

Discussion paper (Oct. 2024)

Materiality in urban future-making

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Strategies and interventions which aim at the transformation of the urban built environment in the light of climate change and social crisis are at the heart of urban future-making. Such transformation, per definition, thus targets the material world: settlement patterns, technical infrastructures, housing stock, street spaces, individual buildings, and other built objects of various kinds. The built environment is immobile, long-lived, and comprised of an accumulation of objects that come to us from prior eras: they constitute the product of past decisions and actions that aimed to secure certain functions and provide for specific uses. The material world is transformed over time, partly as a result of explicit decisions to adapt structures to new uses and requirements but partly also as a result of daily practices in which built objects and urban spaces are appropriated by users. Moreover, built objects reflect the passing of time as they acquire patina by being exposed to weather conditions and by the aging of materials. Practices of repair and maintenance seek to counter the aging of built structures and try to preserve their functionality. Quite obviously, materiality shapes urban future-making in fundamental ways. This has been reflected in recent research of different strands, all raising awareness to the key role of materiality.

Practical engagement with materiality

Within applied disciplines such as architecture, engineering, and planning, which have always been focused on the physical world, this shift is reflected in a renewed valuation of the existing materiality and material cycles of our cities. Within contemporary discourse, arguments for giving greater attention to renovation, repair, and care in contrast to the ongoing practices of demolition and new construction are prominently featured. Contributions to these debates in built environment disciplines span various formats and contexts. Seminal publications such as Angelika Fitz and Elke Krasny's work on 'critical care' discuss the state of architecture in the face of ecological and social crises (Fitz and Krasny, 2019).

Prominent exhibitions such as the latest Venice Architecture Biennale, which took place in 2023 with the theme 'The Laboratory of the Future', also reflect the paradigmatic shifts underway. The German contribution to the Biennale explicitly highlighted the importance of maintenance and repair. Artistic interventions, such as the 'ALLES IST SCHON DA – Performing URBAN CURATING Now' symposium in Hamburg in 2023, emphasize the potential of curating existing urban spaces with given situations and materials instead of adding to them.

Recent research also reflects the key role of materiality when thinking about transformative and future-oriented action. Interdisciplinary research projects, such as the EU-funded CIRCuIT project

(2024), explore the potentials of circular construction through collaborations between engineers and architects. Observing changing material cultures and design strategies and rediscovering the analogue in the age of the digital has, for example, been the focus of the 'Matters of Activity' cluster of excellence hosted by Humboldt University of Berlin since 2019.

In line with such research activities, individual built environment professionals and their related professional associations have made their positions explicit also towards politics and have formulated strong requests: an open letter addressed to Germany's construction ministry, signed by leading experts in architecture, planning, and design, calls for an immediate halt to all demolition activities (Abrisssmatorium 2022). This letter underscores the growing consensus among professionals about the importance of preserving and repurposing our built environment. Its demands are supported by various strategic documents and reports, including, for instance, the Baukulturreport for 2022/2023, titled 'Neue Umbaukultur' (Bundesstiftung Baukultur 2023).

Materiality as a focus of social science research

The heightened interest in materiality has also been reflected in shifting ontological, theoretical, and methodological foci in disciplines which are not primarily concerned with the built environment. In the social sciences, the so-called material turn represents a departure from purely discursive or symbolic explanations of social phenomena. Authors such as Donna Haraway (1988), Bruno Latour (1999), and Jane Bennett (2010) have significantly contributed to a more comprehensive understanding of the role of material objects, infrastructures, technologies, and environments in shaping social life – even attributing a form of agency to these more-than-human elements.

This shift has been accompanied by the decentring of the human, challenging the traditional dualisms between the material and the symbolic, the human and the non-human, and culture and nature by emphasizing entanglements and interrelations between them (Coole and Frost 2010). Although not all research following the 'material turn' explicitly engages with the ontological premises of this new materialism, it has nonetheless sparked a renewed interest in the material fabric of the world.

One productive line of research has been to understand buildings not merely as artefacts, but rather to focus on buildings in the making, conceptualizing them as active agents (Yaneva 2009), performances (Rose et al., 2010), and ongoing processes (Lorne 2017). This also involves an appreciation for the mostly invisible 'building work' required to maintain buildings and secure their functioning over time (Jacobs et al., 2012). Importantly, some social science studies have started to look more closely into the political, economic, and social conditions that underlie the material production of the built environment, also including specific building materials and resources such as sand or mineral aggregates (Fry, 2011; Torres et al., 2017).

Contemporary studies across various social science disciplines examine a broad array of topics relating to the role of materiality in urban contexts. For instance, researchers have explored material flows supporting concrete construction in West African urbanization (Choplin 2023), the remaking of Mexico City's water infrastructure through maintenance and repair (De Coss-Corzo 2023), and the agencies of plants in Hamburg (Neubert 2023) and animals in Delhi and London (Barua 2023) – to name only some of the most recent contributions.

Lines of inquiry

In this track, we are specifically interested in understanding whether and how materiality impacts, shapes, limits, and conditions professional agency in the context of urban future-making. We are particularly interested in interdisciplinary contributions which bring built environment disciplines and social science approaches into productive dialogue. We invite both empirical and theoretical papers along three broad fields of inquiry that come into view when putting materiality centre stage with regard to agency:

- The first line of inquiry aims at understanding how the material world is made an object of representation and abstraction. In order to evaluate, strategize, or plan for future demands, the built environment needs to be known. This has resulted in a broad array of techniques of drawing, mapping, and surveying, which allows professionals to produce representations of the material world and abstract from its particularities. By using digital tools, these techniques have advanced and produced unprecedented amounts of data. However, what is to be gleaned from the gathering of such data through various techniques of representation is subject to interpretation by professionals. How is materiality abstracted in such processes, and what forms of knowledge are produced by whom, but also, how does material matter resist and elude such practices of representation and abstraction?
- The second line of investigation deals with material objects as vehicles and tools in facilitating decision-making and collaboration. Based on knowledge about the material world and, possibly, first-hand experience, professionals assume further steps in terms of comparisons, calculations, designs, and decision-making. In the course of processes, material artefacts play a key role as epistemic and boundary objects, but also, more explicitly, as objects of collaboration: They are used as models and mock-ups; they are needed to prototype, test, and experiment for 'thinging', i.e. conceptualizing through material artefacts (Malafouris 2014); and they are shared with other professionals and the broader public, allowing for collaboration, co-creation, and consultation. How do the material qualities of such artefacts shape the practices of professionals as future-makers, and what kinds of agency do they have in facilitating or restricting decisions?

- The third set of questions aims at understanding how materiality shapes and potentially acquires agency as a result of the built environment becoming an object of physical interventions and construction activity. Based on decisions of policy-makers and professionals, urban spaces and built objects are turned into sites of major construction or are targeted for repair and maintenance. These activities engage with material matter on the ground and in step-by-step processes which can extend over long time spans. The existing urban fabric, despite previous attempts to make it legible and calculable, provides for surprises and makes construction contingent on action and findings on-site. How does material matter acquire agency in such processes, for example, by changing decisions or delaying plans, thus leading to unforeseeable consequences or new conditions?

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