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Spatial sciences



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A broad range of sectoral disciplines and specialisations are engaged with space-related issues. In each case, they focus their research on analytically different dimensions of space, even though in reality these dimensions are interrelated and interdependent, and mutually permeate and/or overlap each other.

1 Space – a subject of multidisciplinary research

The plural used in the term *spatial sciences* is a clear indication: there is not one single science that can lay exclusive claim to ▷ *Space* as its field of research and its alone; various fields of knowledge deal with this subject. One anthology on the spatial sciences lists 24 sectoral disciplines alphabetically under this term – from aesthetics/the history of art to musicology and psychology and even theology (cf. Günzel 2009a). This broad range may appear surprising, as much as the fact that *space* as a category apparently also plays a role in sectoral disciplines where one would not ordinarily expect to find it. And yet this overview of the current state of debate on applied spatial theory¹ (Günzel 2009b: 7), which the *Raumwissenschaften* (Spatial Sciences) anthology (Günzel 2009a) aspires to provide, is by no means exhaustive. A discipline such as economics, which also encompasses spatial sciences and research in its established specialisation of regional and urban economics (▷ *Regional economics*; ▷ *Urban economics*) or jurisprudence, with its specialist fields of ▷ *Planning law* and ▷ *Building law*, or political science focusing on governance research (▷ *Governance*) and its study field of local policy research, is not represented. Two conclusions can be drawn from the fact that a number of disciplines or specialisations focus on space-related issues: *Space* as a category must be of enormous significance for describing and elucidating social processes. The phenomenon of *space* must be an extremely complex field of research if academic disciplines as diverse as musicology and urban and regional economics engage with it. It also illustrates implicitly that each of the various disciplinary points of reference must be based on a different concept of space.

Indeed: space is a complex, ever changing subject of research, because it depends on the disciplinary perspective from which space is conceptually understood and empirically analysed. Space always means different things at the same time. The theoretical discourse on space, which can be traced back to antiquity (Aristoteles, Democritus) and has produced a plurality of concepts of space, including attempts to classify them (cf., for example, Blotevogel 2005), is eloquent testimony that. Despite the varying meanings of the category of *space*, there is consensus about the analytical distinction between physical space and social space. Physical space is understood as a section of the earth's surface and its geological formations and natural resources, along with climate and climate change (▷ *Climate, climate change*), fauna and flora, etc. Social space is understood as a social construct, made up of associative images of space and cognitive notions of space, and is constituted by social activity. Two further constructs of space are significant from the perspective of ▷ *Spatial planning (Raumordnung)* and spatial development policy: space, as a political construct, is an essential general condition for the institutionalised system of spatial planning, federal state and ▷ *Regional planning*. As the sovereign space of a state or municipal ▷ *Territorial authority* (territory), space is constituted by the legally regulated institutions of political policymaking, decision-making and implementation, and has clear, long-term geographic limits. For spatial development policy and, in particular, for urban and regional development policies, built-up space is often the subject of ▷ *Planning* and policy, but also one of its general conditions. To this extent space is a social construct in that it is a result of human activity with its material artefacts, such as buildings, public spaces, transport and supply infrastructure buildings, etc. In its materiality and reification, it is also a physical space in a certain sense.

¹ “Überblick zum gegenwärtigen Stand angewandter Raumtheorie”

Depending on the academic perspective and particular interest from which a given sectoral discipline approaches the phenomenon of *space*, their research focuses on analytically different dimensions of space, even if in reality these dimensions are interrelated, interdependent, and mutually permeate and/or overlap each other. From the perspective of historical research, scholars such as Koselleck (2000: 82) speak of a ‘twofold use of the category of space’². He characterises it thus: ‘space is a metahistorical prior condition for any conceivable history and can itself be historicised, because it changes socially, economically and politically’³ (Koselleck 2000: 82).

A further point should be noted: after the Second World War, *space* as a category had been almost taboo for quite some time, especially in cultural studies and social sciences, because people still vividly recalled the geopolitical arguments of the National Socialists in Germany as expressed in the propagandistic formula of ‘a people without a space’⁴, as well as their aggressive and brutal expansion policy. It was only distance from this period, the sociologist Löw (2001: 11) points out, that ‘enabled a slow rapprochement with the category of space’⁵. Only at the end of the 1980s under the buzzword *spatial turn* did the social sciences and cultural studies execute a ‘sociological turnaround in regard to space’⁶ (Günzel 2009b: 11).

2 Geography and the planning sciences as solitaires among the spatial sciences

Even if space is a subject of multidisciplinary research, there are two sectoral disciplines that play a prominent role among the spatial sciences: geography, which is the ‘traditional spatially-oriented research discipline par excellence’⁷ (Werlen 2009: 142), and the planning sciences, where the research interest focuses on social activities in connection with the perception of space-related planning tasks.

The survey of the earth’s surface with its diverse features and conditions in the mid-19th century marked not only the beginning of the cartographic construction of the world, but also the inception of geography as a scientific discipline. By providing various media with a spatial orientation, cartography proved to be a fertile scientific base from which geography evolved. This discipline deals – in very general terms – with the earth’s surface, with its physical properties as well as its function and quality as the space and site of human life and activity. Due to this generally twofold perception of the earth’s surface, the scientific discipline of geography split very early on into two large specialisations: physical geography and human geography, which was also reflected organisationally in university research and doctrine. Due to the significance of cartography in the history of this science, geography as a scientific discipline is ‘dominated by three traditions of spatial representation of the conditions of the earth’s surface’⁸ (Werlen 2009: 142). The research focus of physical geography is on the earth’s surface as a physical space.

2 “Doppelte[r] Gebrauch der Raumkategorie”

3 “Raum ist sowohl jeder nur denkbaren Geschichte metahistorisch vorauszusetzen wie selber historisierbar, weil er sich sozial, ökonomisch und politisch verändert”

4 “Volk ohne Raum”

5 “[...] ermöglicht eine langsame Wiederannäherung an die Kategorie Raum”

6 “Sozialwissenschaftliche Wende in Bezug auf Raum”

7 “[...] traditionell raumorientierte Forschungsdisziplin par excellence”

8 “[...] von drei Traditionen der räumlichen Repräsentation erdoberflächlicher Gegebenheiten dominiert”

It deals with the recording, description and elucidation of the structures, processes and interdependencies in the geosphere. The research focus of human geography, on the other hand, is on the social space and spatial organisation of human activity. During the second half of the 20th century, human geography underwent a substantive differentiation and specialisation in a number of fields, from population geography to the geography of religion and time geography. The various specialisations within economic geography (cf. Liefner/Schätzl 2012; Kulke 2013), social geography (cf. Werlen 2008) and cultural geography (cf. Berndt/Pütz 2007), which each have their own named professorships at numerous universities, deserve special mention.

The central interest of the planning sciences is social activity. In this sectoral discipline of the spatial sciences, planning refers to ‘a particular type of social activity, which differs from other forms of social activity through its claim to rationality’⁹ (Siebel 2006: 1). The planning sciences focus, on the one hand, on understanding and elucidating how space-related planning tasks change in connection with social development, how the general conditions under which these tasks have to be managed evolve, and the consequences of these changes for the planning and steering of ▷ *Spatial development*. In other words: the empirical object of the planning sciences is the practice of federal state, regional and urban planning with their various (institutional, socio-economic, historical and spatial) contexts. As a subject of research, space provides information rather indirectly about the way planners think and act. As can be seen from their qualifications, this group of professionals and stakeholders have an academic knowledge of space, which characterises their thinking and their practical orientation. Space, in turn, is the object of their professional activities – whether perceived as a political-administrative space in regard to federal state and regional planning, or to urban planning, or as social space in regard to spatial development policy.

The planning sciences have provided important insights not merely for specialist academic discourses, but also for planning practice through the empirical analysis of the change in planning tasks and their general conditions, especially from the perspective of sociology, political science, organisational studies and communication studies, and through the theoretical generalisation of these findings.

The theoretical condensing of the insights developed by the planning sciences into planning models is a particular achievement of the planning sciences, as they not only provide insights into fundamental yet different structures and processes of spatial planning, but also enrich planning practice (▷ *Theory of planning*; ▷ *Informal planning*; ▷ *Incrementalism / perspective incrementalism*; ▷ *Cooperative planning*; ▷ *Strategic planning*).

3 Conclusion

As economic, social, political and cultural transformations in society as well as our changing environment is always also reflected in spatial changes, space is and must remain the subject of research in many sectoral disciplines. There can be no single, supreme discipline among the spatial sciences, as the description, understanding and elucidation of this complex phenomenon is always contingent on a combination of knowledge from various sectoral disciplines, irrespective

9 “[...] einen besonderen Typus sozialen Handelns, der sich von anderen Formen sozialen Handelns durch seinen Rationalitätsanspruch unterscheidet”

of the specific analytical dimension of space on which their research focuses. This is true not only for spatial research focusing on fundamentals, but also for application-oriented spatial planning and spatial development policy.

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