On the Integration of Place and Urban Morphology

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This paper offers an initial discussion on the nexus of place conceptualization and urban morphology. An attempt is made to work out how taking into account the concept of place, which is difficult to grasp formally but essential for us as humans, would change the study of urban form. This is done from three different perspectives: the understanding of place as a part of the earth's surface imbued with meaning, the idea of place as functional and action-related, and from a relational perspective. It is shown how the inclusion of place can expand the existing focus of urban morphology on rigid, formal, geometric forms of the built environment to include other types of more 'fluid' morphologies. The overview offered highlights possible pathways to redefining our understanding of urban form and invites further reflection on this.

Keywords: place; urban morphology; urban studies; locale; platial GIS; GIScience

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1 Introduction

Our conceptual understanding of space and place often remains tacit in our research. On the one hand, places are linked to geographical experiences (Relph, 1976), memories (Malpas, 2018), and routine bodily mobilities (Seamon, 1980), among other things, and can thus be experienced very concretely by us humans. On the other hand, operationalizing such complexities is not an easy task, which is why Seamon (2018) describes places as complex fields that collect and connect things, people, meanings, etc. Correspondingly, the mentioned tacitness about place is often true even for the traditional spatial sciences such as geography, regional studies, and spatial planning. However, the implicitness mentioned applies at least as much to the current discourse around platial information (i.e., representations of meaningful places in information structures), as it is conducted in the field of GIScience (see Hamzei et al., 2020; Merschdorf and Blaschke, 2018; Purves et al., 2019; Tang and Painho, 2021, for recent overviews of the place discourse in GIScience including functional, relational, and affordance-based approaches). Often, the understanding of space and place used is the container notion familiar from the field of geographic information systems (GISs). Supposedly even more frequently, however, eclectic concepts of space and place are employed, which are fed from various strands (see Wagner et al., 2020). Rarely though is the applied conceptual apparatus concretely explicated. In addition to the human geographical view of place (which we make use of), this paper is dedicated to the field of urban morphology. As in GIScience, place concepts are still rare in urban morphology, or are only used implicitly. Rather than presenting finished results (which do not even seem tangible yet), this paper seeks to initiate and inform a discussion and interdisciplinary dialogue on the nexus of place and urban morphology.

This paper discusses some of the implications of the use of 'place' in the field of urban morphology. Urban morphology is the study of human settlements, their structure, and the process of their formation

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and transformation (Kropf, 2018). With its focus on the built urban environment, urban morphology plays an important role also in relation to the concept of place. In addition to the fact that places are predominantly mental entities, the built environment feeds into place studies through, among other things, the notion of locale, which refers to the physical environment for social interaction (Castree, 2003; Stedman, 2003). However, the non-explication of the concept of place obscures important conceptual assumptions that shape our understanding of urban phenomena. It seems fairly obvious that urban form can hardly be separated from spatial and platial concerns. But it is precisely because of this apparent triviality that it is important to expose the applied concepts of space and place as a basic premise for urban studies and to reflect on other possible readings of our results obtained. The following contribution highlights implications of the inclusion of place on investigations of urban form. Ultimately, this discussion is also an impetus for the formalization of place, as locale is part of such a formalization (see Zhang et al., 2018, for a recent attempt to formalize the concept of locale).

Integrating the concept of place with the field of urban morphology poses challenges and entails changes. In the further course of this article, we will highlight three main facets of this integration, which are oriented along fundamental conceptions of place: place as space endowed with meaning; functional readings of place; and places as collections of relations. The perspective of ascribing meaning is borrowed from humanistic geography and describes how people experience and live places. The perspective of functional understandings of place, on the other hand, foregrounds the functionalities offered by places in the context of the wider urban fabric. This second perspective thus abstracts more from the level of the individual than the humanistic perspective. The third perspective takes a more abstract standpoint and makes stronger ontic assumptions. It conceives of place as a collection of relational bundles and thus goes strongly beyond the understandings of space applied in urban morphology research so far. The present synopsis does not claim to be a comprehensive one. Rather, it aims to contribute to the clarification of terms and concepts in order to better embed the discourse on the built environment in the discourse on platial information, e.g., with regards to formalizing locales.

2 Space and Place in Urban Morphology

The spatiality inherent to urban morphology, and our perspective on space, determine how we conceive of urban forms. Urban morphological studies in major part rely on geographical notions of space and in particular those that view space as a naturally given ‘container’. The historical-geographical school of urban morphology, which is concerned with the development of town plans based on their respective historical and regional contexts, treats space in its material and territorial manifestation (Whitehand, 1977). Some theories of change that deal with the formal conditions of transformations of urban form further ascribe a structuring role to urban form that emanates from processes that space itself undergoes. The latter occurs through the division of space by plots, such as in the theory of the burgage cycle by Conzen (Whitehand, 2001). However, space itself is thereby still understood as a homogeneous, naturally given surface that is merely subdivided and commodified. An important advance in the theorization of space in the field of urban morphology comes from space syntax’s authors Hillier and Hanson who in their seminal book ‘The Social Logic of Space’ attempt at developing a comprehensive social theory of space that allows the material realm of physical space to be linked to the abstract realm of social relations, assuming that there are meaningful correlations between social and spatial structures (Hillier and Hanson, 1984).

Conceptualizations of place, on the other hand, have not been widely used to study urban form to date. We argue that place can be of great use as a tool to capture other features of urban form beyond material ones. These features may include, e.g., human perceptions, cognitive attributes, cultural perceptions, and subjective attributions of meaning. All of these aspects also constitute morphological features of a city, though in more abstract ways, and often interact with the built environment. So far, in the field of urban morphology, the terms ‘space’ and ‘place’ are often used interchangeably, without clear distinction or reference to a specific definition (Peterson and Littenberg, 2020). The introduction of the term ‘place’ as a loci for an immaterial, intangible dimension that can be projected onto space (or has a localization) could be a valuable addition to the conceptual toolkit of urban morphology. Some possible implications of the additional focus on place in urban morphology are discussed below.

3 Implications of Place Concepts for the Study of Urban Form

The following subsections discuss the implications of considering place in urban morphology. The breakdown into subsections follows three different established place readings.

3.1 Place Understood as Space Endowed with Meaning

The concept of place used in this subsection designates a part of space that is charged with meaning (Cresswell, 2014). Such a definition allows taking a human-centred position, but also offers an intersubjective perspective on spatiality when examining the collectively produced meanings associated with places. A major challenge that arises from such a broad and general definition is the need for a precise formalization of the concept of place, e.g., by identifying the particular meanings that go into the formation of places, the processes by which the association of such meanings with places occurs, etc. These epistemological choices need to be made explicit, including for any attempt to operationalize such a notion of place to the study of urban form. The extensive application of GIS in urban morphology has driven many of its studies towards quantifying urban form based on formal geometric properties. An example of this is the rapid spread of urban morphometrics, which aims to objectively represent and measure the physical form of cities in order to support evidence-based research (Fleischmann et al., 2020), while less tangible features tend to be overlooked, not least because of the difficulties in capturing them with existing formal means mentioned above.

Such epistemological bias that is implicit in GIS as a core tool for processing spatial data dictates a certain view of urban form. The latter then behaves to a large extent as a self-replicating geometric pattern subject to an autopoietic logic that can be quantified and modelled, without taking informal features into account. An example of the elaborated inability to include place meanings is the recent attempt to introduce an objectively defined spatial unit for land plots, based on a morphological mosaic (Fleischmann et al., 2020). While this method offers an objective, universal way of dividing space, it does so at the expense of neglecting all other features except the formal geometric and therefore easily quantifiable properties of abstract space and building floor plans. And while, e.g., the aforementioned theory of the burgage cycle includes land plot patterns, certain institutional (practices of cadastral surveying), economic (land tenure structures) and social relations, up to and including historical and regional features that feed into the resulting plot patterns, these are omitted in morphological mosaics. This illustrates the direction in which urban morphology is moving, driven by the advances and quantitative capabilities of data processing through GIS.

The conceptual combination of place-based GIS with the extensive body of research and theory on the meaning of built environments in architecture and urban planning will be needed to expand the methods and interpretations of urban morphology towards taking into account the meanings generated by configurations and combinations of built forms and open spaces. The promise of such an endeavour is that in the nexus of place and urban morphology, the possible connections between meaning and form of even challenging housing typologies, may be better understood. Consider, e.g., prefabricated housing estates, which are generally perceived as places devoid of symbolism or epitomizing a purely technical mode of production. The reality, however, is that even prefabricated housing estates possess a range of meanings that are linked to or shaped by the everyday practices of their inhabitation. Complex questions of this kind regarding structural properties of meanings written into the urban landscape could be addressed by linking place and urban morphology.

3.2 Place Understood as Activity, Function, Use

The spatial turn has brought spatiality to the forefront of a number of social sciences, far beyond the traditionally spatial disciplines. Together with changing perspectives on space and the further development of relational conceptualization (see below), the consideration of space and place as outcomes of particular productive, formative actions has underpinned their relevance for sociology and other related disciplines. By the very nature of its subject matter, any sociological study of place is designed to capture social relations, practices, and actions (individual and collective) that contribute to the creation, existence, and maintenance of places. Even if urban morphology retains its distinct object of study, separate from the wider social sciences, it could and should be concerned with social processes that are in turn relevant to and applied to urban form.

The ways in which urban forms (and spaces) are appropriated through uses, activities and the general practice of inhabiting them could provide a point of contact here. This is all the more true as the above questions have long been a concern of urban morphology, albeit from its own angle. The functional features of urban form have not lost attention. However, what may be overlooked in such attention to functionality is the distinction from use, i.e., possible incoherences, divergences, or even contradictions between the formally designated intended function of urban form and its actual use through collective or individual practices. Such concerns should be taken into account in any attempt to create function-based models of a place in the context of a place-based GIS agenda (Papadakis and Blaschke, 2017). In doing so, one should avoid getting into a self-confirmation loop by relying on representations and abstracted features while excluding references to the actual 'lived' reality, which inevitably deviates from the former.

The challenge of deriving actual uses in the absence of concrete manifestations in the built environment can be illustrated by the case of prefabricated housing estates outlined above. For a long time, poor design solutions and failures to satisfy human needs were blamed for the lack of an acceptable quality of life in these. An example of this is the lack of differentiation of spaces due to the abandonment of traditional design elements such as courtyard and street frontage, which led to a placeless image of housing estates. However, if places are considered as a practice of appropriating space for everyday use that takes place within certain material constraints but does not fully condition them, this could offer insights that go beyond the scarcity of programmed function and allow for a variety of uses. This is another area where the morphological view combined with place-based GIS can contribute in the future, supporting the proverbial reading of uses without concrete manifestations.

3.3 Place Understood as a Set of Relations

Defining place in relational terms is, in a sense, inherently conflicting. Declaring a place to be a loose structure, a network of ever-changing relationships that defy fixation and strict definition of content (Massey, 2005), sounds like a very challenging undertaking. At the same time, such a dynamic or even ambiguous view, however challenging it may be to formalize, opens up a significant avenue for overcoming the reification of place and the critique brought against the so-called essentialist conceptions of place. This critique, which opposes the notion of place based on certain, exclusive, fixed essences rooted in traditional, natural identities tied to closed communities, etc., aims at phenomenological perspectives on space and place (Bachelard, 2014; Norberg-Schulz, 1980). The latter are criticized as advocating outdated categories of the archetypal, rootedness in territory, centrality (even normativity) of the experience of a Western (typically male) subject, at the expense of all possible experiences of otherness that come to the fore under contemporary conditions of ceaseless mobility, constant flows of migration and changing patterns of belonging, and the increasing disembedding of place.

In the case of urban form, essentialist readings of place are those that assume a certain genius loci of place; vernacular archetypal building forms that are rooted in the natural conditions of place and determine 'the true essence' of place. A turn to relational readings of place could therefore help to overcome this critique while reconciling conceptual framings with contemporary conditions. As a result, a better understanding of the changing nature of belonging tied to places could be achieved. It could also challenge the common narrative of the fragmentation of urban space and form. The argument about the fragmentation of space presupposes the notion of a certain pre-existing and eventually disintegrating unity of space as a premise, i.e., a certain holistic, homogeneous understanding of spatiality. Such a holistic understanding of space underlies, e.g., the distinction between the aforementioned duo of 'space and anti-space' by Peterson and Littenberg (2020). In both readings, space is conceived as a particular, naturally given or formed container that absorbs urban form, but in each case strives for unity. What if, however, instead of admitting the crisis of the unity of urban form, one could take a different path that allows for heterogeneity, a multiplicity of configurations and compositions that are not seen as deviations but as the current state of affairs? A relational reading of place could offer a path to such a reconciliation.

Place understood as a complex system of interlocking relations in a morphological sense might offer insights into the hierarchy of places within the city. This perspective draws attention to the scope and boundaries of places and their built forms, which are defined by what lies outside no less than by what encloses them. Recognizing the nested nature of places could be consistent with the established hierarchy of urban elements within the city (from home to neighbourhood to city itself), with gaps in

any of these elements leading to a disturbed legibility or sense of belonging and connectedness to the city. This could also be observed in the case of housing estates, as they seem to omit an intermediate step in the interlocking sequence of urban scale between the private space of the home and the public space of the city, denying their inhabitants a meaningful transition.

4 Conclusions

The above account based on three key concepts of place offers insights that can deepen our understanding of urban form. At the same time, they present us with new methodological challenges that force us to rethink and reconfigure how we view our objects of enquiry. Four concluding statements may summarize these. (i) The need to introduce places as a possible conceptual tool to reflect subjective, immaterial features of urban form does not aim to override advances in quantification or morphometric modelling. The two research directions complement each other and should be advanced hand in hand. We need to ensure that this is not done in parallel, i.e., without overlapping their research agendas and methods, or at the expense of each other. The neglect of intangible features that feed into urban form should not be sidelined because of difficulties in formalizing or capturing them with available tools. Complex entities such as urban areas can only be understood by taking into account tangible and intangible features alike, even structurally as urban morphology aims to do. (ii) Adopting insights and conceptual frameworks of places based on actions, practices, uses, and functional dimensions from the broad field of social sciences could help urban morphology overcome a possible dependence on formally defined, abstractly determined functions. The latter often only apply to plans and diagrams. Instead, a stronger inclusion of place could bring the 'lived' urban world into focus, as it is produced and reproduced through actions. Similarly, this may avoid disadvantages and limitations arising from the inherent limitations of extracting data from highly abstracted representations. (iii) The relational approach to place, which poses most difficulty for unambiguous formalization, could provide conceptual support for a considerable reshaping of our understanding of places in a new light as arrangements, configurations, mergers of entities, and relationships between them. In this way, many crucial features of the dynamically changing nature of places and their emergence could be captured, including the notion of the multiplicity of places that localities share. (iv) The present discussion considers the field of urban morphology. However, since platial GIS also has a formal focus, both fields share some characteristics. Advances in the field of urban morphology can thus also directly inform research on the broader notion of platial GIS. Thus, the present work also contributes to the latter and analogously to similar efforts in terms of statistical analysis (Westerholt, 2019), visualization (Bleisch and Hollenstein, 2018), or ontological framing of places (Scheider and Janowicz, 2014), among others.

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References

Bachelard, Gaston: *The poetics of space*. New York, NY: Penguin Classics, 2014

Bleisch, Susanne and Hollenstein, Daria: *Exploratory geovisualizations for supporting the qualitative analysis and synthesis of place-related emotion data*. Cartographic Perspectives, (91), 2018, 30–46. doi: 10.14714/CP91.1437

Castree, Noel: *Place: connections and boundaries in an interdependent world*. In: Clifford, Nicholas; Holloway, Sarah; Rice, Stephen P; and Valentine, Gill (eds.), *Key concepts in geography*, London, UK: SAGE, 2003. 165–186

Cresswell, Tim: *Place*. In: Lee, Roger; Castree, Noel; Kitchin, Rob; et al. (eds.), *The SAGE handbook of human geography*, London, UK: SAGE, 2014. 3–21

Fleischmann, Martin; Feliciotti, Alessandra; Romice, Ombretta; and Porta, Sergio: *Morphological tessellation as a way of partitioning space: improving consistency in urban morphology at the plot scale*. Computers, Environment and Urban Systems, 80, 2020, 101441. doi: 10.1016/j.compenvurbsys.2019.101441

Hamzei, Ehsan; Winter, Stephan; and Tomko, Martin: *Place facets: a systematic literature review*. Spatial Cognition & Computation, 20(1), 2020, 33–81. doi: 10.1080/13875868.2019.1688332

Hillier, Bill and Hanson, Julienne: *The social logic of space*. Cambridge, UK: Cambridge University Press, 1984

Kropf, Karl: *The handbook of urban morphology*. Chichester, UK: John Wiley & Sons, 2018

Malpas, Jeff: *Place and experience: a philosophical topography*. Oxon, UK: Routledge, 2018, 2nd edn.

Massey, Doreen Barbara: *For space*. London, UK: SAGE, 2005

Merschdorf, Helena and Blaschke, Thomas: *Revisiting the role of place in geographic information science*. ISPRS International Journal of Geo-Information, 7(9), 2018, 364. doi: 10.3390/ijgi7090364

Norberg-Schulz, Christian: *Genius loci: towards a phenomenology of architecture*. New York, NY: Rizzoli, 1980

Papadakis, Emmanuel and Blaschke, Thomas: *Place-based GIS: functional space*. Proceedings of the 4th AGILE PhD School, 2017

Peterson, Steven and Littenberg, Barbara: *Space and anti-space: the fabric of place, city and architecture*. San Francisco, CA: Taylor & Francis, 2020

Purves, Ross S; Winter, Stephan; and Kuhn, Werner: *Places in information science*. Journal of the Association for Information Science and Technology, 70(11), 2019, 1173–1182. doi: 10.1002/asi.24194

Relph, Edward: *Place and placelessness*. London, UK: Pion, 1976

Scheider, Simon and Janowicz, Krzysztof: *Place reference systems*. Applied Ontology, 9(2), 2014, 97–127. doi: 10.3233/AO-140134

Seamon, David: *Body-subject, time-space routines, and place-ballets*. In: Buttimer, Anne and Seamon, David (eds.), *The human experience of space and place*, London, UK: Croom Helm, 1980. 148–165

—— *Life takes place: phenomenology, lifeworlds, and place making*. New York, NY: Taylor & Francis, 2018

Stedman, Richard C: *Is it really just a social construction?: the contribution of the physical environment to sense of place*. Society & Natural Resources, 16(8), 2003, 671–685. doi: 10.1080/08941920309189

Tang, Vicente and Painho, Marco: *Operationalizing places in GIScience: a review*. Transactions in GIS, 25(3), 2021, 1127–1152. doi: 10.1111/tgis.12767

Wagner, Daniel; Zipf, Alexander; and Westerholt, Rene: *Place in the GIScience community – an indicative and preliminary systematic literature review*. In: Mocnik, Franz-Benjamin and Westerholt, René (eds.), *Proceedings of the 2nd International Symposium on Platial Information Science (PLATIAL'19)*. 2020, 13–22. doi: 10.5281/zenodo.3628855

Westerholt, René: *Methodological aspects of the spatial analysis of geosocial media feeds: from locations towards places*. gisScience: Die Zeitschrift für Geoinformatik, 31(31), 2019, 65–76

Whitehand, Jeremy WR: *The basis for an historico-geographical theory of urban form*. Transactions of the Institute of British Geographers, 2(3), 1977, 400–416. doi: 10.2307/621839

—— *British urban morphology: the Conzenian tradition*. Urban Morphology, 5(2), 2001, 103–109

Zhang, Fan; Zhang, Ding; Liu, Yu; and Lin, Hui: *Representing place locales using scene elements*. Computers, Environment and Urban Systems, 71, 2018, 153–164. doi: 10.1016/j.compenvurbsys.2018.05.005