

Editorial

## Spatial Knowledge and Urban Planning

Anna Juliane Heinrich<sup>1</sup>, Angela Million<sup>1,\*</sup>, and Karsten Zimmermann<sup>2</sup>

<sup>1</sup> Department of Urban Design and Urban Development, Technische Universität Berlin, Germany

<sup>2</sup> Department of European Planning Cultures, Technical University of Dortmund, Germany

\* Corresponding author ([million@tu-berlin.de](mailto:million@tu-berlin.de))

Submitted: 4 August 2022 | Published: 25 August 2022

### Abstract

Urban planning is simultaneously shaped by and creates new (spatial) knowledge. The changes in planning culture that have taken place in the last decades—especially the so-called communicative turn in planning in the 1990s—have brought about an increased attention to a growing range of stakeholders of urban development, their interests, logics, and participation in planning as well as the negotiation processes between these stakeholders. However, while this has also been researched in breadth and depth, only scant attention has been paid to the knowledge (claims) of these stakeholders. In planning practice, knowledge, implicit and explicit, has been a highly relevant topic for quite some time: It is discussed how local knowledge can inform urban planning, how experimental knowledge on urban development can be generated in living labs, and what infrastructures can process “big data” and make it usable for planning, to name a few examples. With the thematic issue on “Spatial Knowledge and Urban Planning” we invited articles aiming at exploring the diverse understandings of (spatial) knowledge, and how knowledge influences planning and how planning itself constitutes processes of knowledge generation. The editorial gives a brief introduction to the general topic. Subsequently, abstracts of all articles illustrate what contents the issue has to offer and the specific contribution of each text is carved out. In the conclusion, common and recurring themes as well as remaining gaps and open questions at the interface of spatial knowledge and urban planning are discussed.

### Keywords

evidence-based planning; knowledge; knowledge orders; learning; negotiation; planning; stakeholders; urban living labs

### Issue

This editorial is part of the issue “Spatial Knowledge and Urban Planning” edited by Anna Juliane Heinrich (TU Berlin), Angela Million (TU Berlin), and Karsten Zimmermann (TU Dortmund).

© 2022 by the author(s); licensee Cogitatio (Lisbon, Portugal). This editorial is licensed under a Creative Commons Attribution 4.0 International License (CC BY).

### 1. Introduction

Current urban transformations are not only changing the spatiality of cities and regions. They influence spatial knowledge and also lead to new processes of knowledge production. Spatial transformations can be seen “as processes of communicative actions and social practices embedded in people’s everyday lives. What people experience, want, believe, know, do, and how they interact in turn engenders new institutions and novel forms of localization, interconnectedness, and spatially shaped (self-)experience” (Million et al., 2022a, p. 3). In such actions and practices stakeholders gain knowl-

edge, but they can also draw on more available knowledge. This, nowadays, regularly includes knowledge that goes beyond the local and beyond people’s own experience. One driver here is the advancing (digital) mediatization of spatial knowledge. Today, knowledge is at least potentially available worldwide through a growing number and variety of media (e.g., print, television, internet, social media) and institutions (e.g., foundations, academia, consultancies, government agencies). At the same time, local and situated knowledge does not lose its relevance and is stressed as “a socially situated, contextualized ‘knowledge’ that is always aware of its split, its ambiguity and instability” (Maurer, 2019,

p. 373, referring also to Haraway, 1995; own translation from German). Urban planners and decision-makers are increasingly confronted with the dilemma of making a choice out of ubiquitous knowledge sources and this includes a thorough and legitimate review of what counts as valid knowledge. Having said this, it is the aim of this thematic issue to address changes in spatial knowledge production and its significance as a resource in planning. Of interest are further the growing complexity of negotiating between different stocks of knowledge and validity claims of participating stakeholders within planning processes.

Changes in planning culture have been discussed many times in recent decades, especially the turn towards participatory and cooperative forms of planning—the so-called communicative turn in planning (Healey, 1992)—in the 1990s. More recently the rise of the concept of co-production of knowledge has found increasing attention (Watson, 2014). However, while the interests of stakeholders, logics, and strategies of planning have been analysed in detail, we believe that only scant attention has been paid to the knowledge (claims) of these stakeholders and how this could inform planning, decision-making, and the materiality of implementations (Campbell, 2012; Rydin, 2007). In the face of increasingly complex stakeholder constellations in planning on the one hand and an ever-increasing availability of information (to also mention big data here) on the other hand, planning processes can be re-read as processes of exchanging and negotiating knowledge and knowledge claims, processing information, and generating broadly “accepted” spatial knowledge. Since different spatial knowledge stocks can be identified—such as planning-related expert knowledge, political knowledge, local knowledge, knowledge of citizens, or of knowledge communities—the question of legitimacy and the role of counter-knowledge in the negotiation processes of these different knowledge stocks in planning arises.

Spatial knowledge appears in many different forms such as indicators, ideas, and visions and these forms of spatial knowledge organize and stabilize expectations (i.e., futures states of spatial development). For us, spatial knowledge also encompasses the (socialized) experience of space, spatial concepts, and the emotions and affects associated with space. It includes implicit and physical, linguistic, or otherwise communicatively objectified knowledge that is thought of as guiding action. In practice, spatial knowledge is an assemblage of everyday ideas and scientific-technical concepts (Läpple, 1991), aesthetical experiences (Sturm, 2019), as well as affects and geographical ideas or imaginations (Gregory, 1994; Ingold, 2011; Urry, 2006). Current interdisciplinary research on “imagining, producing, and negotiating space” (Million et al., 2022b, pp. 241–309) suggests that different forms of knowledge production come into play and that subjective and objective knowledge stocks on space are more and more mediatized within modes of fast circulation, again due to digitalization.

Against this background we invited articles aiming at exploring the diverse understandings of (spatial) knowledge, and how knowledge influences planning and how planning itself constitutes processes of knowledge generation. We wanted the authors to address the following subjects:

- Theoretical reflections on negotiating knowledge claims in planning;
- The role of digitization of planning for spatial knowledge and its distribution;
- The role of indicators for valid knowledge production and evidence-based planning;
- Subjective spatial knowledge and its relevance for planning;
- Circulation of spatial knowledge;
- Informal production of knowledge;
- Policy expertise and the role of policy advice;
- Contested knowledge and conflict resolution.

As editors we have to acknowledge that the contributions to the thematic issue do not cover all of these topics. There are several reasons for this, but one is certainly the fact that living labs and co-production are timely issues in planning while evidence-based planning and policy advice seem to be less popular. The next section shall navigate the reader through the structure of the issue as a whole and show what contents the issue has to offer. Following this overview over the specific contribution each article makes, we discuss the common and recurring themes as well as remaining gaps and open questions at the interface of spatial knowledge and urban planning in the last section of this editorial.

## 2. The Contributions to the Thematic Issue

The thematic issue is opened by the article ““DALSTON! WHO ASKED U?”: A Knowledge-Centred Perspective on the Mapping of Socio-Spatial Relations in East London” (Jungfer et al., 2022). The authors, Carsten Jungfer, Fernanda Palmieri, and Norbert Kling, introduce their topic with a comprehensive literature review of the theme of the thematic issue. Subsequently, insights from the “Relational States of Dalston” mapping project are presented. The starting point of the investigation was a planning controversy, which erupted around a masterplan by the London Borough of Hackney whose implementation would have required the displacement of several cultural and social enterprises in the Dalston Quarter. The design-led enquiry makes a convincing case for maps as tools for visualizing and thereby assembling, processing, ordering, layering, and generating local knowledge in processes of urban transformation.

The following two articles enrich the thematic issue by challenging commonly asserted knowledge hierarchies with feminist perspectives on voices and knowledge resources of marginalized groups that are often excluded from urban planning practices. Taking

a decolonial stance, Stephanie Butcher, Camila Cociña, Alexandre Apsan Frediani, Michele Acuto, Brenda Pérez-Castro, Jorge Peña-Díaz, Joiselen Cazanave-Macías, Braima Koroma, and Joseph Macarthy frame processes of knowledge mobilization and co-production as “emancipatory circuits of knowledge” (Butcher et al., 2022). The authors identify three cross-cutting strategies to decenter knowledge and thus to reduce urban injustice. What sets their article on ““Emancipatory Circuits of Knowledge” for Urban Equality: Experiences From Havana, Freetown, And Asia” apart is that they do not only engage with small-scale case studies but also embrace an example for a supra-regional network of co-learning.

Zuzana Tabačková (2022) adds to the thematic issue a perspective from Central and Eastern Europe. In her contribution, entitled “Transforming Spatial Practices Through Knowledges on the Margins,” she portraits two organizations operating in Slovakia and Czechia and carves out how their practices make marginalized spatial knowledge matter. Following a praxeological approach, the focus of the study is on spatial practices, know-hows, and visions.

In contrast to these good practice examples, Ulrik Kohl and John Andersen (2022) discuss what they call a “knowledge co-creation fiasco.” Under the heading “Copenhagen’s Struggle to Become the World’s First Carbon Neutral Capital: How Corporatist Power Beats Sustainability,” they illustrate how differing knowledge claims were made and enforced around the planning, permission, building, and operation of a waste-to-energy plant. Their case stresses the relevance of coalitions of knowledge (production) and shows that combining different knowledge stocks is of utmost importance for maximum impact on discourses and ultimately decision-making.

Hanna Seydel and Sandra Huning (2022) present storytelling as an approach to tackle power imbalances in planning processes and to provide for a productive co-creation of knowledge. “Mobilising Situated Local Knowledge for Participatory Urban Planning Through Storytelling” is the first of three articles which deal with experimental planning approaches, mostly urban living labs and real-world labs. The specific added value of this contribution is the conceptual linking of the issues of positionality and situated knowledge in the context of participatory planning.

After that, a comparison between urban living labs in four European capital cities is drawn by Doina Petrescu, Helena Cermeño, Carsten Keller, Carola Moujan, Andrew Belfield, Florian Koch, Denise Goff, Meike Schalk, and Floris Bernhardt. While the article also discusses the generation of spatial knowledge and the negotiation of knowledge claims, it focusses on urban living labs as a methodology for these purposes. As indicated by the title “Sharing and Space-Commoning Knowledge Through Urban Living Labs Across Different European Cities,” practices and experiences of sharing and space-

commoning in different cities are the empirical reference of this article (Petrescu et al., 2022).

The text that follows focusses on “The Scaling Potential of Experimental Knowledge in the Case of the Bauhaus.MobilityLab, Erfurt (Germany)” (Kraaz et al., 2022). Central to this article is the question of how we can evaluate scaling potentials of real-world labs and thus tap potentials of transferability. The authors, Luise Kraaz, Maria Kopp, Maximilian Wunsch, and Uwe Plank-Wiedenbeck, offer a methodical approach to capture transferable implications from site-specific, experimental knowledge in planning.

With the next contribution to the thematic issue, an evidence-based planning tool for the generation and accumulation of spatial knowledge is introduced. Under the title “Evidence-Based Planning: A Multi-Criteria Index for Identifying Vacant Properties in Large Urban Centres,” Thiago C. Jacovine, Kaio Nogueira, Camila N. Fernandes, and Gabriel M. da Silva adopt a methodological perspective. The authors explain in detail the developed tool to identify the vacancy probability for properties in São Paulo’s downtown area and thereby emphasize the relevance of large-scale, data-based planning approaches for urban planning policy (Jacovine et al., 2022).

Sophie Mélix and Gabriela Christmann (2022) top off the thematic issue with their article on “Rendering Affective Atmospheres: The Visual Construction of Spatial Knowledge About Urban Development Projects.” Two unique features characterize this contribution: Firstly, it takes into consideration spatial knowledge about imaginaries of potential urban futures. Secondly, visuals are discussed as media of knowledge generation and knowledge transfer. Focusing on renderings, the authors work out how digital visualizations of envisaged urban developments are designed and what spatial knowledge they convey and how.

We are grateful to all authors for responding to our call and taking up many of the issues of knowledge and planning we raised in it. As it stands, the thematic issue provides an overview of current discussions on spatial knowledge and urban planning, with a particular focus on the relevance of local and situated knowledge. In addition, the various methodological contributions provide approaches for further research. Notwithstanding, we ask ourselves how the contributions fit into the existing body of publications on knowledge and planning and what conclusions need to be drawn with regard to future research. In the conclusion, we would like to look at this.

### 3. Knowledge in Planning: Avenues for Future Research

The discussion on knowledge in planning was (and still is) shaped by the difference between lay knowledge and expert knowledge. In her book *Knowledge and Public Policy*, Judith Innes (1990) introduced the notion of “usable knowledge” by contrasting technocratic indicators with a more cooperative mode of knowledge

generation. From then on, formulations such as inclusive knowledge, participation, and communicative planning dominated the discussion. We see a continuity here with regard to the current widespread use of living labs. Living labs are seen as new ways of producing a kind of practical or usable knowledge.

Though not explicitly mentioned in many of the contributions, this refers also to the well-established distinction between tacit and explicit knowledge. The differentiation of knowledge forms is a widespread approach in the planning sciences (Vigar, 2017). Although a variety of approaches and typologies of knowledge forms exists, all these approaches share the view that planning needs more than technical and professional knowledge and that ways need to be found in order to mobilize informal knowledge, lay knowledge, etc.

In continuation of this, the procedural dimension of knowledge production and learning have been emphasized. Usable knowledge is generated in practice; that means (planning) practice is also a means of testing validity claims of knowledge (Campbell, 2012). This way of thinking about knowledge and knowledge generation (“the deliberative and reflective practitioner”) is popular in the planning sciences (Schön, 1991). But, at the same time, this prevents stronger theoretical reflections. We share a view expressed by a group of authors in a contribution to *Planning Theory*:

If planning theory has long concerned itself with the translation of knowledge to action (Campbell, 2012; Friedmann, 1987), we argue here that any response to unsettling times must reexamine where and how planning knowledge is produced, shared, and valued and how that affects the forms of action such knowledge makes possible. (Barry et al., 2018, p. 420)

In fact, many contributions fall short of a proper definition of knowledge and interpret knowledge as something that is used, owned, or contested. More complex definitions that would consider knowledge as cognitive orders or civic epistemology that stabilize cognitive expectations seem to be more appropriate and offer greater analytical capacity (Jung et al., 2014; Zimmermann et al., 2015). It seems that more generalized statements are possible when an appropriate theoretical reference is used. To give an example: living labs, seen from a theoretical perspective, are a type of *boundary arrangement*, i.e., a rules-based arrangement that works at the nexus of science-based expertise and other forms of knowledge (Hoppe, 2005). How this boundary arrangements evolve in planning practice and what the consequences are needs further scrutiny. Implicitly, this confirms that the attribution of stocks of knowledge to actors, organisations, or groups of actors is possible (and many notions exist: advocacy coalitions, epistemic communities, experts, social movements, networks, discourse communities). At least for the empirical study of knowledge in planning this seems to be highly relevant

as these (collective) actors can be identified empirically (rather than knowledge as such).

To our surprise, the aspect of learning (as the process of adapting and changing knowledge claims or just skills) has found only scant attention in the contributions to the thematic issue (see, for different conceptions of learning, McFarlane, 2011, as well as Dunlop & Radaelli, 2020). In any case, knowledge integration still seems to be the main concern of the authors and it seems that there is—at least in planning—only one mechanism for this integration: communicative action as a way to test and negotiate different validity claims and knowledge forms. Other procedural perspectives have not been taken into account and organization science has a rich offer for operationalizations such as internalization, objectification, and externalization of knowledge (Tsoukas, 2005).

We also missed further reflections on complexity and uncertainty and, related to this, the crisis of (expert) knowledge (including fake news, etc.). Expert knowledge has lost a lot of its credibility but it seems that expert knowledge is still the main foundation for decision-making in planning. Research that sheds light on this would enrich the discussion on (spatial) knowledge and urban planning continued with this thematic issue.

#### Acknowledgments

We would like to thank all the authors for their valuable contributions to this thematic issue.

#### Conflict of Interests

The authors declare no conflict of interests.

#### References

- Barry, J., Horst, M., Inch, A., Legacy, C., Rishi, S., Rivero, J. J., Taufen, A., Zanotto, J. M., & Zitcer, A. (2018). Unsettling planning theory. *Planning Theory*, 17(3), 418–438. <https://doi.org/10.1177/1473095218763842>
- Butcher, S., Cociña, C., Frediani, A. A., Acuto, M., Pérez-Castro, B., Peña-Díaz, J., Cazanave-Macías, J., Koroma, B., & Macarthy, J. (2022). “Emancipatory circuits of knowledge” for urban equality: Experiences from Havana, Freetown, and Asia. *Urban Planning*, 7(3), 206–218.
- Campbell, H. (2012). Planning to change the world: Between knowledge and action lies synthesis. *Journal of Planning Education and Research*, 32(2), 135–146. <https://doi.org/10.1177/0739456X11436347>
- Dunlop, C., & Radaelli, C. (2020). Policy learning. In D. Berg-Schlosser, B. Badie, & L. Morlino (Eds.), *The SAGE handbook of political science* (Vol. 3, pp. 1121–1133). SAGE. <https://dx.doi.org/10.4135/9781529714333.n70>

- Friedmann, J. (1987). *Planning in the public domain*. Princeton University Press.
- Gregory, D. (1994). *Geographical imaginations*. Blackwell.
- Haraway, D. J. (1995). *Die Neuerfindung der Natur: Primaten, Cyborgs und Frauen* [The re-invention of nature: Primats, cyborgs and women]. Campus.
- Healey, P. (1992). Planning through debate: The communicative turn in planning theory. *The Town Planning Review*, 63(2), 143–162. <http://www.jstor.org/stable/40113141>
- Hoppe, R. (2005). Rethinking the science-policy nexus: From knowledge utilization and science technology studies to types of boundary arrangements. *Poiesis Prax*, 3(3), 199–215. <https://doi.org/10.1007/s10202-005-0074-0>
- Ingold, T. (2011). *Being alive. Essays on movement, knowledge and description*. Routledge.
- Innes, J. E. (1990). *Knowledge and public policy: The search for meaningful indicators*. Transaction Publishers.
- Jacovine, T. C., Nogueira, K., Fernandes, C. N., & da Silva, G. M. (2022). Evidence-based planning: A multi-criteria index for identifying vacant properties in large urban centres. *Urban Planning*, 7(3), 285–298.
- Jung, A., Korinek, R. L., & Straßheim, H. (2014). Embedded expertise: A conceptual framework for reconstructing knowledge orders, their transformation and local specificities. *Innovation: The European Journal of Social Science Research*, 27(4), 398–419. <https://doi.org/10.1080/13511610.2014.892425>
- Jungfer, C., Palmieri, F., & Kling, N. (2022). “DALSTON! WHO ASKED U?”: A knowledge-centred perspective on the mapping of socio-spatial relations in East London. *Urban Planning*, 7(3), 191–205.
- Kohl, U., & Andersen, J. (2022). Copenhagen’s struggle to become the world’s first carbon neutral capital: How corporatist power beats sustainability. *Urban Planning*, 7(3), 230–241.
- Kraaz, L., Kopp, M., Wunsch, M., & Plank-Wiedenbeck, U. (2022). The scaling potential of experimental knowledge in the case of the Bauhaus.MobilityLab, Erfurt (Germany). *Urban Planning*, 7(3), 274–284.
- Läpple, D. (1991). Gesellschaftszentriertes Raumkonzept [Society-centred concept of space]. In M. Wentz (Ed.), *Stadt-Räume. Die Zukunft des Städtischen. Frankfurter Beiträge* [Urban-Spaces. The future of the cityness] (Vol. 2, pp. 35–46). Campus.
- Maurer, S. (2019). Soziale Bewegung: Als strukturierendes Element des Sozialraums [Social movements: A structuring element of social space]. In F. Kessl & C. Reutlinger (Eds.), *Handbuch Sozialraum* [Handbook social space] (pp. 359–380). Springer. [https://doi.org/10.1007/978-3-531-19983-2\\_22](https://doi.org/10.1007/978-3-531-19983-2_22)
- McFarlane, C. (2011). *Learning the city: Knowledge and translocal assemblage*. Wiley.
- Mélix, S., & Christmann, G. (2022). Rendering affective atmospheres: The visual construction of spatial knowledge about urban development projects. *Urban Planning*, 7(3), 299–310.
- Million, A., Haid, C., Castillo Ulloa, I., & Baur, N. (2022a). Navigating spatial transformations through the refiguration of spaces. In A. Million, C. Haid, I. Castillo Ulloa, & N. Baur (Eds.), *Spatial transformations: Kaleidoscopic perspectives on the refiguration of spaces* (pp. 1–14). Routledge. <https://doi.org/10.4324/9781003036159-1>
- Million, A., Haid, C., Castillo Ulloa, I., & Baur, N. (2022b). *Spatial transformations: Kaleidoscopic perspectives on the refiguration of spaces*. Routledge. <https://doi.org/10.4324/9781003036159>
- Petrescu, D., Cermeño, H., Keller, C., Moujan, C., Belfield, A., Koch, F., Goff, D., Schalk, M., & Bernhardt, F. (2022). Sharing and space-commoning knowledge through urban living labs across different European cities. *Urban Planning*, 7(3), 253–273.
- Rydin, Y. (2007). Re-examining the role of knowledge within planning theory. *Planning Theory*, 6(1), 52–68. <https://doi.org/10.1177/1473095207075161>
- Schön, D. A. (1991). *The reflective practitioner: How professionals think in action*. Ashgate.
- Seydel, H., & Huning, S. (2022). Mobilising situated local knowledge for participatory urban planning through storytelling. *Urban Planning*, 7(3), 242–253.
- Sturm, H. (2019). Ästhetische Perspektiven als strukturierendes Element des Sozialraums, oder: Marseille zu Fuß und Kopf—Wanderungen durch die provenzalische Metropolregion [Aesthetic perspectives as a structuring element of social space, or: Marseille by foot and head—Walks through the metropolis of provence]. In F. Kessl & C. Reutlinger (Eds.), *Handbuch Sozialraum* [Handbook social space] (pp. 259–275). Springer. [https://doi.org/10.1007/978-3-531-19983-2\\_19](https://doi.org/10.1007/978-3-531-19983-2_19)
- Tabačková, Z. (2022). Transforming spatial practices through knowledges on the margins. *Urban Planning*, 7(3), 219–229.
- Tsoukas, H. (2005). *Complex knowledge: Studies in organizational epistemology*. Oxford University Press.
- Urry, J. (2006). The place of emotions within place. In J. Davidson, L. Bondi, & M. Smith (Eds.), *Emotional geographies* (pp. 77–86). Ashgate.
- Vigar, G. (2017). The four knowledges of transport planning: Enacting a more communicative, transdisciplinary policy and decision-making. *Transport Policy*, 58, 39–45. <https://doi.org/10.1016/j.tranpol.2017.04.013>
- Watson, V. (2014). Co-production and collaboration in planning—The difference. *Planning Theory & Practice*, 15(1), 62–76. <https://doi.org/10.1080/14649357.2013.866266>
- Zimmermann, K., Boghrat, J., & Weber, M. (2015). The epistemologies of local climate change policies in Germany. *Urban Research & Practice*, 8(3), 303–318. <https://doi.org/10.1080/17535069.2015.1051379>

## About the Authors



**Anna Juliane Heinrich** is a researcher and lecturer at the Department of Urban Design and Urban Development at the Berlin Institute of Technology, Germany. Her research interests include children and young people in urban development, youth participation, built environment education, urban development and education, and educational landscapes (Bildungslandschaften).



**Angela Million**, née Uttke, is professor of urban design and urban development and currently director of the Department of Urban and Regional Planning at Berlin Institute of Technology (TU Berlin), Germany. She is also director of the DAAD-Global Center of Spatial Methods for Urban Sustainability SMUS. Her research focuses on participatory urban design and built environment education, with a special interest in cities as educational setting and young people. Furthermore, her published design and planning research discusses educational spaces and multifunctional infrastructure development linking, for example, water infrastructure, food production, and retail design. Her most current research projects explore urban design in autonomous mobility, neurourbanism, and the changing spatial knowledge and hybrid spatial constructions of young people.



**Karsten Zimmermann** is professor at the Faculty of Spatial Planning at Technical University of Dortmund where he holds the chair for European Planning Cultures. He is educated as a political scientist and has dedicated most of his academic work to the study of cities and regions. From 2012 to 2016 he was the president of the European Urban Research Association EURA, from 2013 to 2017 he was country representative for Germany at the AESOP council. His list of publications includes numerous articles and books on metropolitan governance, European urban policy, knowledge and planning, and local climate policies. His current research projects focus on comparative metropolitan governance and spatial planning in Germany, Italy, and France, and local innovation in mobility policies. He is the editor of the journal *Urban Research & Practice*.