distribution in space of specific material objects.

Urban landscape components (natural and anthropogenic) are the main constituent parts that include fragments of the geosphere (lithogenic base, hydrosphere with groundwater and surface water, landforms developed by the city, or affecting its structure and layout (micro, meso, macro forms) vegetation and soil (natural and brought in from outside). All of them interact with each other and can be suppressed by urban planning activities, or they serve as a support for making decisions to regulate the state of the environment.





UP: Fig. 4. Morphotypes coding within the frame of the project 'To develop recommendations for the reconstruction of the existing development of the central district of Penza' (Gutsalenko, 1992)

DOWN: Fig. 5. Urban landscape structure of the city of L'vov (Kukina, 1992)

The structure of the landscape of the city reflects the territorial distribution of interacting natural forms and the results of urban planning activities. It includes larger fragments – landscape districts, the boundaries of which are determined by the main type of use of a group of structures, etc. As well as smaller fragments, so-called landscape differences, the boundaries of which are formed under the influence of one – the main in this case – component (neighborhood, architectural complex, protected historical site, etc.).

The dynamics of a city's landscape is the state of its structure when any changes in its environment do not entail any structural changes. The development of a city's landscape is a change over time in its structure that occurs under the influence of a variety of activities in the city. They can be positive when these changes are coordinated, or regulated by human activities. Negative impacts on the structure of the landscape are the result of inconsistency in the use of the landscape, its internal properties and external features. The critical state of the city landscape is an unstable state, in which subsequent changes caused by either continuing or new impacts (mostly unreasonable and not correlated with the structure of the landscape) of new architectural and construction objects. All of the above have led to a statement of the prerequisites for combining the two approaches – environmental and landscape, in a single methodological system.

In theoretical terms, adopting the landscape-ecological approach opens up opportunities not only for identifying natural or urban planning systems, but also for determining the most rational development of the urban environment. In this regard, the landscape approach is focused on the study of the spatial and territorial distribution of mainly urban ecosystems.

The idea of landscape structure development as its changes in time and dynamics as a stable, balanced state of internal forces allows the creation of a basis for studying and regulating anthropogenic impact on the natural environment. It can be considered that urban landscapes in the early stage of urban development have a pronounced progressive nature. In the mature stage, their slow development is observed. Economic activity, including construction, is considered to be an anthropogenic factor causing dynamics (a set of internal forces determining the internal ordering of the landscape and interaction between components and elements) and landscape development (consistent change of its state over time).

The methodology for the landscape-ecological study of the structure of the city's landscape has largely used the findings of German scientists in the field of landscape science, geography and ecology. Consistency of structure, dynamic and development is considered as the reason for the individuality of each landscape. This notion from the point of view of a city landscape is the most essential, since '... landscape types are understood as objectively existing territorial complexes, arising due to structure and dynamics coherence, whose

development occurs not only according to homogeneous natural laws, but also as a result of external influences similar in character. Among these influences, an important place belongs to the nature of human activity …'.[17] From this point of view, it becomes possible to use the typological approach proposed by E. Neef as a tool for analyzing and evaluating the urban environment. 'It allows us to consider the landscape of the city as an autonomous type in the system of modern landscapes, and the nature of urban development within a particular territory as the main factor of its development'.[18] Summarizing the previous development of ecology and landscape science, Karl Troll came to the conclusion that the subject of landscape ecology is the study of the relationships of ecosystems and the environment, as well as their distribution in space. L. Finke, based on the conclusions of Karl Troll, suggested that for landscape ecology the most important thing is the establishment of territorial boundaries of ecosystems and their spatial and functional structure. In parallel, he proved that the city with its densely built and populated territory, a variety of functional loads on the natural complex should be considered as an urban ecosystem. Hence, L. Finke concluded that the basis of the mosaic landscape of the city is made up of a variety of ecosystems with their own metabolic processes having a natural or anthropogenic origin. The landscape approach, in this connection, is oriented to the spatial distribution of ecosystems.

A city is divided into planning parts, the boundaries of which are natural barriers - rivers, enclosed bodies of water, large landforms with steep slopes, as well as railroads, highways and other industrial facilities (large anthropogenic components). For each such part, a series of maps is compiled, dedicated to the functional use of the areas, identification of unoccupied and potentially suitable sites in terms of new construction, evaluation of engineering infrastructure - condition and current operation, as well as maps of engineering and construction evaluation of the relief, drainage methods, and landscaping. These maps are supplemented by information on the legal ownership of land, the presence of historical values that should be protected and restored.

Therefore, in the field of physical geography and in applied researches at elementary and component levels, the methods for estimating and mapping geophysical and geochemical phenomena in urban areas have been developed. They have a close methodological basis and can be used in describing the natural factor in the structure of the landscape of the city, as equivalent components. As a result, the method of sequential mapping of changes in the natural complex and development processes was developed in the Central Research Institute of Urban Design and Planning. It was tested in scientific and design works: 'To develop recommendations for the reconstruction of the existing development of the central district of Penza' and a number of others cities: Kaluga, Yekaterinburg, Barnaul, L'vov (Figure 4).

During the development of recommendations for the reconstruction of the central district of Penza, the aforementioned method facilitated the identification of the key natural complexes that existed within the district's

boundaries, as well as the characteristics and types of urban fabric. The study noted changes in riverbeds, transformations in forested areas, and alterations to specific relief features, as well as the extent to which natural components and planning elements of the city were interdependent. The landscape structure and morphology of the central district of Penza were assessed through the analysis of natural and anthropogenic components that are commensurate in scale at any stage of development. Consequently, the street network, neighborhood system, squares, and parks were designed to conform with the external shape of the Sura floodplain terraces, ancient alluvial terraces, elements of watershed slope, and plateau as the base. Each component of the landscape was evaluated in terms of its properties, role in environmental formation, and boundary delineation. Based on this evaluation, the study established the structure of the landscape, including the specific contours of landscape differences and their groupings, known as landscape areas (Figure 5).

The theoretical concept of the city landscape contains an important condition for the study of urban areas - the comparability of the scale of the components of natural and anthropogenic complexes. Therefore, the anthropogenic components can be rather large built-up areas of any dominant functional use. The research method of morphological zoning, which correlates with the external form of the landscape, as well as the terminological apparatus and conclusions resulting from many years of research into the geography, morphology, and foundation and development processes of cities, provide an in-depth understanding of the dynamics, development, and processes of the anthropogenic component of the city landscape. This scientific approach bears resemblance to the method of landscape zoning utilized in the English tradition of urban morphology, and in conjunction with the terminological apparatus, can be utilized in the study of cities through the lens of the landscape-ecological approach concept.

THE MODERN PERIOD OF MORPHOLOGICAL RESEARCH, INVESTIGATION AND IMPROVEMENT OF TECHNOLOGIES

In the morphological studies (of last twenty years) there appear works devoted to the analysis of the genesis of morphotypes of mass housing and patterns of volumetric and spatial development in the period of the second half of the twentieth and early twenty first century. Such a surge of scientific interest is associated with the introduction of the Town Planning and Land Code at the end of the twentieth century, which gave rights and obligations on land use and land ownership, allowing the liberalization of the regulatory system of urban development in contrast to the centralized norms of Russia's socialist period. The changes in the legal system along with the establishment of a large number of actors and permitted actions in the allotted cadastral areas of the city unleashed the creative energy of not only large developers but also small and medium-sized businesses to transform the urban environment.

The microdistrict, the main planning element from the middle to the end of the 20th century, homogeneous, minimalist and standardised both in structure and architecture, worked as a matrix, the 'voids' of which began to be developed by the laws of a city's evolution. The architectural typology of housing, including mass housing, is actively developing. A separate strand of research should be noted: the structure of the post-socialist city (analysis criteria: the shape of the landscape, the study of development morphotypes under the pressure of political, regulatory, economic, social processes and phenomena). Precisely the contrast of the identified and established morphotypes compared to the second half of the twentieth century allows one to assess the spatial and structural effect of changes in urban planning over the past thirty years. Morphological studies become highly relevant to all structures and functional zones of the city. Modern directions of morphological research are systematized, the definitions of form in the works of scientific schools of city morphology; processes of form formation of building plan; morphotypes and morphotopes of residential areas; visual cohesion and spatial permeability of residential areas of cities (spatial syntax); morphometric studies of city areas; studies of function density (and volume) patterns, development and population distribution are specified. At the same time, Russian inquiries into understanding the morphological element coincides with foreign research: any smallest part of the city, which is an individual combination of streets, lots and buildings, different from its neighbours, unique to its location and endowed with a measure of morphological unity and/or homogeneity. Morphotypes represent mainly morphogenetic types of plans and vary in character and configuration. Simple combinations represent subtypes, their integrations with more complex modules forming types represent morphotypes.

The methods of morphological analysis of urban structures are reflected consistently in the works of Olga Vasina, Nina Kraynya, Irina Kukina. Research by Elena Akhmedova substantiates the approach of morphological analysis in the study of the structure of cities, which posits that the city consists of basic spatial elements which form various open and closed spaces, as well as a variety of transport corridors. Andrey Bolshakov's monograph reveals the role and importance of spatial structures - grids - in solving the problems of shaping urban environments. Grids are understood as geometric sets of cells. The parameters of the morphological cells, their arrangement and the relationships between them are modified. These modifications allow changing configurations of grids to solve problems of the artificial environment formation, including its regulation. In his work, Mikhail Shubenkov defines the structural rules of the formation of architectural form. The important result of the study is the functional role of the environment, which determines the development of the connecting structure. The building block is a 'locum', a void endowed with a function, a process that runs in it. The typology of connections between functional points is determined by the principles of sustainable development. Ivan Krasheninnikov considered the porosity of the urban fabric as the ratio of masses and voids in its structure, which allows of assessment of further

possibilities of its densification and predetermines the volume and planning parameters of development. On the basis of the analysis of three-dimensional computer models of high-density districts of different types in terms of the relationship of outdoor and indoor spaces on the site, insolation, ventilation, natural lighting, they determined the permissible intensification thresholds of area use.[19] The investigated building types were systematized into four groups of urban fabric porosity: open porosity, cellular porosity, contrasting porosity and structurally-complex porosity. The characteristics of urban fabric porosity affect the provision of favorable living conditions and environmental comfort of the built environment.

Studies also emerge in the field of morphotypization of residential development. In a number of contemporary publications researchers analyse morphotypes of the urban environment using geoinformation technology to identify a number of parameters: the density of the urban fabric, porosity and the ratio of open and closed spaces, the number of floors of buildings; the nature of the mutual arrangement of buildings in a residential group, quarter, etc. Irina Fedchenko studied the process of formation of modern morphotypes of residential environment formed under the influence of dynamic living processes in the early twenty first century. In their work 'Morphogenesis of architectural and planning structure and the principles of reconstruction of the historic center of Irkutsk' Andrey Bolshakov and Sergey Belomestnykh identified morphotypes of masses and voids in the quarter, the number as well as cohesion of open space cells. Sergey Belomestnykh identified five stages of the formation of the planning structure formation in the central part of the city and the influencing factors of this process (natural, social, administrative, natural disasters). The author identifies patterns in the distribution of voids in the quarters of the historic city in accordance with their spatial position, using the following methods: linear gradient (assumes enlargement of morphotypes of quarters with changes in the proportion and configuration of intra-quarter cells of open spaces); radial gradient (reducing the density of development and increasing the proportion of open spaces towards the periphery). On the basis of those patterns, they developed a scheme of urban zoning of the central part of Irkutsk to inform the comprehensive plan of the city. In the work 'Non-Metropolitan Renovation' a group of authors have identified eight morphotypes of St. Petersburg, typical for the environment of the post-Soviet city. For each of them they identified spatial tools to work with built-up areas, involving the work with the urban planning and environmental context S. Baimuratova and R. Baimuratov studied the development cycles of the city of Ufa in comparison with global and Russian processes and their influence on the planning structure of the city. As a result, the study revealed several periods of formation of the urban fabric. Each them is due to the passage of a certain threshold: functional, structural, physical, technological and the transition to a new level of development quality under the influence of political, economic and socio-cultural factors. These processes led to a radical transformation of the planning structure associated with the global external causes (political

process, administrative status of the city, the nature of industrial activity).[20] Internal factors in the growth of the city determined the successive and less noticeable changes in its plan.

Irina Fedchenko and Alexey Lipovka at the Siberian Federal University investigated residential planning units and morphological periods of mass residential development in Krasnoyarsk based on geoinformatic analysis of open data. They used indices of area, number of floors and density of residential buildings and population. As a result, they identified 187 residential planning units formed during four morphological periods of mass housing construction. By comparing the plans of residential units, they discovered a correlation between the nature of the building plan and a particular morphological period. Furthermore, they analyzed characteristic micro districts of Krasnoyarsk mass housing development and defined their main morphotopes based on the geometry and shape of the building: 'Line', 'Point', 'Spline', 'L-shaped', 'U-shaped', 'Closed'. As a result, a matrix of 24 morphotopes was derived from the data on the geometry and building floors. Authors defined morphotope as the inseparable smallest element of a plan of residential unit. As a rule, it is characterized by one archetype and an indivisible public space uniting the buildings. Based on the identified morphotopes and their key indicators, characteristic building morphotopes for each period of mass housing construction were determined. Their comparative analysis allowed the establishment of trends of morphological transformations: a departure from discrete forms to compact homogeneous elevated development, densification of development and the formation of a small cellular plan pattern.

To study the structures of Krasnoyarsk city a 2GIS database of all registered small and medium businesses was downloaded. Based on this, they carried out a study of the functional saturation of Krasnoyarsk micro districts and analyzed the level of function distribution in the environment and the density analysis of function saturation of public spaces. The study of distribution and density of functional objects in the residential environment revealed a new typology of public open spaces depending on the distribution of functions: functional core, dispersed distribution of functions, pedestrian street, functional perimeter (Figure 6). The results of the study can serve as the basis for the planning, forecasting and design of urban development, the formation and rationalization of the concept of its functional and planning organization: housing and transport subsystems, etc. The analysis has also revealed a tendency of transition from regulation and planning to the search for new approaches to forecasting of sustainable development of architectural-planning.

Research technologies are being improved. Methods of studying space in geoinformation systems based on open urban data in completely different programming languages and analysis technologies are being introduced (Lipovka, Fedchenko, Krasheninnikov, Gashchenko, Belomestykh, etc.). A separate body of studies is formed by morphometric studies within the field of urban morphology. Those studies are based on the implementation of

developments of different countries: applied research based on the theory of space syntax (Hillier); quantitative methods of form analysis based on space matrix graph (research 'Space, Density and Urban Form', (Berghauser P., Haupt P., 2009) which depicts the relationship between the main indicators that determine the shape of the building; studies of density and functional distribution patterns in the residential areas; works on isovist studies - analysis of visual connectivity: how the shape is able to pass visual flows; studies that illustrate mathematical methods for calculating urban form, including the residential development of cities (understanding cities through cellular automata, agent-based models and fractals) and the socio-cultural environment of large cities.

The boundary is the most significant component of morphological research. In Russian town-planning science, borders were studied from two perspectives: historical and cultural (within historical science), or functional characteristics of a particular territory (within applied research in the field of town planning). Until a specific time, analytical schools developed in parallel. With the establishment of state land ownership, the evolution of land tenure and land use became the most important aspects and were analyzed within the framework of historical and cultural studies, where archival documents on house ownership and land tenure in the pre-socialist period of the country's history were accessible. In applied urban planning, the identification of building morphotypes was linked primarily to the widespread architectural typology of the area and the pattern of the street and road network. However, it became impossible to disregard the heterogeneity of city territories and the emergence of seemingly spontaneous unplanned urban areas in cities constructed according to standardized norms throughout the country in a centralized manner. To a certain extent, the study of the city structure has become more theoretical in nature.

In the field of domestic urban planning theory, the search for boundaries has become an integral part of the study of the city. The establishment of spontaneously formed territories of uncertain morphology within the city, their specific configuration, the failure to enforce planned control, as well as the large-scale conversion processes of the last 30 years have forced researchers to pay attention not only to research technologies, but also to the development of urban theory under pressure of more substantiated results of factual research, which methods of urban morphology can provide. One of the most difficult problems is the one of city boundaries. The return to the study of the suburban zone has forced researchers to consider the fringe belt concept introduced by the British school.[21]

Elena Logunova (2018, 2019, 2021) analysed the planning structures of Siberian cities (Krasnoyarsk, Yeniseisk, Achinsk) and the stages of their formation (Figure 7). The fringe belts are identified in their composition. The peculiarity of this study is in proving the historical and cultural significance of the fringe belts of Yeniseisk, which resulted in the preservation of historical buildings within the boundaries of the outskirts of the XVII century. This study allowed to introduce the town of Yeniseisk to the preliminary list of UNESCO World Heritage Sites in 2000.

Geometry / Number of floors	Line A	Dot B	Spline C	L-shape D	U-shape E	Block F
1 1-5 floors	A1 +	B1	C+	D+	E	F
2 6-9 floors	A2 +	B2+	C+	D+	E	F+
3 10-16 floors	A3 +	B3+	C+	D+	E+	F+
4 17-25 floors	A4 +	B4+	C	D	E	F

UP: Fig. 6. Scheme of the residential morphotopes of the city of Krasnoyarsk (Lipovka, Fedchenko, 2021)

DOWN: Fig. 7. Scheme of the fringe belts of the city of Krasnoyarsk (Logunova, 2022)

Furthermore, the study clarified the role of the twentieth century policy regarding fixation lines for the development of the outskirts of Achinsk. The study defines trends in the development of fringe belts in the early twenty first century: expansion of typology of fixation lines and mixing of fixation types; functional redesign; new functional nature and economic efficiency; modification of morphological structure; conservation and protection of peripheral sites and territories as a cultural heritage; integration into green system of the city; conservation of vacant sites or introduction of regulations for their functional use in urban development. On the basis of those tendencies, the study formulated the principles of organization of fringe belts and a theoretical model of their functioning.

CONCLUSION

Similarly, to other scientific schools, the body of Russian morphological research has developed a tradition based on an understanding of the process of city formation and transformation, characteristic archetypes; the study of development laws and phases of renewal and change. Successive transformations are studied depending on the economic pressures, implemented political decisions in the field of urban planning, established cycles of urban renewal; under the pressure of social change. Presently, among the most relevant areas is the impact of global economic structures on the form of the city. The formation of economic structures through global networks is one of the most active drivers of urban development. This transformation stems from a logic that is to a great extent far removed from the city's own formation processes. There is a need not only for awareness of these processes, but also for improvement in the tools and methods of Urban morphology. Spontaneously emerging nodes of business activity in the city, defined in the theory of urban planning as cores of urban growth (for example, and large-scale retail structures established between the city and the immediate suburbs) is the most obvious representation of this phenomenon. Large retail spaces form the final pole where many production chains intersect, belonging more to global systems rather than to the city. Commercial, multifunctional objects polarize the structure of the city and require critical reflection and understanding of their relationship with the basic context of the city.

The second direction of research follows from the above – the study of the boundaries of division, both explicit planning units, certain morphotypes, and those formed spontaneously. The latter requires theoretical understanding and clarification of the research methods of urban morphology.

The third area of research should be actively and diversely developing areas of mass residential construction, a sharp densification of functions and residents, development and its volume that creates unusual enclaves breaking the coherent logic of the city.

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REFLECTIONS

THE ITALIAN SCHOOL OF PROCESS MORPHOLOGY. ROOTS, METHODS AND FUTURE DEVELOPMENTS

The following three texts intend to summarize the formation, development and future prospects of the Italian school of urban morphology. The problem is not simple, since the related debate never established a common ground. However, one can recognize a shared aim to use the analysis of the built environment for operational purposes. These studies are, therefore, "architecturally oriented", showing a complementarity of methods, with other schools of thought, among them, the geographers of Conzenian traditions.

The following texts inevitably refer to the specific field of study of the authors, which is that of process morphology. Nevertheless, we believe that this presentation, albeit partial, contains matters of interest for our foreign colleagues, especially those who are investigating built form to plan its transformation. The three texts address, in order: the origin of process morphology studies, focusing on the Roman school, where some notions that guided subsequent studies were born; the formation of a new science of building based on an innovative method of reading and design ing the existing reality, mostly thanks to Gianfranco Caniggia's contribution; future prospects, which open up new fields of investigation, new specificities, (and also differentiations) within ongoing research.

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A. THE ORIGINS OF THE MORPHOLOGICAL STUDIES IN ITALY

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Particularly in the current conditions, I believe, it could be useful to go back to reflecting on the roots of morphological studies in Italy as they are, in fact, the evidence of a concrete approach to the architectural design based on logical and didactically transmissible bases. These studies were aimed, especially in the Roman School, at the formation of general and shared methods derived from the reading of built reality and were aimed at the positive study of how it could be transformed. Studying them is useful, precisely in a period like the present one in which, on the one hand, morphology studies are gradually assuming an increasingly abstract and independent drift from design and, on the other, professional practice is aimed, instead, at the marketing of architecture through interpretations based on the perception and spectacular communication of the results.

The studies from which the researches on the formative processes of the urban form in the Italian area have been developed are above all known, abroad, through the texts of Gianfranco Caniggia. It is also known that these derive from the teachings of Saverio Muratori, whose texts, however, are less known for having never been translated into English. Even less known is the fact that the origin of this school of thought dates back much earlier, at least to the interwar period and to the studies of innovators such as Gustavo Giovannoni, Giovan Battista Milani, Enrico Calandra and others. The common thread that binds these researches, developed largely through teaching in the Faculty of Architecture, is the "reading" of the built reality which not only has the project as its aim but, in many respects, is itself a project.

The method which, starting from the 1930s, will be coherently developed over time, explicitly starts from a critique of the Modern Movement, of the new conditions deriving from the emergence of new uncritically accepted modes of production, the internationalization of design tools, the widespread serialization of forms, the loss, above all, of the synthetic and unitary notions of organism and process. These notions are inextricably linked to each other as it is not possible to think of the form of architecture and of the city detached from the principle of becoming. They are the founding notions on which reading, criticism (i.e. interpretation and the resulting choices) and the very way of working of the architect are based.[1]

The definition of organism, and that of organicity derived from it, have very little to do not only with the naturalistic matrices used throughout the history of architecture, but also with the Cartesian analogy between organism and machine.[2] The new meaning of the term captured, in fact, that "forming" capacity recognized by Kant, which every organism possesses, in which the

individual elements are not simply assembled, according to a finality, to form the whole, but are themselves shaped by the whole. Basically, it is the difference between Le Corbusier's conception of the house understood as a" machine for living", where the building is an organism through the mere subordination of the parts to its function, and the house understood by Muratori as the result of a formative process in which the part adapts, proportions, updates through successive phases which become part, in the critically contemporary age, of the conscience of the builder.[3]

These notions run across all the research conducted in Italy and their use is not only cognitive, but substantially architectural. The interpretations of historical buildings by Gustavo Giovannoni (1873-1947), the great urban and territorial conceptions of Saverio Muratori (1910-1973) and the studies on the transformation of urban fabrics by Gianfranco Caniggia (1933-1987), are related by not being only descriptions or explanations of constructed reality: they are readings oriented by a general, unifying and operative thought that distinguishes them from the studies of other disciplines such as history or geography.

In order to place these studies historically, it is essential to take into account how they started from a close criticism of the fact that not having taken account of the organicity itself of history leads to the formation of many contradictory forms of modernity, which can be found in the discord between the intuitive technical-analytical and artistic component. For this reason, the method had to be transmitted to the students through the exercise of "restitution" as a technique for extracting, from the multitude of forms transmitted by history, some general rules. It should be noted that there is an evident link between the premises of the Roman School between the two wars and the "redesign" exercises proposed by Muratori and Caniggia in their courses, through which the student had to retrace, with the means of the architect, the logical and typological formative processes of urban fabrics and buildings.[4]

Against the specialist drift of modern architecture, according to Giovannoni, the method of investigation of the built reality had to be "integral", that is to say by examining the phenomena that contribute to the formation of the organism as a unit, under the various aspects"... constructive and aesthetic, of practical spatial and financial needs and expressions in external representation, of relationship with civilization and social conditions".[5]

In other words Giovannoni identifies the center of the problem, in other words, in the splitting of the original organic nature of the project into different, dedicated aspects of modern thought on architecture, starting from the positivist line of thought, identified in the sequence that originates in Schopenhauer's affirmations of *Die Welt als Wille und Vorstellung*[6] on the struggle between weight and rigidity in architecture. It develops with the constructivist theories of Viollet le Duc exposed in *Entretiens sur l'Architecture*, (Viollet le Duc, E. 1863) ending with the questions posed by new building experiments and from new materials to

which the new theorists, such as Le Corbusier in *Vers une Architecture nouvelle,*[7] give an answer in terms of machine aesthetics and industrial production.

Alongside this line of thought, Giovannoni identifies other strands of theories that favour aesthetic rules (the allusion to the arbitrariness of modernist composition of the facade is evident and to its hidden derivation, through Hermann Muthesius, from the Anglophone picturesque tradition) or the use of psychology à la Wolfflin.

This interpretation of modern architecture as a laceration of an original, shared totality is a prelude to the Muratorian interpretation of modern history, as it was set out in the period that coincides with the first phase of critical elaboration of Caniggia's thought, in his first post-war writings and in the lectures given at the Faculty of Architecture in Rome at the end of the 1950s.

The ideas of Giovannoni, Foschini, Milani, Fasolo are often accused by modern Italian historiography of "traditionalism".

In fact, theirs is a completely up-to-date critique of contemporary internationalism, fertile in its consequences, inserted with full awareness into the climate of the current debate. It is not a question, in other words, of the contrast between conservatives and innovators, as Caniggia observes "on the one hand people unaware of the European cultural framework, and on the other hand informed and participating people. If anything, it can be ascertained that the apparent autonomy of the former with regard to the diatopic developments of architecture and the intentional result of their attention to a relative autochthonous experience, of their continuous referring to participation in the 'place' obliging a continuous critical choice which leads to the exclusion of ways and behaviors deemed incongruous to the place itself; rather preferring, from the external experience, to assume the values that are openly non-oppositional to the Roman building".[8]

Moreover, it is enough to read what Giovannoni writes about the modern city understood as a "cinematic organism", where the new role of routes and the potential future urban structure is recognized, to realize how he was fully aware of the conditions induced by modernity.[9] He admits how the theoretical innovations of the Modern Movement, although disregarded by the results, constituted an attempt to overcome the eclectic drift of the late nineteenth century by attempting to reconstruct a form of new totality of the project.

The dichotomy between "architectural imagination" and construction operated by eclecticism and, to an exasperated extent, by the modernism of the beginning of the twentieth century, constitutes in fact the origin of that decadence of the principle of truth which had historically constituted the ethical centre of the architect's practice. Giovannoni does not reduce the problem to a simple cause-effect relationship, introducing that notion of implicit, non-mechanical relationship that Caniggia will develop with great clarity in the exposition of

the forms of "direct and indirect" legibility of architecture especially in the second of the two volumes dedicated to the design of base building design.[10]

A prominent figure within the School in the period between the two wars is that of Enrico Calandra, a Sicilian architect who, from 1930 to 1950, held in Rome the chair of *Building characters* and who had Saverio Muratori as assistant from 1944.[11]

Calandra's teaching shared Giovannoni's idea of an "integral" study of the built environment aimed at architectural design. It was a completely counter-current position with respect to the parallel teachings given in other faculties, based on classifications of a functionalist nature. Calandra spoke of an "operating idealism"[12] meaning, precisely, the necessary passage from the pre-war materialistic conception (of an economic-industrial and scientific-technical nature) to abstraction and spirituality which leads the architect to aesthetic synthesis, freeing it from the excessive weight of contingencies.

Muratorian thought, right from the first syntheses of the 1940s, seems to largely take up and develop some of the themes posed by Calandra and to define in scientific terms those intuited by Giovannoni, not only substantially recognizing the same splits in modern history and including modernism among the eclecticisms (environmental aestheticisms) that have lost the order that regulates the unitary formation of architecture, but reconsidering, more generally, the fragmentation of language that precedes the First World War as the origin of the crisis of modern language.

Saverio Muratori, however, within the framework of the innovative conception of the Roman School, introduced a key notion that would substantially change the point of view on studies of urban form. Indeed, in his cyclical idea of history, a fundamental role is played by the condition of crisis of architecture as an expression of a radical social change. In the widespread meaning before the Muratorian definition, the term "crisis" had the meaning of sudden and decisive modification that breaks established equilibriums, generally producing negative effects. In fact, the Greek term κρίνω, in its original meaning of "to distinguish", provides the meaning that comes closest to the Muratorian connotation. For Muratori, transformations in architecture always refer to a civil crisis and are understandable only within an "organic historicity" in which each phase of change must be read within the framework of a structure of correlated facts. In other words, there is a general ratio that allows us to outline the succession of the different cycles and historical phases. Claude Henry de Saint-Simon had already intuited the theme of the succession of organic epochs, in which the structure of knowledge is static, centred on an apparently immutable dominant idea, alternating with critical epochs, in which that same idea suddenly changes, creating the conditions of a social transformation.13 In the years in which Muratorian definition developed, the notion of crisis was, moreover, at the centre of reflections on the dramatic transformations

that were taking place in post-war Europe. In the climate of the Ricostruzione (Reconstruction), the same optimistic ideas of progress and modernity, with their apparently rational implications, began to be questioned. The translation, in 1946, of Josè Ortega y Gasset's book on the subject14 had a great influence in Italy in spreading the recognition of possible organic epochs that follow phases of conflict. But, more generally, Muratorian research took place in the climate of the "crisis literature" that had pervaded European culture since at least the 1920s, when the argument appears, in the cultural environment of Germany economically and socially destroyed by the war, with Der Untergang des Abendlandes. Umrisse einer Morphologie der Weltgeschichte (The Decline of the West. A morphology of world history outlines), a monumental work by Oswald Spengler, of immediate success throughout Europe. It is a pessimistic text, which considers the crisis that Western civilization is going through as a decadence: "We cannot change the fact that we were born as men of an incipient winter and not in the solar heights of a mature civilization of the time of Phidias or Mozart" (Sprengler 1918 - 1922). In Sperngler's thought, alien to any idea of progress, civilizations are born, develop and decay as in a natural cycle. According to an interpretation not very different from the one proposed by Muratori, history has its own periodic structure, a general "organic logic" which must be understood starting from the immense reservoir of concrete data.

In 1935 Johan Huizinga published a fundamental text defining the notion of crisis. His *In de schaduwen van morgen (In the Shadows of Tomorrow)*, translated into Italian by Einaudi in 1937 with the title *La crisi della civiltà* (The Crisis of Civilization), he tackles the theme of the massification of industrial society and the decline of spiritual values that will lead to the disaster of dictatorial populisms. Huizinga, however, still considers the idea of development fundamental and: "... we know this with certainty - he says -, a return to the ancient, in general, cannot be given".[15]

If Muratori has Spengler's cyclical vision of history in common, he does not share his catastrophic conception, just as he does not share the ideological interpretation of mass-man, proposed by Huizinga, which leads us to interpret the crisis as decline. The crisis for Muratori is, instead, a regeneration.[16]

Muratori identifies four cycles of the critical process, starting from the antecedent of the Renaissance, which run through European thought, from the Enlightenment to the contemporary need for an organic critique.[17] The understanding of the crisis occurs only in the definition of the whole of society as a totality whose history unfolds cyclically through a law of permanence and a law of change. Every rapid transformation, in society, as in the territorial and urban organism, indicates the inadequacy of the previous cycle to the new conditions, which is "necessary" as a presupposition for the new conditions of equilibrium.

This notion of crisis, which was to become central to the research of the Muratorian school, was in reality misunderstood, I believe, by contemporaries

who have criticized this system of thought as "mechanical": linked to an idea of urban structure formation and transformation as a continuous, linear, uninterrupted development. Muratori, on the other hand, states that crises are anything but exceptional phenomena in the life of a society but "on the contrary, they become its typical aspect".[18]

The entire increase of an urban entity is the locus of a crisis. Hence the corollary that the study of a city consists in the study of its formative process[19] and only its critical interpretation allows choices for the future.

In conclusion, the critical reading of the built world has a not only hermeneutical value, but an ontological one. It concerns the principles and causes of operating, the study of the design as a transformation of the existing and the conception of the past as "storia operante" (operating history).

In the last phase of his intense production, Muratori was above all interested in developing the general part of his system of knowledge rather than in the form of the city and architecture. A central notion was that of "civil ecumene", a notion linked to the time in which it was formulated, but which, with the globalization crisis, should perhaps be reconsidered in a new light. According to Guido Marinucci's synthesis of it, ecumene is the vast civil area understood in historical and geographical terms, which generates a common culture[20]. The Chinese, Indian and Western Mediterranean ecumenes, which Muratori studies in his texts, are spatio-temporal unities corresponding to as many categorical aspects of consciousness.[21]

As will become clear from Matteo Ieva's following text, Gianfranco Caniggia systematized and innovated the complex Muratorian legacy by deepening the problem of understanding not only the cultured language of monuments, but also the "speech" of base building, founding a new discipline whose value it will be all the greater the more the cultural climate in which his didactic and design experiments were carried out is taken into account.

Caniggia warns of how it is necessary to extract the hidden meanings behind the surface of things, to trace their profound significance. The world inhabited by man, houses as well as monuments, becomes, along this path, not a simple construction, but *writing*, and the task of the architect-constructor is to be able to read not only the message that writing transmits, but to decipher behind the appearance of what the built reality appears to be, the shape of how it will, or should be.

In this, therefore, Caniggia seems to have inherited, and in turn transmitted, the most profound and authentic teaching of the Roman School. In the ability to grasp the individual aspect of architectural and urban phenomena, their being unique and unrepeatable, and to recognizing, together, its belonging to the great vital flow of the anthropized world, returning it to us as a constituent and inseparable part of a shared heritage.

In conclusion, I believe that a pervasive rhetoric of contemporaneity and multidisciplinarity has today overshadowed some founding convictions not only of the morphological-proces school, but of Italian architectural culture in general. The main one among these, I believe, is that the present condition is the result of remote causes that generate it: that it is the outcome of a process

For this reason, the history of the origin of morphological thought in Italy, based on the concrete experience of the existing built reality and its formative processes, could provide to the contemporary architect very topical matter for a general reflection, starting from the definition of his discipline and warning him against the rhetoric of multidisciplinarity. If architecture is syncretic by nature, its science is not the sum of other sciences. For this reason, the architect should derive from the exegesis of the text (which for us is the built world in its becoming, considered in its historical and social context) his own organic system of knowledge. It would be useful to go back to the origin of things, to the real and concrete problems of our profession, since theory for the architects is not a series of general, rational and rigidly consistent principles from which logically derive indications for operating. It is, above all, a stratification of experiences, generalizations of what one does.

For an architect, the method is still ultimately the attempt at systematization of the practice that laboriously tries to bring back, through the comprehension of the forms (morphology), the fragmented and particular aspect of each gesture to the generality and totality of knowledge, however changeable and contradictory.

NOTES

1. G. Strappa, *Unità dell'organismo architettonico. Note sulla formazione e trasformazione dei caratteri degli edifici* (Bari: Dedalo, 1995).

2. R. Descartes, *Discours de la méthode* (Leiden: Jan Maire, 1637). Italian transl. *Discorso sul metodo* (Editori Riuniti, Rome, 1978).

3. G. Strappa, *Unità dell'organismo architettonico. Note sulla formazione e trasformazione dei caratteri degli edifici* (Bari: Dedalo, 1995); G. Strappa, *L'architettura come processo. Il mondo plastico murario in divenire* (Milan: Franco Angeli, 2014).

4. G. Giovannoni, *Questioni di Architettura* (Rome: Biblioteca d'arte editrice, 1929); L. Vagnetti, and G. Dell'Osteria, eds. *La Facoltà di Architettura di Roma nel suo trentacinquesimo anno di vita* (Rome: Edizioni della Facoltà di Architettura di Roma, 1955); V. Franchetti Pardo, *La Facoltà di Architettura dell'Università di Roma "La Sapienza" dalle origini al Duemila. Discipline, docenti, studenti* (Rome: Gangemi, 2001).

5. G. Giovannoni, *Questioni di Architettura* (Rome: Biblioteca d'arte editrice, 1929).

6. A. Schopenhauer, *Die Welt als Wille und Vorstellung* (Leipzig*:* Brodhaus, 1859). trad. Italian transl. *Il mondo come volontà e rappresentazione* (Bari: Laterza, 1997).

7. Le Corbusier. *Vers une Architecture* (Paris*:* G. Cres, 1923).

8. G. Caniggia, “Permanenze e mutazioni nel tipo edilizio e nei tessuti di Roma (1880-1930),” in *Tradizione e innovazione nell’architettura di Roma capitale.1870-1930*, edited by G. Strappa (Rome: Kappa, 1989).

9. G. Giovannoni, *Vecchie città ed edilizia nuova* (Turin: Unione Tipografico Editrice Torinese, 1931).

10. G. Caniggia, G.L. Maffei, *Composizione architettonica e tipologia edilizia. 2. Il progetto nell’edilizia di base* (Venice: Marsilio, 1984).

11. A.B. Menghini, V. Palmieri, *Saverio Muratori. Didattica della Composizione architettonica nella Facoltà di Architettura di Roma 195–1973* (Bari: Polibapress, 2009); P. Barbera, and M. Iannello, *Enrico Calandra, ritratto di un architetto* (Syracuse: Lettera Ventidue, 2020).

12. E. Calandra, *Caratteri degli edifici* (Rome: Appunti delle lezioni a cura di M.Campanella, Libreria Castellani, 1934-35).

13. C.-H. De Saint-Simon, *Introduction aux travaux scientifiques du XIX*e *siècle* (Imprimerie J.-L. Paris: Scherff, 1808). Italian transl. 2005, in: Introduzione ai lavori scientifici del secolo XIX e altri scritti del periodo napoleonico, Olschki, Florence.

14. J. Ortega y Gasset**,** *Esquema de las crisis y otros ensayos* (Madrid: Revista de Occidente, 1942). First Italian edit. *Schema delle Crisi* (Milan, Bompiani, 1946).

15. J. Huizinga, *In de schaduwen van morgen* (Haarlem: H.T.Tjeenk Willink & Zoon, 1935). First Italian edit. *La Crisi della Civiltà* 1937, Einaudi, Turin, second Italian edit., 1962, same publisher.

16. G. Strappa, “L’universo organico di Saverio Muratori,” in *Saverio Muratori architetto*, edited by G. Cataldi (Florence: Aión, 2013).

17. S. Muratori, *Architettura e civiltà in crisi* (Rome: Centro Studi di Storia dell’Urbanistica, 1963).

18. Ibid.

19. G. Strappa, “L’architettura come organismo e processo,” in *Nuovo realismo/ postmodernismo. Dibattito aperto tra architettura e filosofia*, edited by P. Gregory (Rome: Officina, 2016).

20. G. Marinucci “Glossario,” In *Metodologia del sistema realtà-autocoscienza,* Muratori S., Rome: Centro Studi di Storia dell’Urbanistica, .1978.

21. S. Muratori, *Metodologia del sistema realtà-autocoscienza*, a cura di Marinucci. G. (Rome: Centro studi di Storia dell’Urbanistica, 1978).

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2. GIANFRANCO CANIGGIA'S THOUGHT AND THE CONTRIBUTION TO THE ITALIAN SCHOOL OF URBAN MORPHOLOGY

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The reconstruction proposed by G. Strappa on the origin of typological-morphological studies in Italy in the School of Architecture of Rome clarifies the interest of S. Muratori, first, and his pupil G. Caniggia, later, in the multiple theme of reconstructing anthropized space. This reconstruction goes beyond the traditional positivist heritage that had produced noteworthy studies but failed to grasp the sense of the phenomena processuality. As is well known, Caniggia's education in the school established by Giovannoni cannot simply be attributed to the close connection and line of reasoning with his master, although evident. The fertile teachings he received encompass a wide range of interests which nourish his judgment in various ways, even in the realm of modernity principles. This is noteworthy considering that Muratori had given up on the "willingness" towards modernity after Venetian experience and his remarkable research on the city of Venice, which was integrated into the work titled "Studi per un'operante storia urbana di Venezia". A climate of critical thought, expertly summarized by Strappa, characerized the Roman School and represented a dialectic vision of modernity. This view was both complementary and opposing, as the individuals of that era perceived modernity with disillusionment and caution, refraining from being enticed by the allure of the new while still upholding traditional values.

The teaching of G. Giovannoni, G. B. Milani and V. Fasolo inside this didactic dialectic will be particularly noteworthy for Caniggia. He borrows the notion of "organism" fro them, which S. Muratori later develops into a general theory of interpretation of reality. Caniggia also develops the concept of "legibility" of buildings that in an original way, expanding on the idea with a critical perspective. He aims to prevent subjective interpretation by considering the built environment and architecture in general in expressing the "essential" contents, as an expression of a civil culture. Instead, he recognizes the value of Muratori for understaning the type as a concept and articulating it through the construction of a comprehensive theoretical-methodological system, which is essential for the studying various anthropic manifestations at all scales (such as territorial, urban, aggregative, and building). This powerful legacy has attracted the attention of his main students, who are committed to understanding and disseminating it in its almost indefinite variations. Particularly, these students, who were trained by Muratori's renowned assistants - P. Maretto, A. Giannini, G. Marinucci, G. Caniggia, G. Cataldi and the brothers R. and S. Bollati – have endavored to apply the principles of his school to the systematic study practice

of the built reality practiced today in the Italian academia. At the same time, Caniggia made a original and important contribution to the topics of basic and specialized building through his intense but relatively short research activity from 1960s to the 1980s. In subsequent sections, his theory will be explored in detail, along with his extensive teaching and design experience.

Caniggia is therefore an interpreter of the teachings of the Modena master, projecting them into a personal perspective that contemplates knowledge. In this dual relationship, which can be understood as two pathways, it is possible to recognize the true meaning of the fusion of horizons that unifies two parts: the study (including the conception and method), framed within the problematic trajectories of Muratorian theory, and the subject (interpreter-pupil) who reconstructs a potential sense of the broad speculative scope. This scope covers a horizon that originates from the same source and integrates with something else that can be acknowledged as a shared awareness of knowledge.

The process of understanding, It is, after all, an operation that can be framed in the essential features of the "hermeneutical circle" generated by the interaction between the interpreter and his "subject" since the critical action of understanding determines a fusion in "ever new" forms and vital", arriving at a correlative link that takes into account the continuous dialectic: question and search for the answer.

According to H. G. Gadamer, this fusion can be described as a "circle that encompasses and includes everything visible from a certain point". Therefore, it cannot be considered fully accomplished in its recognition of a potential identity without considering the hypothesis of otherness. For Caniggia, this is not a programmatic contradiction, as it stems from the same "principles" that could be tentatively defined as the "first" in articulating the theory (including aspects such as type, organism, ethics, and aesthetics). However, it represents a diversity in the enduring imprint left by Muratori, presented as an objective perspective on the points considered uncertain or in need of updating, if not somewhat redundant in the context of architecture. Caniggian research can be seen as the "deconstruction" of Muratori's work, specifically questioning the foundations of Muratorian phenomenology, which is then reexamined with a focus on reconstructing its tangible impact as a distinct "realist ontology".

As it is known, deconstruction is only applicable to what can be recognized as unified and continuous. The presence of an organic framework within Muratori's thesis undoubtedly provides Caniggia with the opportunity to proceed cautiously in the process of dissecting its components. From this perspective, we can reinterpret Caniggia's work as a deliberate exploration of the acquired themes, seeking multiple meanings with the aim of diversifying their significance, particularly in the realm of architecture. By closely examining the "lines" and line spacing in Muratorian statements, we can grasp the diverse content contained within them. It is important to assume that

truth is not always found in apparent evidence because, at times, there lies an "unmanifested" aspect, of which the visible represents only a "trace."

It is within this line of reasoning that Caniggia's work retrospectively reinterprets Muratorian's, providing a personal framework for the development of his own idea-cogito. This framework serves as an avenue towards a renewed approach, connected to certain lines of study proposed by the master, while simultaneously directing complementary research efforts to establish a distinct stance in the ongoing debate of that era.

Furthermore, Caniggia exhibited perseverance and passion in his teaching endeavors, which, along with his projects, formed the experimental foundation for his intellectual growth and the formulation of a theory that engages with the prevailing trends fueling the discourse of those years.

In this concise allusion to both figures, we already observe the diverse objectives that Caniggia pursues, alongside what he deems significant in Muratori's teachings. While he aligns himself with the paths that reflect the master's interests, there is an evident departure that becomes more pronounced at a certain stage. Muratori's interests progressively gravitate towards a philosophical and speculative trajectory, exploring grand systems of the world and their application to comprehending global phenomena. However, Caniggia chooses not to unconditionally endorse the validity of Muratorian ideas, deliberately focusing on aspects closely related to architectural themes—those that hold complete meaning within historical expectations and possibilities. These aspects captured the attention of the entire scientific community during his era.

For instance, Caniggia dedicates extensive study to urban fabrics and the "language" of the built environment, initiating thorough investigations into specific built contexts with a "scientific" outlook. His aim is to examine and grasp the tangible reality, providing evidence of the temporal and spatial aspects. This approach allows him to approach the quest for "truth," seeking to uncover the intricate "rules" that grammatically and syntactically govern the structuring of anthropic systems. In other words, it involves a reversal of the man-nature relationship, manifested in various "forms" such as buildings, aggregates, urban areas, and territories. These forms are defined and generate structural phenomena that concretely manifest their specific identity within the laws that have determined and expressed their essence throughout history.

Based on the concept of architecture as a language, Caniggia builds upon the Muratorian perspective of interpreting the built space. This perspective relies on the undeniable assumption of a historical process, supported by the structural mechanics that perceive the individuality of phenomena as the result of distinct spatial-temporal conditions.

Within this research context, Caniggia recalls the notions of spontaneous consciousness and critical consciousness, which he explores through the

adoption of a principle recognizing the specificity of localized architectural language. This language carries within it a presupposition of continuity and diachrony, signifying its temporal evolution as an identity entity. By doing so, he explains that the main reason behind the progressive expansion of architectural work, driven by a critical approach, is the contamination of languages that occurred during the transition to late Enlightenment rationalism. Additionally, this expansion is influenced by the gradual introduction of specific building elements into the "language" of fundamental construction.

This deduction aligns with continuous investigations conducted in the field of knowledge and interpretation of the distinctive languages belonging to different cultures. Caniggia delves into the unique nature of spatially identified "langue," demonstrating a deep cultural interest. This engagement leads to the construction of a structured thought on the foundations of a complex set of rules, deeply rooted and codified within every linguistic-architectural entity, necessary for the project as a means of collective communication. Caniggia discovers idioms to be used critically in the individual act of the project, understood as an "invention" in its etymological sense of discovery or revelation, emphasizing novelty rather than parasitic "creativity." In this context, creativity is seen by linguists as the individual's ability to utilize language independently, implementing their own words.

Thus, the past becomes an inherent component of the project, reflecting qualities of persistence, stability, constancy, extension, and succession of (linguistic) characters. It embodies an ongoing process that encompasses the concept of type in continuous transformation, continuously sought as a historical "judgment."

Caniggia methodologically organizes the orderly recognition of linguistic diversity in Western Europe, dividing it into two primary cultural areas for interpretive purposes. The first area encompasses the Mediterranean regions, characterized by continuous masonry construction systems that possess an idiomatic conception, being simultaneously heavy, plastic, load-bearing, and enclosing. The second area is the Northern/Middle European geographical region, distinguished by discrete, light, load-bearing, and non-enclosing systems with a wide range of nuances and hybridizing accents. This division contributes to the construction of a theory on the project, proposed with a hermeneutical foundation closely intertwined with interpretation.

The perspective employed signifies a "judgment" that leads us to view reading as an operative process. This reading is based on a logical and historical-processual assumption, not delving into secondary aspects of reality, such as the epiphenomena arising from the search for "sensations" evoked in individuals by the shape (visible or apparent) of architectural objects or the suggestions derived from their analysis. Instead, it is grounded in the existentialist style of thought within phenomenology.

Caniggia's engagement with phenomenological systematics, although influenced by structuralism, diverges from the current of thought that seeks to explain phenomena in architecture using psychological foundations as an interpretative exercise. The paradigm of his work lies in investigating reality through an awareness of the world as a "common perception," providing the basis for the existence of a given phenomenon and effecting meaningful change through collective participation. For instance, he considers every civic achievement as the outcome of a collective endeavor, with the individual author (and their work) merely serving as the means of progress.

Based on these postulates, Caniggia conducts numerous analyses of urban organisms (such as Como, Florence, Venzone, Benevento, Isernia, etc.), reconstructing their original framework and subsequent phases of diachronic transformation, ultimately leading to the exploration of the project theme. These readings significantly contribute to the advancement of scientific knowledge in urban analysis.

The two monographs on basic building, co-authored with Maffei, elucidate the fundamental concepts essential for interpreting the structure of aggregates. These concepts consider their spatial and temporal location, analyze their interrelationships, and establish hierarchical connections within the urban system.

The thesis that Caniggia presents aims to clarify the complex system of laws governing the formation and progressive transformation of aggregates. It is based on the idea that the consciousness of the result, preceding its realization, encompasses the notion of interconnected union among building organisms along a predetermined path. This a priori synthesis reflects collective action translated into the organic unity of the concept-judgment/thought-representation system, which interprets and describes the totality of components and characteristics involved in the process, ultimately defining the constructed outcome. In this case as well, Caniggia employs an interpretative method of reality supported by the application of a valid concept on an intuitive-perceptive and practical level. This approach manifests in a logical and comprehensive evaluation derived from the experience of civil culture.

In a similar vein to the distinction made between the building (object) and its concept (type), Caniggia proposes a scale-based understanding of the aggregate as a collection of buildings (objects) connected along a route. He also introduces the concept of urban fabric, which elucidates the governing law of the association among these elements within a specific historical process. This concept recognizes their variable formal and structural outcomes.

By researching the constitutive differences of fabrics that result in diachronically differentiated outcomes, Caniggia constructs an intricate array of typical cases, variants, and budding manifestations. These findings gradually enhance the wealth of acquired knowledge. The parallel reconstruction of processes,

distinguished by their spatial and temporal characteristics, reveals the genesis of courtyard houses, pseudo-rows, terraced houses, row houses, palaces, churches, convents, and more. This reinforces the thesis that the stratified palimpsest of the city and its fabrics, despite not always being organic and continuous, can, when interpreted with appropriate tools, unveil the composite accumulation of stratified processes manifested in diverse ways.

Caniggia ardently develops a method for studying urban phenomena, drawing from extensive research conducted in various cities that serve as significant representations of how the aforementioned concepts are realized. The reconstruction of identified urban fabrics and hierarchies gradually leads to the recognition of a specific syntax intrinsically connected to the semantics of the systems comprising urban space. The syntax can be observed in the mutual relationships established between structurally distinct elements within different temporal phases of a single city, representing an "identified" building type with its specific mode of aggregation. The semantics, on the other hand, encompass the meaning (including symbolic meaning, such as churches, palaces, libraries, museums, theaters from the nineteenth century onward) inherent to each element and their collective significance. Culturally distinct syntax and semantics contribute to the recognition of a specific "urban" identity characterized by its own rules, dynamic typicalities, exceptions, and an authentic message that defines its raison d'être and serves as a means of community and communication.

In concluding this brief overview of Caniggia's speculative and research trajectories within the school of urban morphology in Italy, we acknowledge his commitment as an active architect. Reflecting on his design experiences, as discussed in the introduction to the volume "Modern non Modern," it becomes apparent why his projects can be considered "modern" within the framework that emphasizes his cautious participation in the Movement itself. The Movement is defined not as a style but as a collection of widespread needs, symptoms, and aspirations aimed at achieving a renewed unity of the architectural organism.

Considering current trends, Caniggia's rigorous pursuit of architectural rules continues to hold relevance for fostering reflection. In a landscape where the prevailing notion seems to be chaos, embraced by many architects and paradoxically transformed into intentional expression, an excessive form of freedom emerges where creativity plays a significant role, sometimes leading to indiscriminate use of means and techniques. Caniggia's idea of creativity aligns with Gregotti's expression defining it as the "consciousness of modification." The term itself implies the imperative presupposition of consciousness, which extends beyond self-reflection and represents the interconnection of all things with each other—an understanding rooted in science and knowledge founded on solid and demonstrable foundations. It involves a profound awareness of

the essence and representation of things “ontically” in their presentation to the world. In other words, the role of the architect who seeks “creative doing” today must be accompanied by a full awareness of current events and a necessary foundation for launching into the future as a critique of the present.

To highlight some significant projects, we can mention the fabric projects referencing cases in Pescara, Venice, Florence, Rome, and Genoa. These projects exhibit a direct relationship with concepts such as formation, transformation, congruence, and yield. The project involving a special type, explored through experiences in Bagno di Romagna and Bologna, delves into the emergence of architectural relationships, the principle of unity/distinction, and the necessity of sharing. Noteworthy projects also include “urban planning” projects and restoration projects, evident in consultancy work for certain cities and interventions on important buildings.

Finally, the tragically “interrupted” project on the expansion of the headquarters of the “Valle Giulia” Faculty of Architecture represents a distinct case and serves as Caniggia’s final reflection, albeit a bittersweet one. It resembles Michelangelo’s “unfinished” works, embodying a complex legacy that heralds the opening of a new horizon in design research.

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C. CRISIS, INDIVIDUAL, ORGANISM AND TYPE. THE OPEN CHALLENGES OF URBAN REGENERATION

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One of the founding principles of the so-called 'processual typology'[1] is the identification between 'reading' and 'project'. As noted by Saverio Muratori in one of his seminal texts, perceived as a forerunner of the urban studies to come,[2] this connection arises from the inherent intentionality of all human behavior, specifically, from its inescapable projectual bearing. The aforementioned identification should therefore be understood as the subordination of 'reading' (which is always intentional) to the legitimizing presupposition (the intention) conveyed by the project itself (constantly intending).[3] However, this principle of legitimation can face a crisis. Hence, this is where Urban Morphology comes in as an as an autonomous discipline that investigates the underlying causes fof this crisis and which, particularly in Italy, and has sparked a fruitful long-lasting and internally articulated debate.[4] If the 'reading' is always intentional and if the intention is the outcome of the project, the loss of the principle of mutual subordination implies the loss of the "why" of things and of our actions, or of their intimately political motivation. Therefore, this crisis as a loss of values is an inevitable opening to 'nothingness'. If, however, in the Rossian Tendency,[5] this opening is seen as an end in itself (the ancient Greek σκοπός), that is, the freeing fulfilment of the identification between "reading" and "project",[6] in the "processual typology", and in Gianfranco Caniggia in particular, it becomes the necessary transit to find a new form of future identification.[7] The "processual typology" therefore views the crisis as the engine of History. This is evident in general terms in all epochs, but is particularly confirmed in contemporary times through the abandonment of disused building stock and the consequent phenomenon of urban regeneration. This is, in fact, an incremental process triggered by the financial crisis of 2007; accelerated by the pervasive diffusion of information technologies in the workplace and consolidated with the pandemic event, because of which the emerging urban contraction has freed a substantial stock of real estate from any pre-existing constraint of instrumentality, making it available again for experimental purposes. As a result, the urban landscape of the European city has become increasingly fragmented, incoherent and internally torn, due to the pervasive incremental expansion of terrain vague[8] infiltrated among the fragments of the urban fabric in constant proliferation, where the former progressively assume the character of infrastructures at the service of the latter. The paradoxical aspect of this process is that the act of crisis that separates "reading" and "project" simultaneously arises as a field of the possible, or rather the pure potential, of future relationships of reciprocal determination. The latter will

therefore materialize through the continuous renegotiation of the relationships between the fragments themselves, according to a process of profound sharing that will make them inextricably linked. While some current literature on the phenomenon ideologically and prejudicially tends to separate these aspects as distinct and figurativly autonomous,[9] almost interpreting one as the negative pole of the other. Nonetheless, the growing interest in reclaiming abandoned places confirms their high regenerative potential, opening, in fact, to an unprecedented and fertile season of design.[10] For the purposes of the reasoning carried out here, it is important to note how this project, which is in the process of development, whose effects cannot yet be fully measured, elucidates several questions that direct the 'processual typology', helping to critically illuminate its underlying assumptions, such as the notions of 'individual' and 'organism'. The 'individual' referst to the inseparable relationship between the living being and the world it exists in (from the Latin indīvĭdŭum, meaning 'not divisible', which translates the corresponding ancient Greek term ἄτομος). As such, nothing can be said about the living being or the world outside of this relationship. It follows, therefore, that a) the living, as well as the world, in itself are not knowable and b) that only the living/world relation is knowable. Similarly, nothing can be taken away and/or added to the relationship that does not affect the terms resulting from the relationship itself and vice versa, nothing can be taken away and/or added to the latter that does not affect the quality of the former. Knowledge of the living is therefore approximated to that phenomenal-existential limit constituted by its concrete 'grasp' on the world,[11] which therefore guarantees its possible understanding (from the Latin comprĕhensĭo, compound of cum- and prĕhensĭo, from prehendĕre, meaning 'together' and 'grasp').[12] The individual, therefore, fully expresses that 'being in relation' from which, by successive approximations, all derived terms are generated, among which, for our purposes, both 'subject' and 'object' take on a particular meaning.[13] Because of these premises, regeneration, which is at the same time human and urban, immediately reveals its unprecedented character. It happens at the moment in which, bringing the interest of the relationship to the center, it gives it the value of a founding event through which it begins to give "form" both to the agentive dimension, which has not yet reached the rank of completed subject, and to the realizing dimension, aimed at obtaining the recognisability of defined object. The shared project is, consequently, the regenerative project that, in its phenomenological unity, tentatively reveals, that is to say, proceeding by trial and error, the emergence of three terms, the intermediate of which corresponds to the conventional character of the "type".[14]

The notion of 'organism' is closely related to that of 'individual', being in some ways inseparable. The use of the term (from the ancient Greek οργανον, meaning 'instrument') clearly evokes 'that which as part of a whole' also presents itself as 'a whole articulated in parts'. The becoming of the "organism" is therefore evoked by a process each phase of which repeats the

relational presuppositions of the one that preceded it and, in turn, stands as the origin, "relatively" open, of the one destined to follow, according to a modality that recalls the rhetorical figure of the chiasm. Within this process, which is necessarily finalistic in character, by virtue of the progressive closure of its field of possibility, the project remains as a relationship that progressively implies its terms and is conditioned by them.[15] Processual typology translated the understanding of the phenomenon synthetically evoked, arriving at a description of constructed reality ordered asymptotically according to (strictly relational) 'degrees' and 'scales'. Gianfranco Caniggia's work has brought a new level of systematicity to this approach, with buildings, fabric, city and territory seen as "parts of a whole" - the (knowable) anthropic space resulting from the interaction between body and environment (in itself not knowable) - individually understood as a "whole articulated in parts", each of which is the provisional and perfectible outcome of a relationship: elements, structures, systems and organisms. In this way, processual typology confirms not only that we can only know what we experience, but above all, that the latter is always 'situated', i.e. necessarily conditioned by precise circumstances of space and time. Urban regeneration takes this awareness to an unprecedented level of clarification. As a relation, i.e. a project, it articulates a whole, unknowable and indivisible (abandoned objects and bewildered subjects who, by virtue of the condition of 'disgrace' into which they have fallen, are no longer bearers of value) into parts, scalarly differentiated, knowable and reciprocally separable (regenerated objects and subjects). However, this can only be achieved by crossing a space of diminishing undifferentiation and indeterminacy (from the maximum degree of origin to the minimum degree of the beginning of a new historical epoch). Regeneration therefore emphasizes this interval,[16] phenomenologically showing its richness of implications as well as its implicit fragility, not always destined to achieve the desired result. The novelty character of the regenerative process is therefore that of operating between different historical epochs, and the relative materials, revealing their uncertainties, ambiguities and exceptionality, to show the depth of the intuition contained in Muratori's seminal text recalled in the introduction. The title *Life and History of Cities*,[17] not by chance, draws the reader's attention to the relationship between two non-comparable conditions, which only the relational capacity of the project can bring into a relationship of reciprocal tension. Nevertheless, this also implies the impossibility of reducing the nature of the project itself to the world of 'representation', conditioned by the subsistence of 'language', and the need to search for its (historical) premises within the aforementioned interval. Regeneration, both urban and human, cultivates intermediation[18] as a founding condition to be taken care of, not yet bound by the regulatory system of a socially constructed reality.[19] Regeneration is therefore distinguished from any other transformative strategy by its ability to establish itself its own rules and full decision-making autonomy through the making of the project. For these reasons, regeneration cannot be confined within a given formal system, which

programmatically exceeds, and requires a "state of exception"[20] in order to unleash its potential. In the history of national town planning, such recognition was legitimized, for the first time, by the Law of the Emilia-Romagna Region, no. 24 of 2017, titled 'REGIONAL DISCIPLINE ON THE PROTECTION AND USE OF THE LAND'. In a particular way, art. 16 "Temporary Uses", establishes the possibility to intervene on the disused building heritage through a process of agentive claim derogating the constraints provided by the discipline of uses, standard and building regulation applied to the control of current production. It is, therefore, a condition of experimentation in potency that, at the end of a period of suspension of all forms of cogency, no longer than a five-year period, will have to be translated into action, based on the outcome achieved through the regenerative negotiation project. The project, understood as the search for a point of equilibrium between multiple instances, both material and immaterial, thus becomes the inescapable premise for the attainment of a stabilized conventional value, i.e. the 'type'. The epochal scope of this recognition not only definitively overcomes the aporias of a Modernity incapable of coming to terms with the social, political, economic and cultural significance of History and its articulation in 'phases' and 'cycles'.[21] Above all, it also confirms the primacy of processual typology in giving a full account of the process of transformation of the city and the territory according to a model that, temporarily interrupted by industrial society, today finally seems to be regaining its course.[22] The persistent call for the circularity of the project,[23] the reduction of land consumption[24] and the recycling of the existing building stock,[25] as well as of the related materials, no longer instrumental to a historically consolidated reality,[26] are clear and unequivocal signs of a cultural revolution that has now translated into a widespread civil conscience. In this perspective, uncertainty and fragility become the symptoms of an unprecedented project, subjected to progressive decantation and aimed at the pursuit of a common good no longer rhetorically understood but rather 'individually' shared, in the profound meaning that the term implies, as we have tried to argue. A project whose understanding presupposes an inevitable simplification of that interval of experimental suspension, now commonly referred to as regeneration: a necessary transition.[27]

NOTES

1. Anne Vernez Moudon, the first president of the ISUF (International Seminar on Urban Form) since 1997, coined the expression. It is currently used internationally to indicate the strand of studies and research on the form of the city deriving from Saverio Muratori's teaching, in order to enucleate its distinctive trait of continuous critical renewal of inherited building structures, compared to other schools of thought, similarly interested in the study of urban phenomena.

2. Saverio Muratori, "Vita e storia delle città," in *Rassegna Critica di Architettura*, edited by various authors (Roma-Milano: Fratelli Bocca Editori. Anno III, n. 11-12, 1950), 3-52.

3. Nicola Marzot, "Ripensare il nesso tra Architettura e Piano. L'eredità del metodo tipologico: convenzione, crisi, abbandono ed effimero," *U+D* 15 (2021): 52-57.

4. Nicola Marzot, "The study of urban form in Italy," *Urban Morphology* 6/2 (2002): 59-73.

5. Aldo Rossi, *L'architettura della città* (Padova: Marsilio Editori, 1966).

6. Marco Biraghi, Progetto di crisi. Manfredo Tafuri e l'architettura contemporanea (Milano: Marinotti, 2005).

7. It is therefore, in the processual typology, an *entelechy* (from the ancient Greek, compound of ἐντελέχεια, from ἐν- τέλει-ἔχειν*en*, meaning 'in itself', 'purpose', 'possessing'), i.e. an internal purpose in the becoming of the process itself.

8. Ignasi De Solà-Morales Rubio, "Terrain Vague," in *Anyplace*, edited by Cynthia Davidson, (Cambridge, MA: The MIT Press, 1995): 118-123.

9. Pier Vittorio Aureli, "Toward the Archipelago. Defining the Political and the Formal in Architecture," *Log* 11 (2008): 91-120.

10. In this perspective, the project is configured as a relational practice with an experimental character, which, by tentatively renegotiating the relationships between the parts, alters their full meaning, semantically and expressively disorienting them from their founding relationships, being contextually conditioned and altered by them. This specific way of understanding the project is not reducible, as many think, in the terms of a structural reading of the project, as it precedes it, constantly placing itself between the unspeakable and the sayable, which is, separating them by holding them together.

11. Jeanne Hersch, *Essere e Forma* (Milano: Bruno Mondadori, 2006).

12. In this perspective, it is worth recalling how even the term 'concept' (from the Latin *conceptus*, composed of *cum-* and *căpĕre*, meaning 'together' and 'to grasp') clearly bears traces of the ontological primacy of the material grasp over the relative conceptualization. The same discourse, not surprisingly, applies to the German *begriff*, which derives from the verb *greifen*, with the value of 'to grasp'.

13. The individual, thus described, seems to correspond to what in Leibniz's philosophy is called a *monad*, in that it has in itself the perfect organic end of its development.

14. It follows that the crisis of the relationship between 'reading' and 'project' presupposes that of the type, which precedes it, i.e. the dissolution of the constitutive link (as relational) through which the terms implied in potency are progressively translated into act, becoming 'subject' and 'object' respectively.

15. It is, therefore, a paradoxical ‘ephemeral permanence’, since in the becoming of the organism, the project understood as a relationship is preserved through the continuous transformation of the terms involved. These, in turn, are nevertheless related in a manner that is always different from the one that triggered before, and perpetuated after, the process, which is always the same even though it is not the one.

16. In this sense, it differs from processual typology. While the latter emphasizes the type’s character of stability, as a conventional, collectively accepted relationship that defines its terms by successive gemmations, the former emphasizes the ephemeral and transient character of the individual, implying a condition of reciprocity in constant becoming, of which nothing can be said, but which in its organicity can only be evoked. This relationship well expresses the Latin meaning of *spatium* as ‘distance’ and ‘interval’.

17. Saverio Muratori, “Vita e storia delle città,” in *Rassegna Critica di Architettura*, edited by variousauthors (Roma-Milano: Fratelli Bocca Editori. Anno III, n. 11-12, 1950), 3-52.

18. Mario Perniola, “Pensare il Between. Sul pensiero di Hugh J. Silverman”, in Ágalma– Mano, Maniera, Manierismo, edited by various authors. N.13 (2007).

19. Maurizio Ferraris, *Manifesto del Nuovo Realismo* (Bari: Laterza, 2012).

20. Giorgio Agamben, *Lo stato di eccezione. Homo sacer. Vol. II\1* (Torino: Bollati Boringhieri, 2003).

21. Regeneration, although it constitutes an autonomous strategy of intervention, recognized as such since the 2010s, actually expresses the way in which, in a process perspective, one transit from a previous cycle, whose impulses have now been exhausted, to the always-fallible possibility of the next one.

22. Bruno Latour, *Non siamo mai stati moderni. Saggio di antropologia simmetrica* (Milano: Eleuthera, 1998).

23. Michael Braungart and William McDonough, *Cradle to cradle. Remaking the Way We Make Things* (London: Vintage, 2009).

24. Urban Task Force (edited by). *Towards an Urban Renaissance* (London: Routledge, 1999).

25. Pippo Ciorra, and Sara Marini, *Re-cycle. Strategie per la casa, la città e il pianeta* (Milano: Electa, 2011).

26. Nicola Marzot, “Ripensare il nesso tra Architettura e Piano. L’eredità del metodo tipologico: convenzione, crisi, abbandono ed effimero”, in U+D, edited by various authors, pp. 52-57. Anno VIII, n.15, 2021.

27. The philosophical approach that best interprets the meaning of regeneration is the one developed in Mario Perniola’s reflection. In this perspective, we recognize ourselves in the words with which Giuseppe Patella recalled him in the pages of *Rivista di Estetica*, n.70 (available online): “...In this sense his (Perniola’s, ed.) could be defined as a philosophy of between, of the intermediate, which strives to think of that “in-between” that represents precisely the mediation that separates but also the distance that unites, that middle ground that indicates both a state of separation and a movement of approach. A philosophy of *transit*, to recall precisely one of those concepts elaborated in one of his pioneering books of 1985 (*Transiti. Come si va dallo stesso allo stesso*), in which the relationship between the inside and the outside, the here and the there, between staying and going is thought of neither in terms of radical opposition nor in the manner of a dialectical resolution, but in the form of an intermediate that holds the terms together through the emergence of their distance...”

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ABSTRACTS: SERBIAN

URBANA MORFOLOGIJA U BRITANIJI – VREME ZA PREISPITIVANJE I REGRUPISANJE?

Heather Barrett

Ovaj članak daje pregled doprinosa rada Grupe za istraživanje urbane morfologije (Urban Morphology Research Group (UMRG)) urbanim morfološkim istraživanjima u Britaniji. Grupa, pod vođstvom Džeremi Vajthenda (Jeremy Whitehand), obezbedila je fokus istraživanjima urbane morfologije u Britaniji, zasnovanim na istraživanjima M. R. G. Konzena (M.R.G Conzen) i istorijsko-geografskom pristupu. U članku se razmatraju četiri ključne niti ovog istraživanja: definicija istorijsko-geografskog pristupa, morfološki regioni, procesi i ljudi koji oblikuju urbane pejzaže i povezivanje istraživanja i prakse. Članak takođe daje pregled istraživanja urbane forme kroz druge oblasti u Britaniji izvan pomenute grupe, poteklih od istraživača iz drugih disciplina kao što su geografija, arhitektura i urbani dizajn. Dve široke oblasti rada su u fokusu - prostorno analitički i konfiguracioni pristupi kao i tradicija urbane geografije u Britaniji. U zaključku, članak se osvrće na budućnost urbane morfologije u Britaniji nakon gubitka Vajthenda kao njene dugogodišnje vodeće figure i istaknutog istraživača, sugerišući da je vreme da se formira nova mreža koja će zameniti sada uspavanu UMRG kako bi se obezbedila kontinuirana živost i vidljivost istraživanja urbane morfologije u Britaniji.

KLJUČNE REČI: MORFOLOGIJA; BRITANIJA, CONZEN, WHITEHAND, GEOGRAFIJA, SPACE SYNTAX

PROŠLOST, SADAŠNJOST I BUDUCNOST ISTRAŽIVANJA URBANE MORFOLOGIJE NA KIPRU?

Ilaria Geddes, Alessandro Camiz, Nezire Özgece, Nevter Zafer Cömert, Şebnem Hoşkara, Gizem Caner

Kiparska mreža urbanih morfologa (*The Cyprus Network of Urban Morphology* (CyNUM)), osnovana 2016. godine, je inicijativa dve zajednice koju predvode istraživači koji žive i na severu i na jugu Kipra. Cilj mreže je da promoviše istraživanja o urbanoj formi gradova na Kipru kao i da podrži diseminaciju ovih istraživanja kako na Kipru tako i u inostranstvu. CyNUM takođe deluje kao platforma za razmenu znanja i umrežavanje istraživača koji su posebno zainteresovani za gradove na Kipru i širem regionu istočnog Mediterana. Zbog relativne kratke tradicije univerziteta na Kipru, svi vodeći istraživači urbane morfologije obučavali su se u drugim zemljama i doneli na Kipar pristupe povezane sa lokalnom akademskom tradicijom. Na Kipru postoji snažan fokus na dva pristupa: istorijsko-geografski i konfiguracioni, iako su prisutne i tipomorfološke studije. Od svog osnivanja, mreža je uložila napore da unapredi razmenu znanja, pristupi ekspertizama iz drugih zemalja i razvije različite istraživačke aspekte kroz pojedinačna istraživanja, finansirane projekte i naučne događaje, uključujući regionalne konferencije i organizaciju ISUF konferencije 2019. godine. Imajući u vidu pravac trenutnih i predloženih budućih istraživanja, ovaj rad razmatra istorijat mreže, njene aktivnosti i rezultate istraživanja kako bi se kritički raspravljalo o putevima za budući razvoj morfoloških istraživanja na Kipru.

KLJUČNE REČI: MEDITERAN, GRADOVI, MULTIDISCIPLINARNOST, ISTORIJA URBANE MORGOLOGIJE,

URBANA MORFOLOGIJA NA PERIFERIJI JUGA AFRIKE

Kathryn Ewing

Urbana forma gradova u Africi je dinamična, nepredvidiva i u stalnoj je promeni. Urbana morfologija ostaje uglavnom nedokumentovana u južnoafričkom regionu u nastajanju. Trenutni procesi neformalnog zauzimanja zemljišta, transformacija predgrađa i postepena transformacija obrazaca naselja predstavljaju krhke, ali zanimljive morfološke karakteristike koje su vredne tumačenja. Kako razumemo, predstavljamo i predviđamo promenu urbane forme u južnoj Africi i šta je dodatna vrednost razumevanja urbane morfologije u južnoj Africi? U nedostatku bilo kakve formalizovane mreže ISUF-a (International Seminar of Urban Form) u južnoj Africi, postoji potencijal da se da značajan doprinos urbanoj morfologiji i povezanim procesima i vinovnicima. Tri perspektive zasnove na studijama slučaja iz prakse, istraživanja i edukacije objašnjene su, kako da bi se razumela urbana forma u južnoj Africi, i to na kroz: 1) prikupljanje podataka kroz lokalnu zajednicu o urbanoj formi i društvenoj praksi na osnovu iskustava u opštinama Kejptauna; 2) lokalna partnerstva zasnovana na primerima unapređenja neformalnih naselja u Kaieliši (Khaielitshi) i 3) smišljeno i angažovano podučavanje i učenje koje se trenutno odvija na studijskom programu urbanog dizajna na Univerzitetu u Kejptaunu. Urbani morfološki pristupi na globalnom jugu moraju biti multiskalarni, relevantni, vredni i što je najvažnije, pristupačni. Ovo zahteva uklanjanje irelevantnih principa i tehnika i fokusiranje na nisku cenu, nisko održavanje i održivu veštačku inteligenciju i radno intenzivno razumevanje grada koji se menja. Budući razvoj afričkih gradova treba da uključi važne stavove o ulozi socio-ekonomske realnosti, političke akcije, lokalnog delovanja i njihovih odnosa sa urbanom formom..

KLJUČNE REČI: URBANA MORFOLOGIJA; JUG AFRIKE; MREŽE U NASTAJANJU, KOKREACIJA

NEOCEKIVANE PUTANJE URBANE MORFOLOGIJE U FRANCUSKOJ

Giovanni Fusco

Ovaj rad nije ažuriranje priloga proučavanju urbane forme u Francuskoj od strane Majkla Darina (Michael Darin) iz 1998. godine. Umesto toga, ovaj rad je njegova dopuna koja otvara dva zanemarena doprinosa koja su proizvela neočekivane putanje urbane morfologije u Francuskoj. Prvi doprinos se odnosi na objavljivanje važne knjige o urbanoj morfologiji i sistemima parcela 1988. godine od strane Pjera Merlina (Pierre Merlin) nakon organizacije međunarodne konferencije na ovu temu. Ovaj doprinos je nastao na zahtev francuskog Ministarstva za urbanizam kao kritika prema tadašnjoj rastućoj oblasti urbane morfologije i njenom dugotrajnom negativnom uticaju u Francuskoj, posebno u oblasti urbanog planiranja. Drugi doprinos urbanoj morfologiji razvijen je od strane teoretičara i pobornika kvantitativnih metoda u geografiji. Iako je ovaj doprinos većinski nastao nakon Darvinovog priloga proučavanju urbane forme u Francuskoj, ovaj doprinos ukazuje na dve različite tradicije izučavanje urbane morfologije u Francuskoj: prvu, finiju razmeru i urbanu morfologiju usmerenu ka projektovanju u okviru škola arhitekture i drugu, širu razmeru, ponekad trans-razmeru, kompjuterski potpomognutu urbanu morfologiju u domenu kvantitativne geografije. Ogroman potencijal prepoznaje se u angažovanju saradnje između ove dve tradicije.

KLJUČNE REČI: FRANCUSKA; PIERRE MERLIN, URBANA MORFOLOGIJA I PARCELE, TEORIJSKA I KVANTITATIVNA GEOGRAFIJA, URBANA MORFOMETRIJA

ABSTRACTS: SERBIAN

TRAGANJE ZA KORENIMA URBANE MORFOLOGIJE KROZ AKADEMSKO ANGAŽOVANJE U OBLASTI ARHITEKTURE U SRBIJI

Milica Milojević, Aleksandra Đorđević, Mladen Pešić, Aleksandra Milovanović

Iako je Srpska mreža urbane morfologije (SNUM) jedna od najmlađih mreža u okviru Međunarodnog seminara o urbanoj formi (ISUF), smatra se da je svaka od regionalnih mreža utemeljena i razvijena na saznanjima koja potiču iz sinteze nauke, prakse i obrazovanja. Ovo istraživanje ima za cilj da utvrdi poreklo urbane morfologije u kontekstu Srbije uvidom u akademsko angažovanje ključnih naučnika tokom vremena. Istraživanje se zasniva na dosadašnjim saznanjima o poreklu i genezi nastave urbane morfologije u Srbiji i pregledu akademskih i praktičnih razmišljanja i delovanja u Beogradu. Koristeći metode prikupljanja podataka, analize sadržaja godišnjih fakultetskih knjiga i programa, retrospektivnih fakultetskih knjiga, internih dokumenata, akreditacionih dokumenata, beleški sa predavanja, knjiga i edicija iz predmetne oblasti, kao i dijagramiranja i vizuelizacije, istraživanje teži da uspostavi širok i detaljan okvir za kreiranje hronologije i identifikovanje klastera. Periodizacija identifikuje četiri različita perioda koja se metaforički imenuju prema rastu biljaka – formiranje plodnog tla, pogodna klima, klice i izdanci, dok grupisanje omogućava otkrivanje kontinuiteta urbane morfologije u tri naučne oblasti na fakultetu – arhitektura, urbanizam i istorija. Metafora rasta biljaka je značajna za podcrtavanje da su koreni bilo koje oblasti proučavanja od ogromne važnosti, kako za razumevanje njenog porekla, polaznih osnova i intelektualnog nasleđa, tako i za njen pravilan razvoj.

KLJUČNE REČI: SNUM, URBANA MORFOLOGIJA, EDUKACIJA, URBANA FORMA, INTELEKTUALNO NASLEĐE

ISUF - HISPANIC (ISUF-H). ARCHITECTS, URBANISTS AND STUDIES ON URBAN FORM

Irina Kukina, Elena Logunova

Formiranje nauke urbane morfologije u Rusiji može se pripisati pedesetim godinama prošlog veka, sa interesovanjem za proučavanje urbane istorije. Razvoj morfoloških istraživanja može se podeliti na četiri velika perioda. Prvi je povezan sa stvaranjem metoda za proučavanje razvoja urbane forme i arhitektonske tipologije u zavisnosti od korišćenja zemljišta i vlasništva nad zemljištem u presocijalističkom periodu (N. Gulianitskii, V. Lavrov, E. Kirichenko). Drugi se može okarakterisati kao prediktivno-konceptualni. Zaključeno je da su novi modernistički gradovi izgrađeni 60-70-ih godina evoluirali po zakonima istorijskog grada i da su malo kontrolisani centralizovanim urbanističkim planiranjem (A. Gutnov). Treći period je povezan sa idejama koje se odnose na jedinstvo i heterogenost pejzaža, vezu fizičkih, bioloških i društvenih procesa. Mapiranje morfoloških jedinica bilo je deo istorijsko-morfološkog i pejzažnog pristupa analizi urbane strukture (V. Gutsalenko, I. Kukina). U sadašnjem periodu treba konstatovati uvođenje morfoloških visokotehnoloških metoda pod pritiskom političkih i planskih zakona usvojenih krajem dvadesetog veka. Oni vraćaju oblike svojine i korišćenja zemljišta, koji menjaju urbanu formu (A. Bolšakov, E. Logunova).

KLJUČNE REČI: URBANA MORFOLOGIJA, INTEGRISANI RAZVOJ, NAUČNI PERIODI

ITALIJANSKA ŠKOLA PROCESNE MORFOLOGIJE. KORENI, METODI I BUDUCI PRAVCI RAZVOJA

Giuseppe Strappa, Matteo Ieva, Nicola Marzot

Tri teksta imaju za cilj da sumiraju formiranje, razvoj i buduće izglede italijanske škole urbane morfologije. Problem nije jednostavan, s obzirom da debata o ovoj temi nikada nije uspostavila zajedničku osnovu. Međutim, može se prepoznati zajednički cilj da se analiza izgrađenog okruženja koristi u operativne svrhe. Ove studije su, dakle, „arhitektonski orijentisane“, koje sa drugim školama mišljenja pokazuju komplementarnost metoda, među kojima su i geografi koji prate Konzenovu liniju.

Tekstovi koji slede neminovno se odnose na specifično polje proučavanja autora, a to je procesna morfologija. Ipak, smatramo da ovi prikazi, delimično sadrže razloge od interesa za međunarodnu publiku, a specifično za one koji istražuju građenu sredinu i da bi planirali njenu transformaciju.

Tri teksta se bave, po redosledu: poreklu proučavanja proceduralne morfologije, fokusirajući se na školu u Rimu, odakle potiču neki pojmovi koji su vodili naredne studije; formiranje nove nauke o građenju zasnovane na inovativnom metodu čitanja i projektovanja postojeće stvarnosti, najviše zahvaljujući doprinosu Đanfranka Kaniđe; buduće perspektive, koje otvaraju nova polja istraživanja, nove specifičnosti, (i takođe diferencijacije) u okviru tekućih istraživanja.

KLJUČNE REČI: PROCESNA MORFOLOGIJA, ITALI

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