

Linking Situational Analysis to Architecture and Urbanism. An Interdisciplinary Perspective

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Abstract: Adele CLARKE, Carrie FRIESE and Rachel WASHBURN further expanded situational analysis (SA) with the publication of "Situational Analysis: Grounded Theory After the Interpretive Turn" (2018) and "Situational Analysis in Practice: Mapping Relationalities Across Disciplines" (2022). During the last two decades, SA has been applied to analyze a broad range of research problems across different disciplines. While the mutual relationship between social and material worlds is understood to be at the epistemic base of SA, so far only few studies have been focused on questions that are related to architectural and urban processes through which material worlds are *produced*, and even fewer on the professional work of *designing* such worlds and processes. This is paralleled by the lack of theorizing at the intersection of SA, architecture, and urbanism, which constitutes an impediment to interdisciplinary work. In this article, I argue that SA is relevant in architecture and urbanism, while proposing that architectural methods and modes of representation could also be useful for SA. I discuss a series of aspects that could help strengthen the links between SA, architecture, and urbanism, using research exemplars and student work produced in urban design to underpin the argument.

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1. Introduction

In the manuscript "Social Worlds and Spatial Processes: An Analytic Perspective," Anselm STRAUSS (1991) emphasized the connectedness between the spatial and the social, arguing that spatial processes "contribute to the creation, maintenance, and evolution of social worlds" (p.3). If social and spatial processes are mutually related to each other "as conditions and consequences" (p.13), to what extent has situational analysis (CLARKE, 2005; CLARKE & STAR, 2008; CLARKE, FRIESE & WASHBURN, 2018) been adopted in the spatial disciplines in the fields of theorizing, research, analysis, and design practice? Based on my search for examples in architectural and urban theory and research, I claim that there is hardly any evidence of the theory's application in this area. In their overview of SA in practice, CLARKE et al. (2018, pp.373ff.) seem to have confirmed this observation, since their long index of exemplars of situational analysis, sorted by discipline and mapping focus, remained without reference to architecture and urbanism. Likewise, the contributions featured in this volume made only few references to architecture (pp.8, 79, 82, 136). [1]

This is surprising, since the spatial turn in the social sciences (DÖRING & THIELMANN, 2009; SOJA, 1989), the emerging concepts of relational space (HEALEY, 2006, 2007; LÖW, 2016 [2000]) and, more recently, "Re-Figuration of Spaces" (KNOBLAUCH & LÖW, 2020), on the one hand, and the growing significance of process, conflict, and negotiation in architectural and urban conceptualizing on the other (BERKING et al., 2006; KLING, 2020; YANEVA, 2012, 2016), have opened up new fields and modes of joint inquiry. While the social sciences and the spatial disciplines—including urban geography, urban planning, urbanism, environmental studies, and design-oriented disciplines such as architecture, urban design, and landscape design—share a long history of interdisciplinary work and discussion (LÖW, 2016 [2000]); MARGUIN, 2021a, 2021b), the application of SA in architectural and urban research remains the exception and its application in design work, in particular, is yet to be explored. Likewise, the question of how architectural modes of analysis and representation could be of relevance for SA, and in particular for its spatial dimensions, has not yet been raised. [2]

In this article, I seek to expand the theorizations at the intersection between SA, architecture, and urbanism, and to contribute to the emerging discussion on how the "theory/methods package" (CLARKE et al., 2018, pp.2, 61) of SA can be applied in spatial analysis as well as architectural and urban design. To this end, I raise and engage with the question of which assumptions and capacities found in SA on the one hand, and urban and architectural inquiry on the other, could help strengthen the links and productive interchange between those disciplines. [3]

In the following section, I reflect on the respective epistemic foundations of SA and architecture and urbanism to reveal the shared influences that I will use as the starting point for the discussion. I argue that the emerging emphasis of the spatial dimension of social and material worlds has opened up new spaces of mutual exchange and reflection. I further argue that design—understood as a specific category of knowledge production in architecture and urbanism—offers further possibilities for convergent theorizing (Section 2). This initial definition of a common ground then leads me to the discussion of research exemplars and student projects. I begin by introducing two research projects in the fields of architecture and urbanism that made SA a central element of their multi-sited and multiple-method research designs. I do not reiterate their reflections on methodology and epistemology, but use them to provide a brief overview of how and in relation to which research problems SA has been applied in these fields so far (Section 3). Against this backdrop, I discuss the conceptualization, implementation, and outcomes of a student mapping seminar and design project in architecture and urbanism in more detail. The goal of the mapping seminar was to extend the conventional toolbox of spatial analysis in architecture by integrating social worlds/arenas maps. The design project went further in that the students explored the capacities of social worlds/arenas maps as design tools. I propose that the cases could be seen as new ways of working with SA in architecture and urbanism. Stressing the integrative capacity of drawing and visualizing, I argue that researchers using SA could benefit from architectural modes of representation, especially to capture the spatial and temporal dimensions of social processes (Section 4). I then identify and discuss aspects that seem well suited to further strengthen the links between SA, architecture, and urbanism, in particular epistemological convergences (as outlined at the outset), mapping, collaborative approaches, the concept of situation, and conflict and controversy (Section 5). In the concluding section, I argue that the intersections between SA, architecture, and urbanism are a promising field for the exchange of knowledge, methodological thinking, and interdisciplinary work (Section 6). [4]

For the purpose of the discussion in this article, I define the notions of architecture and urbanism relatively broadly. I use the term "architecture" to describe the spatio-material elements of the built environment, academic discipline, or profession. As an academic discipline and profession, it can be understood to subsume architectural design and embody elements of spatial analysis. It is closely related to other design-oriented disciplines such as urban design, landscape architecture or interior architecture, as well as urbanism and urban planning. In a historic context or in relation to references made in other disciplines, it can be used as an umbrella term subsuming all design-oriented disciplines engaged with the built environment. Unless I explicitly draw a distinction, I employ the term "design" interchangeably for architectural, landscape, and urban design. [5]

2. Theorizing Epistemological Links Between SA and Architecture

2.1 Common ground: The spatial dimension of social and material worlds

CLARKE et al. (2018, p.26) emphasized the relatedness of the social and material worlds, positing that "we routinely make meaning about, within, through, and as embodied parts of the material world—human, nonhuman, and hybrid. The social is relentlessly material, not 'merely' epiphenomenal." The mutual relationship of the material and the social is seen as defining an area of shared interest in the social sciences and architecture with a long history (MARGUIN, 2021a). While the concepts have changed considerably over time, space seems to be one of the key unifying dimensions in this relationship. Hubert KNOBLAUCH and Martina LÖW (2020, p.264) observed that as a result of the "spatial," "topographical" and "topological" turns in the social sciences, "space is now regarded as central social category, the definition of which is based on social interaction, interdependence, processuality, and relations." [6]

A series of concepts originating in and outside sociology have been adopted by architectural and urban theorists as well as researchers working with SA and could thus be seen as the basis of a shared epistemology and common frame of reference (CLARKE et al., 2018, pp.26, 61f., 66; GOTTDIENER & HUTCHISON, 2011, pp.52ff.; LÖW, 2016 [2000]), xiii, p.25; MARGUIN, 2021a, §45, 64). Among them are Georg SIMMEL's (1950 [1903], 1995a [1903], 1995b [1903]) conceptualizations of space as social and cultural phenomena, through which he influenced the reading of space and the city; the Chicago School urban ecologies developed by Robert PARK and Ernest BURGESS (2019 [1925]); and the constructivist perspective on the social and the built environment proposed by Peter BERGER and Thomas LUCKMANN (1967 [1966]). The notions of rhizome and assemblage by Gilles DELEUZE and Félix GUATTARI (2004 [1980]) also belong to this field, as do the concepts of knowledge/power (FOUCAULT & GORDON, 1980), discourse and dispositif by Michel FOUCAULT (1972 [1969]). Alongside "scientific statements," "institutions," "laws," "administrative measures" and so on, FOUCAULT's definition of dispositif, as cited by CLARKE et al. (2018, p.82), explicitly includes "architectural forms." [7]

Although the writings of BERGER and LUCKMANN have not received the same attention in architectural and urban discourses as other fundamental texts in sociology, Silke STEETS (2015, pp.102f.) showed how concepts based on their theory, such as "material 'objectivations'" and "internalization," understood as "'the re-appropriation' by human beings of objectively shared reality," could be useful in developing a broader sociological understanding of the built environment. In "The Social Construction of Reality: A Treatise in the Sociology of Knowledge," BERGER and LUCKMANN (1967 [1966]) addressed the relationship between the social on the one hand, and the material world on the other. They argued that "man" (p.183) (meaning human beings) is

"predestined to construct and to inhabit a world with others. This world becomes for him the dominant and definitive reality. Its limits are set by nature, but once

constructed, this world acts back upon nature. In the dialectic between nature and the socially constructed world the human organism itself is transformed. In this same dialectic man produces reality and thereby produces himself" (ibid.). [8]

In the conclusion, BERGER and LUCKMANN (pp.205ff.) addressed concepts that are central to SA, such as difference(s), multiplicity, process, contingency, and power relations, and the consequential work of non-human actors. I argue that the role of architecture and urban planning must be considered in this recursive relationship, since they co-determine much of the built environments we encounter today. In line with STEETS, and picking up on Donna HARAWAY, Bruno LATOUR, and others, CLARKE et al. (2018) emphasized the material dimension of interactionist constructivist theorizing, proposing that "material entities in our situations of concern deserve explicit and intentional analytic inclusion. Humans and things 'make each other up'—are coconstitutive [...]. Particularly significant here, materiality is also *relational*" (p.16). [9]

2.2 Spaces of knowledge production in architecture and urbanism

2.2.1 Epistemic re-conceptualizations and the multiplicity of knowledge

The conceptualization of research and knowledge in the spatial disciplines has been repeatedly adjusted and reframed and continues to be a major issue today. The more recent adaptations did not occur in isolation. As in the social sciences, theorists were influenced by pragmatist, constructivist, post-structuralist, autopoietic, critical, and interpretive perspectives (HEALEY, 2007, pp.239f., 244f.; INNES & BOOHER, 2015, p.196; MATTHIESEN & REISINGER, 2011, pp.96f.). The shifts are based on the assumption that knowledge is socially produced and mediated through institutions and power structures. The shared histories of epistemic re-orientation and diversification have repeatedly enabled researchers to open up new possibilities for the migration of methods, knowledge, and interdisciplinary work. Discussing the impact of the interpretive paradigm on different academic disciplines, CLARKE et al. (2018) posited that

"[t]he interpretive turn began during the mid- to late 20th century across the academy in the social sciences, humanities, and professional schools (e.g., nursing, education, business, social work). It also permeated other sites of knowledge production such as the media, and creative areas such as the arts, film, and *architecture*" (p.8, emphasis added). [10]

Architects, urban designers, urbanists, urban planners, landscape architects, and members of other spatial disciplines operate within complex spatial, political, and economic processes and transdisciplinary constellations. Actors, organizations and stakeholders involved in urban and architectural processes produce and use different kinds of knowledge (GRAFF, 2021, p.18; MATTHIESEN & REISINGER, 2011). Concepts such as "epistemic communities" (HAAS & HAAS, 1995, p.261), "discourse coalition" (HAJER, 1993, p.46), "zone of knowledge transactions" or "knowledge domains" (MATTHIESEN & REISINGER, 2011, pp.95, 105) have been conceived to describe the specific nature of such constellations. The

multiplicity of forms of knowledge is reflected by the different epistemic groundings that are typically present in university architecture departments (KLING, 2020, pp.14ff.; SILBERBERGER, 2021). Researchers and practitioners in architecture and other spatial disciplines draw upon different knowledge forms, epistemic cultures, and disciplinary traditions to identify existing problems, qualities, and tasks, and to develop processes and designs to achieve certain goals. They rely on a combination of empirical, evidence-based methods "to assess the truth of factual statements," normative methods "which include evaluation and participatory methods," as well as creative and design-based methods (BAUR, CASTILLO ULLOA, MENNELL & MILLION, 2021, §65). Emphasizing the multiplicity of knowledge and knowledge-related practices, Uta GRAFF (2021) proposed that

"It is the handling of disparate methods and terminologies, the mutual exchange between theory and practice, and the combination of a scientific analysis based on reason with an artistically intended speculative conception that formulate the core of the architectural work" (p.18). [11]

However, while a certain level of heterogeneity of knowledge is considered essential for processes of innovation and creativity (MATTHIESEN & REISINGER, 2011, p.105), the effects of the differentiation and multiplication of knowledge are also seen as challenges not just in the political and professional arenas related to architecture and urban planning (p.95), but also in the academic world (VOIGT, GRAFF & LUDWIG, 2021). In view of the different epistemic orientations within architecture programs and the prevailing issue that architectural and urban research do not fit easily into the traditional framework of academic disciplines, actors in institutional bodies face specific problems with the evaluation of research quality in this field (DUNIN-WOYSETH, 2005, p.86; MARGUIN, 2021b, p.212; SILBERBERGER, 2021, p.78). [12]

The different modes of knowledge production could be considered as offering different possibilities for connecting architectural work to other disciplines. At the same time, the resulting challenges relating to epistemic and methodological questions, the creation of interdisciplinary research projects, or communication between researchers need to be addressed. Design, in particular, has been discussed intensively during the last few years, strengthening its profile as a distinct category of knowledge production. [13]

2.2.2 Design as specific category of knowledge production

While many scholars and practitioners in architecture, landscape architecture, and urban design may agree with the view that (architectural and spatial) "design is the core competence of the discipline of architecture" (GRAFF, 2021, p.14), there is much less agreement about the notion of design, its definition, characteristics, and roles in society. Analyzing the discourses about knowledge and design, Claudia MAREIS (2014, pp.175f.) sketched out the dense and at times contradictory web of interpretations and concepts that have influenced recent debates across the design disciplines. The idea that design, or the process of designing, could be seen as constituting a distinct category of knowledge is comparatively recent (ibid.). Processes of restructuring in academic worlds and shifts in epistemic cultures forced and encouraged actors in the design disciplines to reflect on the epistemic foundations of their disciplines and the kinds of knowledge they relate to (GRAFF, 2021; MAREIS, 2014, p.357; MARGUIN, 2021b, p.212; SILBERBERGER, 2021, p.78). This included the reconceptualization of curricula in academic architectural education as part of the Bologna Reform (KNOLL, PRAEGER, ZILLICH, KLING & TÜMMERS, 2011) and debates about reframing research in architecture, as in the example of "research through design" (GRAFF, 2021, p.17; SCHÖBEL, SCHÄFER & HAUSLADEN, 2021, p.100). [14]

It seems that researchers can draw on a growing number of conceptualizations of design and knowledge that offer new possibilities for connecting architecture and the social sciences. Investigating the specific reality of architecture and design and how knowledge is processed in these domains, Alben YANEVA (2012, p.68) posited "that architects need to engage with a pragmatist type of architectural inquiry that is a situation-based, distributed way of learning about architecture and its various entanglements rather than one that relies on a stable stock of systematic, scientific knowledge." Sophie WOLFRUM (2014, p.178) highlighted the integrative capacity of design, since it "addresses matters and conditions such as spatial quality, atmosphere, comfort, sustainability, the everyday environment, quality of life, and social situations. [...] In methodological terms, it is conceptual, creative, and synthesizing, and harnesses implicit and explicit knowledge." Because of the complex nature of design, Margitta BUCHERT (2014, p.20) called for a reflexive approach to architectural research practice in order to develop a better "understanding of the process of design as a particular form of knowledge production and as a projective practice, as a highly integrative and creative knowledge culture that combines various forms of knowledge with reflection and production." Further possibilities for establishing new connections between the social sciences and the spatial disciplines emerged as a result of the increased levels of epistemic self-reflection in the fields of design pedagogy and design methods (GISEKE, LÖW, MILLION, MISSELWITZ & STOLLMANN, 2021), or urban planning education (FRANK & DA ROSA PIRES, 2021). In view of these developments, MAREIS (2016, p.40) proposed that "the social and cultural sciences might benefit from the close relationship design researchers have established during the past years with the practical dimension of knowledge production and its societal contexts of application." [15]

2.2.3 Abduction and iterative process in research and design

The structural similarities between the design process and grounded theory methodology (GTM) make GTM suitable for developing a better understanding of architectural spaces of knowledge, particularly among social scientists and researchers who are familiar with GTM. Theorizing that there is an indirect connection between SA and design seems to be justifiable and useful since SA is firmly grounded in the constructivist tradition of GTM (CLARKE et al., 2018, p.6). Jörg STRÜBING (2013, p.29) illustrated in a diagrammatic representation how the GTM research process evolves in non-linear, iterative loops, and recursive interaction with the field under study (see also CLARKE et al., 2018). There are clear similarities between GTM and design work (KLING, 2020, p.70), in particular in terms of the process, interaction with the field, reflexivity, and the abductive development of concepts. Outlining the specifics of design work in architecture, WOLFRUM (2014, p.178) argued that "while other disciplines employ quantitative and qualitative analysis, or inductive or deductive approaches to generating theories, design is understood as a method of 'invention'—i.e., that it has, among other things, an abductive approach to generating insight." Sören SCHÖBEL et al. (2021, p.108) also highlighted the significance of abductive reasoning in design processes, in this case landscape design on the regional level, arguing that the design disciplines should look at the systematic approaches in qualitative research to improve processes of knowledge production in design. Contrasting the Glaserian model of induction in GTM with SA and constructivist GTM, CLARKE et al. (2018, p.31) asserted that the latter two should be viewed as abductive. [16]

3. Two Exemplars From Urban and Architectural Research: "The Redundant City" and "The Quest for Better Housing"

The basic literature on SA (CLARKE, 2005; CLARKE et al., 2018) does not contain suggestions on how to use SA in research projects that address architectural and urban issues. References to architecture from within SA are rare and occur in relation to the writings of FOUCAULT (CLARKE et al., 2018, pp.79, 82), or in relation to architecture and design as professions. At present, there is no systematic overview of cases that have applied SA to the study of architecture, urbanism, or architectural and urban design. Information about analytical work in this field is difficult to obtain; the number of published analyses is very small in comparison to other fields of research. Hence, the challenge when working with cases and exemplars is not so much the problem of which cases to select, but rather the problem of finding them. While the contributing authors to the most recent textbook on research practice in SA, "Situational Analysis in Practice: Mapping Relationalities Across Disciplines" (CLARKE, WASHBURN & FRIESE, 2022) did not directly engage with architecture or urban design, VALDERRAMA PINEDA (2022 [2015]) contributed a study that relates to urban planning in the context of disabilities and public transport. I posit that even without guidance that is specific to the spatial disciplines, researchers interested in architectural or urban questions will find an abundance of practical advice in the general discussion of exemplars. In this section, I provide a brief overview of

two published exemplars in which SA was applied to the analysis of situations related to architecture and spatial transformation. Both research designs are arranged around multi-site, multiple-methods analysis. [17]

3.1 Developing a sensitizing urban concept: "The Redundant City"

In "The Redundant City: A Multi-Site Enquiry Into Urban Narratives of Conflict and Change" (KLING, 2020), social worlds/arenas theory, SA and GTM were applied to the analysis of a collective spatial process in a large housing estate in Munich. The research project was aimed at developing a "sensitizing concept" (BLUMER, 1954, p.7; CLARKE et al., 2018, pp.121f.; KLING, 2020, p.323) about a specific condition of asymmetric urban change that could be applied in architectural theory and urban analysis. The project consisted of two main analytical parts, the first of which was based on an adapted form of GTM in combination with discursive-interpretative architectural theorizing. The second part was focused on the spatial process of the housing estate, using GTM and SA in a complementary manner. The overall approach was based on a multiple-methods, multi-site approach (KLING, 2020, pp.18f.). Three points were novel in terms of the research design: firstly, the use of the theory/methods packages to analyze collectively negotiated change in a large housing estate; secondly, the development of two types of analytical timeline diagrams (KLING, 2016) supporting the observation of negotiations and change over time; and thirdly, the specific combination of spatial analysis, different kinds of qualitative and quantitative data, and SA mapping tools. The research was designed in such a way that the analysis could operate at the intersection of material and social worlds and follow the progress of transformative socio-spatial processes over time. Since this approach required a series of adjustments to the methods used, the study contains a comprehensive chapter on the epistemic problems and research design (KLING, 2020, pp.24ff.).

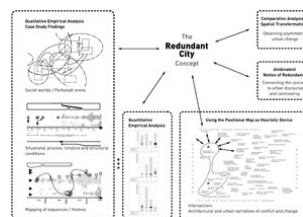


Figure 1: Research design, showing the combination of different methods and the synthesis of the sensitizing concept (p.259)¹. Please click [here](#) for an enlarged version of Figure 1. [18]

¹ Work published by transcript Verlag, Bielefeld; licensed under the Creative Commons Attribution 4.0 (BY) license.

3.2 Reconstructing a public housing program: "The Quest for Better Housing"

The second project I introduce here is "The Quest for Better Housing: Individual Reconstruction and Situational Analysis of Participatory Housing in the Framework of Modell Steiermark, Austria" (ZWANGSLEITNER, 2018). The author examined the special circumstances enabling the realization of an ambitious public housing program from the late 1960s to 1992, and the actors who participated in this program. The study consisted of two parts. In the first part, different kinds of material and sources were analyzed to develop an understanding of the institutional and political frameworks, the discourses prevailing at the time, the role of participation, and the relationships of the actants and actors involved. In this part of the study, GTM was used in combination with SA. The SA study included the full repertoire of analytical maps, including the messy situational map, the ordered situational map, the social worlds/arenas map, and the positional map. The second part was dedicated to biographical research. For this purpose, narrative interviews with protagonists from the profession of architecture were used to gather information about their roles in the program, their architectural projects and their personal motivations. The research design was presented at the European Congress of Qualitative Inquiry at Leuven in 2017 (ZWANGSLEITNER, 2017a).



Figure 2: Relational map "Discourses"². Please click [here](#) for an enlarged version of Figure 2. [19]

4. Working With Social Worlds/Arenas Maps in Urban Design Teaching

In "Situational Analysis in Practice: Mapping Research with Grounded Theory," CLARKE, FRIESE & WASHBURN (2015, p.13) provided an overview of the disciplines in which SA had been applied and taught, which included urban planning and architecture. As outlined above, this is still the exception and the mapping instruments of SA are not part of the disciplines' mapping repertoire. Mapping is among the key analytical instruments in the spatial disciplines, where various maps are used and new maps are continuously invented as a means of representing spaces, spatial relations, and processes. In the following, I present two activities in which the social worlds/arenas map was used in architectural teaching.

² Diagram by Daniel ZWANGSLEITNER, reproduced with the permission of the author. <http://www.studiozwa.com/the-quest-for-better-housing/> [Accessed: April 26, 2023].



Figure 3 left: On-site work for the "Thick Mapping" seminar; Figure 3 right: "Productive Inter-Sections" design project, moment during final presentation showing typical elements of architectural representation: analytical diagrams, concept sketches, explanatory text, strategic plans, visualizations, 3D model. One of the groups used SA to develop the design project and justify design decisions³ [20]

4.1 Advancing the analysis in architecture and urbanism: "Thick Mapping"

4.1.1 Seminar outline and didactic goals

The seminar "Thick Mapping. Extending the Mapping Tools in Architecture and Urbanism" was held during the 2021 summer term.⁴ It was part of the research project "Inner-Urban Landscapes" and was based on the assumption that a better and deeper understanding of urban transformation and spatial processes can be achieved if different, complementary mapping tools are used in combination. The aim was to go beyond the descriptive and quantitative standards used in architectural representations and generate additional layers of analytical "thickness." The title of the seminar relates to the ethnographic method of "thick description," through which researchers seek to describe the reasons, motivations, and meanings behind human (inter-)actions in as much detail as possible. Initially coined by the British philosopher Gilbert RYLE (1971 [1968]), it became widely known through the work of cultural anthropologist and ethnographer Clifford GEERTZ (1973). Since the standard representations used in architectural analysis tend to be static and are focused on the physical aspects of the built environment, the idea was to add mapping tools that could represent temporal and social dimensions, as well as human and non-human actors that influence changes in the built environment. [21]

The study area was centered on Müllerstrasse and adjacent streets in Munich. This central part of the city is characterized by diversity and an unusual mix of activities and uses. It is the location of a variety of social and cultural projects, several of which are operated by Munich's LGBT communities. The nearby

3 Photos by Norbert KLING.

4 The seminar "Thick Mapping: Extending the Mapping Tools in Architecture and Urbanism" was held at the Chair of Sustainable Urbanism at TU Munich, Germany, during the summer term 2021. <https://www.arc.ed.tum.de/land/lehre/semesterarchiv/ss-2021/sustainable-urbanism-ii-vertiefung/> [Accessed: April 25, 2023].

Gärtnerplatz and Viktualienmarkt are prime tourist destinations, while key administrative units, including the urban planning department, make it a center of municipal power. Gentrification and displacement are recurrent local issues. Müllerstrasse is a contested zone, which is exemplified by affordable housing sitting adjacent to a luxury residential tower that dominates the local area. [22]

4.1.2 Mapping tools

The three mapping tools used in the seminar to create extra "thickness" in the analysis included a diagram taken from the "Urban Pioneers" publication (OVERMEYER, LAUINGER, SENATSWERWALTUNG FÜR STADTENTWICKLUNG & STUDIO UC, 2007, pp.172ff.), which was used to visualize changes in the constellation of site-relevant agents over time; the social worlds/arenas map to represent a situation in which a specific aspect of urban space is negotiated (CLARKE, 2005, pp.109ff.; CLARKE et al., 2018, pp.147ff.); and, in addition to these two structured approaches, a flexible category named "augmented spatial relations" that could be filled with mapping representations of the students' own choice. At the beginning of the seminar, the students were introduced to the theoretical foundations of the mapping tools and the research contexts in which they are used through input from the teaching staff and by studying key texts and exemplars. For this purpose, the students were given a "mapping manual" that had been prepared for the seminar. When it came to mapping social worlds/arenas, the students worked with a version of the map that was closer to STRAUSS's initial concept sketch (CLARKE, 2005, p.111), which features more variation in the use of line styles than later versions. Since the students did not produce relational maps, the idea was to focus on the specific capacity of social worlds/arenas maps to represent arenas and negotiations connecting social worlds, segments or subworlds with each other, and represent restricted access to arenas. To broaden the perspective and provide insights from other teaching and mapping contexts, guest speakers presented a community-based mapping project in Dalston, East London (JUNGFER, PALMIERI & KLING, 2022). [23]

4.1.3 Practical implementation

All participating students were enrolled in an architecture program. The seminar was offered as an elective module at advanced Bachelor's or Master's levels and the workload was equivalent to three academic credits according to the European Credit Transfer and Accumulation System (ECTS). All the students entered the seminar with an advanced knowledge of architectural drawing and the standard modes of representing the built environment in architecture and urban planning. Following a general introduction to the seminar, the students joined a guided site visit during which the main open spaces of the area were jointly explored. During the visit, different visible and non-visible relations, conflicts, and other issues were discussed and located on existing maps (Figure 3, left). The students started their individual analyses with the drawing of a figure-ground plan and a scale plan of the area, to which they added information about building typologies, building heights, floor area ratios, and types of use. Taking these architectural analytical

standards as a starting point, they subsequently worked on increasing the "thickness" of their analyses by adding further layers of information and combining different mapping tools. To this end, they conducted further site visits during which they engaged with local residents and users, observed patterns of use, identified access points, signs of everyday appropriation or meeting places, or captured atmospheres while "hanging around in the urban field" (KLING & KURBASIK, 2018). They recorded their findings through photography, sketches, audio or film. To this on-site information the students added research material obtained from websites and other archival sources and drew comparisons between historic and current maps. They explored the conceptual and representational potential of combining axonometric 3D architectural drawings with maps representing social processes and time. They tested different ways of representing the social, material, and temporal dimensions of space, using a specific urban situation as their site of study. All the information was assembled on an A0 drawing. This large presentation format was chosen to facilitate the process of working towards a synthesis, which was meant to bring together the multifaceted material, methods of analysis, and modes of representation (Figures 4, 5, and 6). The students presented and discussed their findings during three joint sessions. Consultations with the teaching staff were arranged as needed. The seminar concluded with a pin-up presentation. [24]

4.1.4 Definition and selection of cases

Thick Mapping was the first and only seminar of its kind offered at the Chair of Sustainable Urbanism. All three mapping projects that were produced during the seminar are included in this article as cases that cover the full range of different mapping approaches and thus allow comparison. I use them to illustrate the analytical context and to exemplify modes of visual representation that are typical of architecture and urbanism, such as axonometric drawings, plans, photography or diagrams. I also use them to raise methodological questions. The students took the work with the standard architectural mapping toolbox as an initial case and transformed it into a new case by exploring the capacities of extended mapping tools. These analytical projects, in turn, became the focus of theoretical and methodological reflection in this article. In this sense, the referential and analytical connotations of the cases are shifted between the empirical and the theoretical (RAGIN, 1992, pp.9, 11; SCHWANDT & GATES, 2018, p.619).

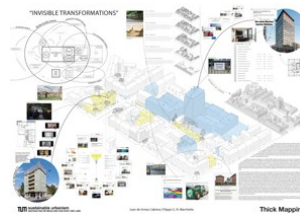


Figure 4: "Invisible Transformations" mapping project⁵. Please click [here](#) for an enlarged version of Figure 4.



Figure 5: "The Schrammenhalle has Become a Success" mapping project⁶. Please click [here](#) for an enlarged version of Figure 5.



Figure 6: "Backyards – hidden spaces of everyday life" mapping project⁷. Please click [here](#) for an enlarged version of Figure 6. [25]

4.2 Conceptualizing and analyzing imagined futures: SA in the design studio

4.2.1 Project outline and didactic goals

The design project "Productive Inter-Sections. Radical Operations Along the Schleissheimer Strasse" was held at TU Munich during the 2021/22 winter term.⁸ Design projects are positioned at the core of the architecture curriculum. All participating students were enrolled in a program in architecture or urbanism. Around half of the students were incoming Erasmus students from other European universities. The project was offered as a compulsory elective project

5 Drawing by Juan DE ARMAS CABRERA and Filippo G. N. MARCHETTA, reproduced with the permission of the authors.

6 Drawing by Vazha TCHOKHURI, reproduced with the permission of the author.

7 Drawing by Alix GELABERT Y NUEZ and Dimitri DESCLOUX, reproduced with the permission of the authors.

8 The urban design project was offered by the Chair of Sustainable Urbanism, <https://www.arc.ed.tum.de/land/lehre/semesterarchiv/ws-2021-22/international-urban-design-studio/> [Accessed: April 25, 2023].

at advanced Bachelor's or Master's levels. The workload was equivalent to 12 and 15 ECTS credits respectively. All students entered the project with advanced skills in architectural design, and some had advanced experience in urban design projects. The students worked in groups of two to four. The module was taught as a typical design course. The groups had permanent desk spaces in the design studio and could use the department's supporting facilities. The groups had weekly consultation sessions with the teaching staff, three intermediate presentations and a final presentation of the completed projects (Figure 3, right). The study area was Schleissheimer Strasse in Munich, which is a road that links the northern areas of the city with the city center. The students could choose their own scale of intervention and site(s) along the road and adjacent neighborhoods. The project brief was formulated in an open way and focused on change and transformation.

"Urban transformation could be conceived as a multi-dimensional process that is driven by multiple interactions, regulations and differences (Schmid, 2016). Transformation evolves along a timeline and assumes ever-changing spatio-material forms, which in turn are mutually related to social, political, ecological and economic processes. [...] In the more peripheral areas, backyards and sub-prime locations, we see processes at work through which existing boundaries and patterns of use are re-negotiated. Different coalitions and alliances seem to produce and use urban resources in new ways. They bear the promise of opening up new possibilities for the sustainable city. In this studio, we are particularly interested in these emerging urban conditions" (CHAIR OF SUSTAINABLE URBANISM, 2021, §§2f.). [26]

The project started with an introduction and a half-day site visit that involved the group traveling on public transport, cycling, and walking. The students were provided with a project brief, different kinds of information, and material about the study area, including a reading list. To support the students with their analysis, they were introduced to a method for mapping urban qualities (KRETZ & KUENG, 2016) and provided with the mapping manual that had been developed in the "Thick Mapping" seminar during the previous term. The didactic goals included the students honing their argumentation and conceptual skills in design processes, engaging with current and future questions of urban transformation, and extending their skills in analysis and mapping. [27]

4.2.2 Integrating the social worlds/arenas map into the design process

The students were free to choose their analytical tools, design process and area of interest. One group was interested in community spaces and started to work with the social worlds/arenas map in their analysis. A draft version of the map was used during a consultation session to discuss the relations between different actors and the spaces they negotiate and occupy in an existing situation. Like the students in the "Thick Mapping" seminar, the group worked with the earlier version of the social worlds/arenas map, which enabled them to draw different connections or boundaries between the social worlds or segments. A discussion of those links led to the question of whether the map could be used as an active design tool that takes the analysis of an existing situation as a starting point for

conceptualizing a new situation. To engage with this question and maintain a level of experimentation in their design process, the student team continued to work with the social worlds/arenas map. They used it to develop, present and discuss three different community-related design interventions that were at the core of their design project (Figure 7). For this purpose, they positioned their design proposal on the maps in the form of an imaginary social world, or collective actor, to see how the situation would—or could—change as a result of the proposed intervention. At this point, the social worlds/arenas map ceased to be a tool used to analyze present or past situations. It was translated into a design tool that projects the existing situation onto an imagined future situation while retaining the map's analytical capacity. Through this translation, SA became a tool for analyzing and discussing possible and imagined futures rather than current phenomena or past processes.

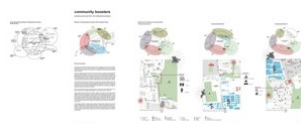


Figure 7: Student design project "Community Boosters"⁹. Please click [here](#) for an enlarged version of Figure 7. [28]

4.3 Reflection on learning and teaching outcomes

In the "Thick Mapping" seminar, the students gained initial experience with SA, in particular the social worlds/arenas map, and explored its potential for analyzing complex urban situations. In this respect, it resembled what CLARKE et al. (2018, pp.356f.) defined as the goals for compact SA mapping workshops, which "are intended to help students become familiar with SA, confront challenges, clarify areas of confusion, and open up their analyses." The aim was not to conduct a systematic, fully fledged situational analysis. That would have required the use of other SA instruments, such as the messy and ordered situational maps, the relational map, and the positional map as recommended by CLARKE et al. (pp.361f.). The students also started out with very limited knowledge about qualitative empirical research. This posed clear limits as to what could be discussed and achieved in the seminar. [29]

Despite these limitations, the students came in direct contact with some of the basic principles of SA, while the social worlds/arenas map opened up and extended their spatial analyses. They understood that each type of mapping method has its specific strengths, range, and limits, and that there is no map that can "cover it all." They explored different ways of expanding the "thickness" of their site investigations and integrating information about social and political processes that affect architecture and the built environment. They tested the possibilities of combining mapping tools from the qualitative social sciences and architecture. On a general level, they developed an awareness for the potential benefits of working with different methods at the intersection with a different

9 Drawing by Luiza RAVANINI DINHANI, Carla Amelei KEUTMANN-WAGNER, and Giulia TEDESCHI, reproduced with the permission of the authors.

discipline, in this case to gain in-depth complementary information about a specific urban situation. One of the main conceptual challenges for the students was to foreground the action, collective actors, social process, and controversy in the spatial situation under study, rather than prioritizing the physical dimension of space and its architectural elements. The work with the maps from the SA toolbox increased the students' sense of the complexity of the situations examined and proved a valuable instrument for avoiding simplification. This seemed to confirm didactic observations made in other disciplines (HOLTZMAN, 2022 [2019]). [30]

5. Fields of Convergence at the Intersection of SA, Architecture, and Urbanism

In this section, I return to the goal I raised at the outset of identifying and discussing further links between SA, architecture, and urbanism. Drawing on theory, earlier suggestions (KLING, 2020, pp.304ff.), and the outcomes of the teaching activities, I argue that there are four promising fields of convergence:

1. Mapping as a multi-faceted method of analysis and reflection;
2. Working in collaborative and participatory ways within transdisciplinary settings;
3. The situation as a conceptual framework;
4. Conflict and controversy as drivers of social processes and urban change. [31]

5.1 Mapping as a multi-faceted method of analysis and reflection, and as the basis for participatory research practices

In the following, I elaborate on these links, addressing points 1. and 2. in combination. In the spatial disciplines, maps are used as multi-faceted tools of analysis and representation. They are found in different formats, with variations in the degree of reproducible accuracy, their content, their scale, and the visualization principles used. Powerful databases and geographic information systems (GIS) have made it possible to produce complex, precise maps in which sets of data are aggregated and related with each other in space and time on a global scale. We also find figure-ground plans, all kinds of diagrams, subjectively produced mental maps, or critical counter mappings. As in SA, researchers and professionals in the spatial disciplines make use of the relational capacity of maps. [32]

While map-drawing in qualitative empirical research only seems to be part of research routines in a few fields of the social sciences, such as SA or actor-network-theory (ANT), mapping and the drawing of maps is part of everyday work in many spatial and creative disciplines. Some maps in architecture are used in presentations to communicate a project to a wider audience (Figure 3, right). CLARKE et al. (2018, p.105) referred to these types of maps as "project maps." Other maps in architecture are used and produced as key instruments in the analysis stage of a project to develop a better understanding of the situation under study. However, maps in the hands of designers are expected to do more

than helping to understand a given situation: They usually inform or justify subsequent proposals for spatial interventions or strategic plans, and are in this way linked to action and intentions. In line with these disciplinary expectations, the student drawings lend themselves to speculation and discussion on possible zones of interventions, even at the analysis stage. The axonometric drawing of built space enabled questions such as "Where?" and "What?" to be easily raised (Figures 4–7). By juxtaposing axonometric drawing and SA maps, the scope of questions was extended to include "Who?," "What issues?" and "In whose interest?." Theorizing the ambiguous relationship between analysis and action in the design disciplines, the landscape architect and theorist James CORNER (1999, p.216) argued that "mapping is perhaps the most formative and creative act of any design process, firstly disclosing and then staging the conditions for the emergence of new realities." Likewise, the editors of the collection of counter-mappings "This is Not an Atlas," Severin HALDER and Boris MICHEL (2019, p.13), emphasized the political dimension and recursive effects of mapping, positing that "[...] maps are by no means just representations of reality. Maps articulate statements that are shaped by social relations, discourses and practices, but these statements also influence them in turn." Since the above views are grounded in similar epistemic traditions and turns that are at the base of GTM and SA, it is not coincidental that CLARKE et al. (2018, p.12) noted the "political nature of practices of research and interpretation" in these perspectives. [33]

Because of the complexity of urban situations and the conceptualization of mapping as work of abstracting and condensing, researchers in architecture, landscape architecture, or urbanism are selective when they produce maps. Which aspects are included, which omitted, and how they are presented is influenced by research goals, the availability of and access to data, conventions, intentions, and the theoretical framing of problems and questions. Hence, an articulated reflexivity is at the center of critical modes of mapping (HALDER & MICHEL, 2019), and, increasingly, of design practice (BUCHERT, 2014). Methodologically, this mirrors key assumptions of SA, for example in the complex analytical field of discourse analysis. In that context, CLARKE et al. (2018, p.232) stressed that multi-site research is inevitably selective and that the choices of materials and research sites must be made explicit. [34]

The professional work of architects and urbanists in building projects and processes of transformation includes cooperation with and the orchestration of actors and stakeholders from different fields. Shifts in the legitimacy of specialists and changes in the approach to participatory practices in architecture and urbanism have opened up new fields of collaboration. The shift is also evident in architectural education, where an increasing number of new collaborative research and teaching formats that connect academic and non-academic participants with each other can be observed, for example *design build, live projects*, or *real-world laboratories*. Drawing a trajectory from "hands-on experience" to "architecture as process," Jane ANDERSON (2017, pp.2, 12) argued that "live projects are a bridge to research-based education that can make a more mutually beneficial relationship possible between researcher, students and external collaborators." In a similar way, real-world laboratories (BEECROFT

& PARODI, 2016; BEECROFT, TRENKS, RHODIUS, BENIGHAUS & PARODI, 2018) are designed to provide an institutional and conceptual framework for joint projects at various scales, ranging from site-specific interventions to re-conceptualizations of spatial configurations on the level of municipalities (MICHAELI & HÄUPL, 2017). [35]

Producing their analyses, the students benefited greatly from on-site contact and the involvement of stakeholders and users. Although the analyses are not suitable as proof of the advantages of transdisciplinary research in architecture, they demonstrated that, in the context of the mappings, extra levels of "thickness" could be achieved in the situation under study by involving other actors. During their site visits, the students engaged in planned and chance encounters, which resulted in conversations and insights that in some instances found their equivalent as a collectively articulated concern on the analytical map (Figures 4, 5, and 6). Although the teaching activities were not conceived as transdisciplinary and participatory projects, it is easy to imagine collaborative approaches to research in this field, where the students produce SA maps together with the stakeholders in a situation, for example with the participants of different social worlds that assemble around a specific arena. Pertaining to research in the social sciences, CLARKE et al. (2018 p.xxv) suggested that SA "works to encourage collaborative research strategies that can support more inclusive participatory, decolonizing, and (post)colonial projects." I argue that the same could be true of architecture and urbanism. Practices of collective map-making, be it with mapping instruments from the SA toolbox or from the architectural and urban mapping repertoire, could be applied to research fields such as community mapping (VON UNGER, 2014, pp.78ff.), or the mapping of the dense webs of local relations in contested urban situations (JUNGFER et al., 2022). [36]

5.2 Situation as a conceptual framework in architecture and SA

"Situation" is a key concept in SA. It is based on the understanding that all knowledge and research is situated and that in a relational world there is no analytical outside. Distinguishing "context" from "situation," CLARKE et al. (2018) argued that "the word *context* clearly denotes that which *surrounds* something, but assuredly is not part of it" (p.17). By contrast, in SA "*the conditions of the situation are in the situation*" (p.358). This makes the situation "the ultimate unit of analysis, and understanding its elements and relations [...] the primary goal" (p.xxv). Drawing on John DEWEY (1938, pp.66f.), CLARKE et al. (2018) stressed that humans do not experience objects and events in isolation; rather, "we make sense of the *world through understanding situations*—and this is the project of SA as method" (p.47). [37]

The concept of "situation" evolved along different trajectories and CLARKE et al. (ibid.) pointed to other research fields in which situation plays a conceptual or analytical role, such as field research, anthropology, marketing research or sustainability studies. The concept is also central to architecture. In "Fundamental Concepts of Architecture: The Vocabulary of Spatial Situations," Alban JANSON and Florian TIGGES (2014 [2013], pp.284f.) outlined how situation could be

conceived as a complex condition in which architecture is experienced and socially constructed. According to this definition, it is in situations that the material and social worlds are linked to each other through perception, bodily experiences, use, appropriation, and interpretation. This perspective is used to emphasize the recursive nature of the socio-architectural relationship, since the atmospheres and the spatial configuration of architecture reflect back on the situation. Arguing for the need to move beyond the analysis of social processes in which the sole focus is on interaction, CLARKE et. al. (2018, p.26) asserted that "the material world is itself constructed—interpreted and given meaning(s)—by us and by those whom we study. [...] the material world is present and to be accounted for in our interpretations and analyses." Hence, based on these different perspectives, we could say that architectural or spatial situations are always also social situations. Building on this mutual relationship, WOLFRUM and JANSON (2019, p.24) argued that "as a social discipline, architecture creates complex situations in which we participate [...] with our different sensitivities and motivations as well as through individual and collective action" on the one hand, while on the other, the work of architecture "articulates and reflects situations through its forms and spaces," "atmosphere," and "symbolic character." Likewise, JANSON and TIGGES (2014 [2013], p.285) suggested that "relevant alongside the multiplicity of intervening elements and factors when architecture is described as a situation is their performative character, which incorporates the processual and eventful qualities of the respective situation." [38]

As an alternative to the foregrounding of the rigidifying and framing properties of architecture, we can refer to the concept of situation to assume an open, relational, and dynamic approach to architectural space in which humans and architecture are understood as co-producers of the situation. The analyses of the students can be understood as examples of how to generate new questions and shift the focus of the discussion about the built environment. Assisted by their social worlds/arenas maps, they were able to consider collective human and non-human actors in their analyses that would otherwise have been outside their analytical range. [39]

CLARKE et. al (2018, p.122) highlighted the analytical capacity of situations in SA to move across multiple levels and scales. While spatial experiences and the literal construction of architecture tend to be bound to a given scale, shifts in the perceiving gaze can be actively used to change the range of perception. Like David HARVEY's (2001, pp.128ff.) critical reading of Baltimore's skyline in his "view from Federal Hill," such adjustments make possible analytical and interpretative movements that advance into areas located beyond the physical limits of the immediate architectural situation. Applying an extended perspective, for example through working with SA, seems to be of growing relevance in architectural and spatial analysis, as the emergence of digital spaces and new forms of communication seems to contribute to the opening up of architectural situations. In "The Re-figuration of Spaces and Refigured Modernity: Concept and Diagnosis," KNOBLAUCH and LÖW (2020) posited that the shifts in the socio-spatial relations of communication through "digital mediatization" (p.277) and the resulting "polycontextuality" (p.279) have led to the emergence of

"synthetic situations" (KNORR-CETINA 2009, cited in KNOBLAUCH & LÖW, 2020, p.281 and CLARKE et al., 2018, p.71), in which multiple places, actors, materialities, infrastructures, networks, relationships, and technologies are linked simultaneously and across different scales. [40]

5.3 Conflict and controversy as drivers of social processes and urban change

Finally, I argue that conflict and controversy, as drivers of both social processes and urban transformation, can be regarded as offering another field of convergence and many possibilities for interdisciplinary exchange. Theorizing the social and political dimension of conflict in cities, Helmuth BERKING et al. (2006) asserted that

"Cities have always been arenas of social and symbolic conflict. As places of gender, class, ethnicity, and the myriad variations of identity-related differences, one of the major roles they are predestined to play is that of a powerful integrator; yet on the other hand urban contexts are, as it were, the ideal setting for marginalization and violence" (p.9). [41]

Architects and urban designers are confronted with conflicts of all sorts in their practical work and participate in different arenas of urban politics and change. Accordingly, designing, as one of their professional competences, is conceived as "a constructive method that is able to accommodate contradictions" (WOLFRUM & JANSON, 2019, p.19). Likewise, conflict, and controversies constitute a recurring analytical focus in SA, since situations are often defined by asymmetric power relations and the interaction of multiple human and non-human actors with opposing interests and concerns. With reference to the roots of social worlds/arenas theory in Chicago School interactionism, CLARKE et al. (2018, p.74) asserted that social worlds/arenas theory is a conflict theory. According to CLARKE's (2005) definition of social worlds/arenas theory,

"we assume multiple collective actors (social worlds) in all kinds of negotiations and conflicts in a broad substantive arena focused on matters about which all the involved social worlds and actors care enough to be committed to act and to produce discourses about arena concerns" (p.37). [42]

One of the challenges for the students, considering the many conflicts and controversies that make the urban, was to concentrate on a main concern in an arena when they conceived their social worlds/arenas maps. They identified concerns such as rising rents and non-profit uses (Figure 4), parking and the redistribution of open space (Figure 5), and access to and the appropriation of backyards (Figure 6). In their analyses, the students touched on core issues of urban politics, questions of urban transformation, practices of the everyday, the social consequences of economic processes, community concerns, and the limits of consensus-oriented decision-making. Actors engaged in urban planning and architecture find themselves increasingly challenged by problems and tasks arising from climate change, urban inequality, housing crises or economic

uncertainty. There seems to be a shift away from the preference for isolated solutions towards more process-led urbanism and a more actively pursued politics of urban change. In view of the conflicts in cities, and the complexity of the processes through which urban transformation is realized, researchers and professionals in the spatial disciplines could look to SA for "distinctive concepts and maps to help analytically grapple with power in both its more solid and fluid forms" (CLARKE et al., 2018 p.xxv), and in this way develop a better understanding of the conflictual situations in which urban and spatial change is being negotiated. I argue that processes of urban change could be considered a rich and promising field for joint research in architecture, urbanism and the social sciences, as well as for the application of SA. [43]

6. Concluding Discussion: An Emerging Space of Interdisciplinary Research and Teaching, and a New Tool in Architectural and Urban Design?

There seem to be a small but growing number of analyses in the spatial disciplines in which SA is being used, while instances are still rare in the context of design projects, or *research through design*. On this basis, a discussion is inevitably limited and conclusions difficult to draw. In this article, I have sought to expand the theorizing at the intersections between SA, architecture, and urbanism and to identify aspects that could strengthen the links and productive interchange between them. I have presented a series of projects in which SA, or specific elements of SA, were used in architectural contexts to analyze spatial situations, architectural discourses, or processes of urban transformation. I have argued that the theories and epistemologies that positioned SA and GTM in the constructivist-interpretive paradigm have also influenced the epistemologies in the spatial disciplines, including the epistemic adjustments based on poststructuralist and other theory by CLARKE et al. (2018, p.56) to "push GT and SA further around the interpretive turn." I have further argued that as a result of the spatial turn and the relational understanding of space we have changed our understanding of the relations between social and material worlds and used it to establish a common ground between the social sciences and the spatial disciplines. With a view to highlighting further links between SA and architecture, I have discussed mapping as a multi-faceted method of analysis and a basis for working in collaborative and participatory ways within transdisciplinary settings. I have argued that situation is also a basic concept in architectural thinking, while conflict, negotiation, and controversy can be considered a promising field for developing shared research interests. Further shifts in the social sciences and spatial disciplines may open up new spaces for interdisciplinary inquiry and the migration of methods and theories. While institutional and other issues seem to a certain degree to impede interdisciplinary work between the social sciences and architecture, Séverine MARGUIN (2021a, §5) observed that the "integrative quality" of exchanges has been increasing over the last two decades. Since the spatial relations between the social and material worlds are constantly changing along with the disciplinary perspectives on them, we are likely to see further concepts influencing the spatial disciplines and SA in the future. Spatial researchers, architects, and urban designers strive to constantly refine and

expand their analytical tools to be able to address increasingly complex spatial issues. The analytical and critical capacity of SA would be well suited to help them reduce the ever-present tendency towards simplification (CLARKE & KELLER, 2014). [44]

I presented the student projects in this article with the aim of providing insights into how SA mapping instruments, in this case social worlds/arenas maps, could be integrated into spatial analyses and design projects in architectural and urban teaching. Another objective was to illustrate how SA maps can attain additional relevance and accessibility through being presented alongside images and 3D visualizations that describe the spatiality of the situation, or its temporality and dimension of change. On this basis, further steps of representational integration could be debated, for example using color codes to visually link negotiated concerns, actors and the negotiated spaces or spatial implementations of a negotiated concern. Since the communication and visualization of data are becoming ever more important, the creative disciplines and graphic designers seem to be obvious partners in the production of maps. Special attention could be paid to representing complexity in accessible ways, sharing research processes and outcomes with non-experts, or disseminating findings across different types of media. [45]

Considering the findings made in the teaching activities, I argue that SA could also be a productive tool in architectural and urban *design*. Its use in design projects does not need to be limited to academic teaching and could include professional or collaborative design work. SA was used in the teaching activities in two different ways. Firstly, it was employed in analytical work with the aim of developing a better understanding of a project site, or project situation. This application seems to be aligned with the research approaches commonly practiced in SA. Secondly, SA was used as a design instrument. Clearly, this second field of application falls outside the current scope of SA. In view of the kind of knowledge produced and the ways of producing it, it may be more appropriate to refer to it as situational *design*, rather than analysis. The designing of a situation could be understood as a creative process through which possible and impossible future situations are conceived and brought up for discussion. It combines the analytical with the discursive, normative, and speculative aspects of the design process. If applied in a design context, SA could help contribute to the overall quality of architectural and urban projects in different ways. The design of situations could be established not only in teaching environments or research projects, but also in open participatory settings, comprising different actors in the broadest sense, who jointly engage with questions related to change and the imagination of different futures. It could be part of a socially engaged design and research practice (FEZER & BANZ, 2021). [46]

In "The Redundant City" project, I employed a multiple-methods approach and worked across different sites of analysis in response to the multiple dimensions of the specific research field. Based on my practical experience with SA, I argued that SA would be well suited to the analysis of architectural discourses and urban processes (KLING, 2020, pp.61, 320). Daniel ZWANGSLEITNER came to a

similar assessment in the course of his research (2017b, p.7). Through these projects, ZWANGSLEITNER and I also demonstrated that there are different options for the research design to address problems of openness and multi-disciplinarity, which are typically encountered in research fields related to architectural and urban questions. [47]

Assuming an interdisciplinary perspective, I approached the intersections between SA, architecture, and urbanism from different directions in search of possible spaces of convergence. Clearly, such an undertaking is not without risk. Within interdisciplinary and transdisciplinary settings, special attention needs to be drawn to the migration of methods, the sharing of theory, and the adaptation of established research processes and instruments. Transfers in such working and research environments tend to be multi-directional. If, according to GRAFF (2021, p.18), "interdisciplinary work and its inherent transfer of methods broadens the view and is beneficial and purposeful when it comes to the genesis of knowledge in creative disciplines, such as architecture," and if CLARKE et al. (2018, p.366) demanded that theory and methods should not be separated from their epistemology and ontology while traveling widely and across disciplines, a series of difficulties arise when they encounter the various "knowledge cultures" (MATTHIESEN & REISINGER, 2011, p.98) of architecture. What happens to SA when it is arranged around a design problem? How do design processes change when designers integrate instruments from SA? CLARKE et al. (2018, p.367) acknowledged that researchers may wish to add additional concepts or "tweak a map to do some other kind of work." In such cases, researchers should make changes explicit and discuss the encountered problems, limits, and constraints resulting from the adjustments, even if the issues cannot be completely solved. Given the particularities of the disciplines considered, this will not be an easy task, although focusing on shared theoretical groundings may help in the process. Despite—and even because of—these difficulties, I argue that the intersections between SA, architecture, and urbanism are a promising field for the intensified exchange of knowledge, methodological thinking and collaborative interdisciplinary work. [48]

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