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Concepts of spatial planning (*Raumordnung*)



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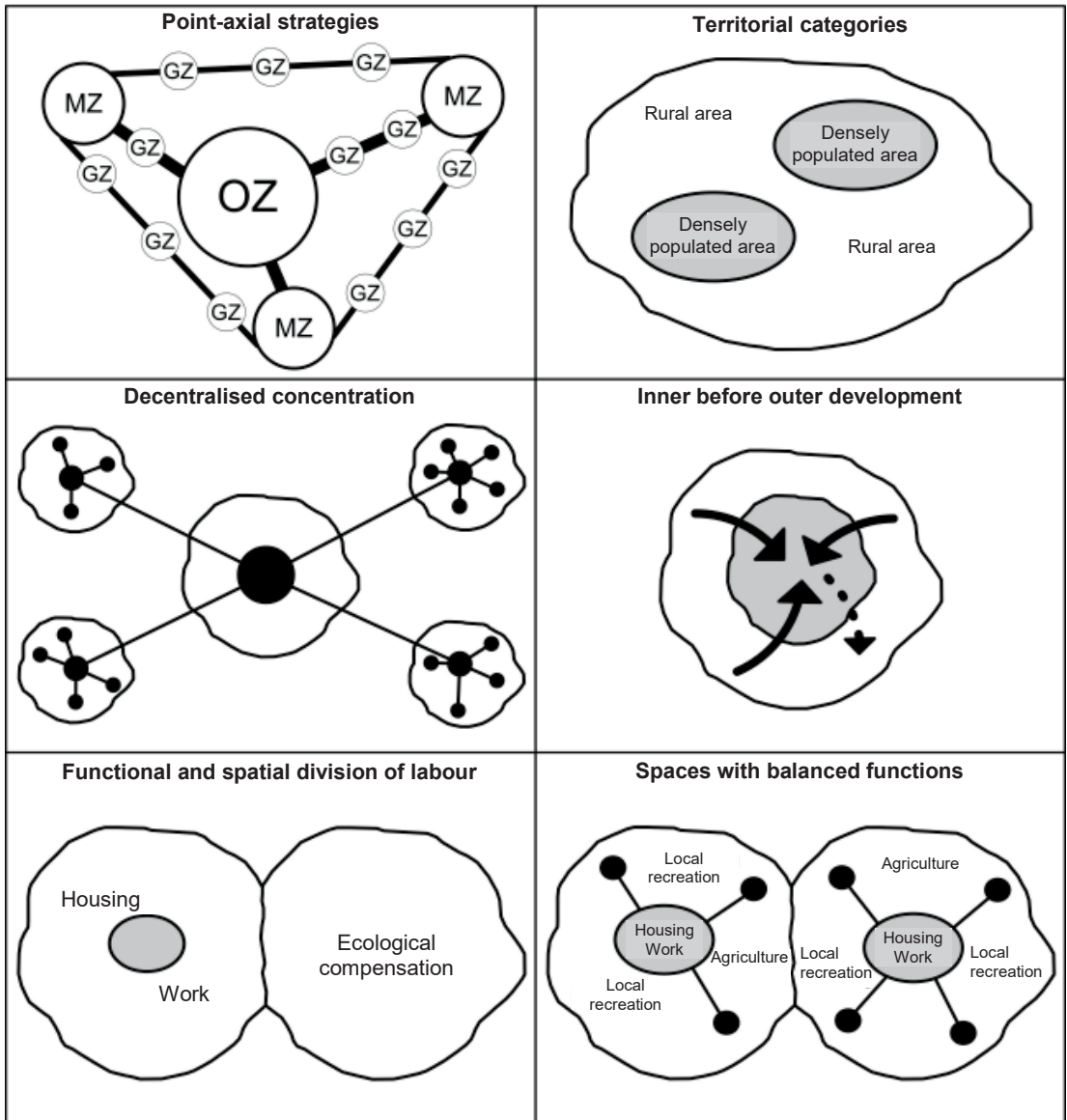
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The concepts of spatial planning, which were introduced in the 1960s and developed thereafter, describe some fundamental principles of spatial structures and some general schemes that are based on those principles and which are particularly geared towards implementation. This article shall discuss the essential concepts of spatial planning, their origin and historical development as well as their current significance in spatial planning, including in relation to informal strategies.

1 Definition and overview

Concepts are incorporated into spatial planning between objectives and instruments. They contain a basic idea about the state of affairs. Concepts are characteristically abstract, sketchy, and not detailed. ▷ *Spatial planning (Raumordnung)* concepts serve to work towards a target spatial structure to be realised in the future. They essentially entail distributing various functions within a given space according to a certain pattern, and therefore involve fundamental concepts of spatial

Figure 1: Fundamental ideas of the various spatial planning concepts



Source: The authors

planning and development (see Fig. 1). To that end, the current benchmark is the guiding principle of sustainable spatial development (▷ *Sustainability*) formulated in the Federal Spatial Planning Act (*Raumordnungsgesetz, ROG*), and the associated principles of spatial planning. The concepts of spatial planning introduced in the 1960s and developed thereafter operate on various levels of abstraction. This involves some basic principles of spatial structure and some general schemes that are based on those principles and which are particularly geared towards implementation. To take these differences into account, distinctions are made in a few older publications between conceptualisations and concepts of spatial planning (cf. Turowski/Lehmkühler 1999).

In spatial planning, the terms *concept* and *guiding principle* are closely related. An essential difference is the temporal perspective. While guiding principles of spatial planning or spatial development (▷ *Guiding principles for spatial development*) reflect current political and social objectives, concepts of spatial planning are constants within the broader scheme of things (cf. Domhardt/Benzel/Kiwitt et al. 2011: 203).

2 Origin and historical development

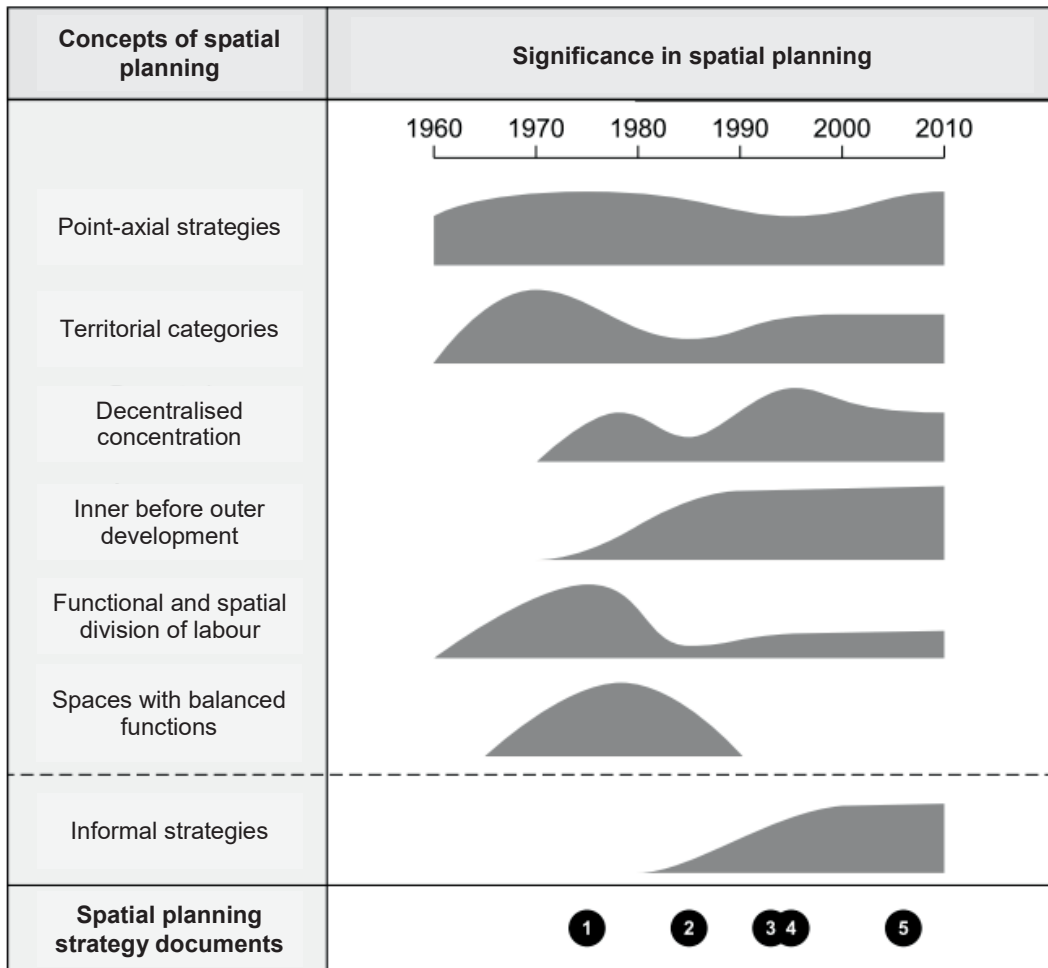
The origin and historical development of the various concepts of spatial planning is closely connected to the various phases that spatial planning in Germany has gone through in recent decades (cf. Blotevogel 2011; ▷ *History of spatial planning (Raumordnung)*). The evolution of spatial planning concepts clearly reflects the shifts in the problem areas that have been perceived as urgent and the objectives that have been formulated as a result. Consequently, the significance of spatial planning concepts has changed over time (see Fig. 2).

During the years from 1960 to 1975, which were marked by planning optimism, a series of concepts was discussed. The central-place theory was established as an essential element of the new, institutionalised federal state and regional planning. In the Federal Spatial Planning Programme of 1975 (*Bundesraumordnungsprogramm*), centres and axes of development (which, together with the central-place theory, form point-axial strategies), a functional and spatial division of labour, and territorial categories (among other things) were worked out as important cornerstones for developing the spatial structure. The creation of equivalent living conditions in all subareas of the federal territory played a central role as a guiding objective in this process. However, the rather abstract considerations that arose from this, the (hitherto) only spatial planning programme at the federal level, remained ineffective in planning practice. In subsequent years, widespread scepticism towards the need for comprehensive planning through spatial planning became evident. Moreover, approaches geared towards growth and expansion were questioned. Instead, society focused increasingly on environmental issues. Consequently, the principle of *inner development before outer development* was given great importance in the programmatic focal points of spatial planning (German Federal Parliament [*Deutscher Bundestag*] 1985). German reunification also meant a new phase of spatial planning in Germany, as greater focus was placed on the developmental function of spatial planning. Moderation and an orientation towards projects gained significance. Before this background, the Spatial Planning Policy Guidelines (*Raumordnungspolitische Orientierungsrahmen, ORA*) and the Framework for Action in Spatial Planning Policy (*Raumordnungspolitische Handlungsrahmen, HARA*) were characterised by the tendency towards informal strategies of spatial planning and development (*BMBau* [Federal

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Ministry of Spatial Order, Construction and Urban Planning] 1993; MKRO [Conference of Ministers for Spatial Planning] 1995). This orientation was also maintained for the Concepts and Strategies for Spatial Development in Germany (*Leitbilder und Handlungsstrategien für die Raumentwicklung in Deutschland*) (MKRO 2006, 2016). Moreover, the significance of the individual classic concepts of spatial planning – such as the central-place theory – for demolition and adaptation strategies, i.e. in relation to steering the process of shrinking communities, was emphasised.

Figure 2: The significance of various spatial planning concepts over time



¹ Federal Spatial Planning Programme (Bundesraumordnungsprogramm, BROP) 1975; ² Programmatic focal points of spatial planning (Programmatische Schwerpunkte der Raumordnung) 1985; ³ Spatial Planning Policy Guidelines (Raumordnungspolitischer Orientierungsrahmen) 1993; ⁴ Framework for Action in Spatial Planning Policy (Raumordnungspolitischer Handlungsrahmen 1995); ⁵ Concepts and Strategies for Spatial Development in Germany (Leitbilder und Handlungsstrategien für die Raumentwicklung in Deutschland) 2006

Source: The authors

3 The basic concepts of spatial planning

3.1 Point-axial strategies

Linear and in particular point-based elements play an important role in how the organising, steering and development functions of spatial planning are perceived. The most prominent example is the central-place theory, according to which spatial development is concentrated around suitable crystallisation points (cf. Domhardt/Benzel/Kiwitt et al. 2011), and in which a network with central places (▷ *Central place*) on various hierarchical levels is to ensure the minimum provision of essential goods and services at a reasonable distance of the local population across the whole area. To that end, a basic three-level system was elaborated that consists of lower-order centres, middle-order centres and higher-order centres, as well as the interactional areas associated with each of them. Despite efforts to standardise the system, several federal states have used additional levels and special cases of these levels in their spatial development plans. In terms of making use of the theory, the prevailing view in recent years is that establishing a location as a central place, especially in the case of large municipalities that cover a broad area, should be related not to the surface area of the municipality, but to location clusters within the municipal territory.

The central-place theory stems from the work of the geographer Walter Christaller in the 1930s (Christaller 1933). In the 1960s, the concept derived from the theory was anchored as a central component in the spatial development plans of all German non-city states. Two decades later, during a phase of general planning scepticism, it was seen as a symbol of a heavy-handed regulatory approach of traditional spatial planning that was no longer current. Against this background, at the beginning of this century, the central-place theory was intensely examined in an ARL Working Group. The Working Group concluded that the theory offered a very suitable orientation and framework for translating the guiding principle of sustainable development into concrete terms (cf. Blotvogel 2002). Moreover, experts considered that it provided specific spatial points of reference for infrastructural planning in times of demographic change. It should also be emphasised that central place theory has considerable value in steering and planning for large-scale retail trade (cf. Priebis 2013: 124). However, one critical point is that the central place categories in a few federal states obviously fail to take current circumstances into account and, in light of demographic change, really need to be updated.

If axes (▷ *Axis*) are envisaged between the central places, this entails various degrees of point-axial approaches to spatial planning. A basic distinction can be drawn between large-scale development axes and small-scale settlement axes (cf. Domhardt/Benzel/Kiwitt et al. 2011). What they have in common is the concept of combining spatially bundled transport lines and the supply lines for goods and services with a series of settlement concentrations. Recently, the multimodal trans-European networks, which have often been incorporated into the spatial development plans of the federal states for information purposes, have become increasingly important among the large-scale development axes. Small-scale settlement axes offer the chance to orient a region's settlements to the stopping points of public rail transport. Yet, according to this concept, the conservation of open spaces between the axes enjoys a high priority and any settlements there are to be limited to ▷ *Self-development*. In terms of the potential stipulations for settlement structures to be pursued in spatial development plans, the Federal Spatial Planning Act lists not only central places, but axes as well (section 8(5) of the Federal Spatial Planning Act). With

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a view to newer plans at the federal state and regional level, however, it must be said that axes – especially in comparison to the central-place theory – are currently of rather limited significance.

3.2 Categories of territorial units

In the spatial planning of the federal states, the ▷ *Territorial categories* concept (also referred to as spatial categories) serves to divide the respective state territories into homogenous subareas with various characteristics and problem areas related to the spatial structure. Thus, constellations of problems in relation to various functions can be localised and the objectives and principles of spatial planning (▷ *Objectives, principles and other requirements of spatial planning (Raumordnung)*) can be differentiated on the basis of subareas. The two essential territorial categories are *densely populated areas* and ▷ *Rural areas*.

The concept of territorial categories was introduced in section 2(1) of the Federal Spatial Planning Act of 8 April 1965 (*BGBI*. [Federal Law Gazette]. I, 306), in which specific principles of spatial planning were standardised for the overloaded densely populated areas and for the rural areas that lagged behind. The concept originated during a time in which the spatial structure of the federal republic was still marked by an urban-rural polarity virtually everywhere. The legislature aimed to contribute to the ▷ *Equivalence of living conditions* in all subareas of the federal territory. The undesirable trend of ‘passive regeneration’ of rural areas by exodus into the densely populated areas was set against a policy of ‘active regeneration’ through capital transfers in those areas (e.g. by subsidising commercial investment and creating central-place infrastructure). Densely populated areas were delineated using density indicators that were standardised across the country in 1968 by the Conference of Ministers for Spatial Planning (*MKRO, Ministerkonferenz für Raumordnung*) (German Federal Parliament 1968) and updated in 1993.

The Federal Spatial Planning Programme of 1975 (*BMBau 1975*) revised the dichotomous perspective on the spatial structure underlying the concept for the first time by identifying spaces with structural weaknesses both in the densely populated areas and in the rural regions (cf. Blotevogel 2011: 143 et seq.). In the following decades, the problem areas related to spatial and economic structures became ever more differentiated. Nevertheless, territorial categories continue to be standardised in section 8(5) no. 1 of the Federal Spatial Planning Act and to be part of statewide spatial development plans, whereby subcategories of the densely populated areas (such as core and peripheral areas) and the rural areas (according to their location in relation to the densely populated areas, density, or special problem areas or potentials) that are adapted to the spatial circumstances of the federal states are frequently designated. These territorial categories are associated with spatial planning principles and objectives in order to be able to respond to specific problems in the subareas. Examples of such objectives are the orientation of development of the settlement to the centres and settlement axes in the densely populated areas or to the ▷ *Provision of public services*, as well as the strengthening of the centres in rural areas.

The current significance of the concept of territorial categories in spatial planning is unclear. Although in many federal states the concept continues to provide an indispensable framework for being able to differentiate spatial planning objectives and principles in relation to a specific subarea, some newer statewide spatial development plans dispense with the designation of territorial categories. This is because territorial categories can no longer be properly delimited as the former urban-rural polarity is increasingly being levelled out, so the effectiveness of

having specific objectives for those categories is questionable. For the same reason, in federal state spatial development plans, the multifunctional territorial categories are supplemented by designations of subareas based on specific spatial and structural problems (such as ‘urban outskirts’ or ‘structurally weak areas’) (cf. Münter/Schmitt 2007: 27 et seq.).

3.3 Decentralised concentration

The concept of decentralised concentration is a fundamental principle of spatial structure. As a two-pronged strategy, it aims on the one hand for a large-scale deconcentration of spatial development (polycentral city system) to avoid regional polarisation, and on the other it aims for the concentration of functions in suitable (development) locations on the regional level, in the closer or more distant environs of overburdened core cities (concentration of settlement development in central places). Therefore, decentralised concentration helps to avoid a dispersion of settlements in the environs of the core cities (by relieving agglomerations, for example) and to strengthen the polycentral city system that is characteristic of Germany (cf. Priebis 2010; Domhardt/Benzel/Kiwitt et al. 2011: 206 et seq.). The concept therefore addresses both the guiding principle of sustainable spatial development and the principle of the equivalence of living conditions.

The orientation of spatial planning policies towards levelling out polarities which underpins the concept of decentralised concentration and its use dates back to the 1970s and was documented in the Federal Spatial Planning Programme in particular (*BMBau* 1975). The term *decentralised concentration*, however, first appeared as an explicit (federal) spatial planning concept within the Spatial Planning Policy Guidelines of 1993 (*BMBau* 1993). Decentralised concentration should counteract large-scale polarisation favouring the economically strongest central areas of the European Union (known as the ‘Blue Banana’) and the overloading of urban regions by expanding mixed-function relief areas at the highest-capacity axes of local public transport. At the urban-regional level, decentralised concentration has prevailed since the 1990s as a counter concept to ring-shaped city growth (cf. Priebis 2010: 109 et seq.).

Originally, the concept of decentralised concentration that is now established in federal state and regional planning aimed to steer the necessary expansions of settlements. Because of this orientation towards growth, the question arises of whether the concept remains current today. Its individual elements are confirmed in the Concepts and Strategies for Spatial Development in Germany (*MKRO* 2006, 2016), particularly in the guiding principle of *safeguarding the provision of public services*, and now encompass a regulatory dimension regarding the shaping of depopulation processes (such as maintaining the functionality of centres and access to infrastructure in shrinking regions). The concept is also considered to create favourable conditions for avoiding traffic on a regional level (cf. Domhardt/Benzel/Kiwitt et al. 2011: 207 et seq.). On a large-scale level, on the other hand, the concept of decentralised concentration has been replaced by metropolitan regions (▷ *Metropolitan regions*), whose policies aim more towards growth engines than balance.

3.4 Inner before outer development

The spatial planning and development concept of *inner before outer development* (▷ *Inner development*) focuses on reducing land take: before new areas are claimed for settlements, the priority should be to exhaust the potential of existing settlements (by land recycling or using vacant lots). The concept serves to implement the guiding principle of sustainable spatial

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development and is mentioned in the principles of spatial planning in section 2(2) no. 6 of the Federal Spatial Planning Act. The concept has arisen since the 1970s as a criticism of the ecological consequences of suburbanisation (cf. Siedentop 2010: 237) and has gained political importance through the national sustainability strategy adopted in 2002 (cf. German Federal Government [*Bundesregierung*] 2002). Since then, discussions have not been limited to the contribution the concept makes to ecological sustainability; rather, the focus is increasingly on the fiscal consequences of further land take and the decreasing population density of settlements – especially in light of ▷ *Demographic change*. The priority of inner development is anchored in all federal state spatial development plans – at least as a spatial planning principle – and stricter regulations for implementation are increasingly based on it, such as limiting the extent of land take for new settlements (cf. Münter/Schmitt 2007: 69 et seq.). However, the implementation of this concept, which addresses inner-municipal settlement development, essentially lies with the local authorities. Therefore, the framework specifications of spatial planning can effectively serve a steering function only where they are supported by municipal land-use planning as well.

3.5 The functional and spatial division of labour

The starting point for the concept of a (large-scale) functional and spatial division of labour is the assumption that subareas have various ‘aptitudes’ that can be mutually and usefully expanded. To that end, suitable guiding functions should be promoted in the individual regions to ensure that the entire area develops optimally through spatial specialisation and profiling. To justify such an approach, it is argued that using comparative advantages promises an especially efficient spatial structure. In the overall balance, economic productivity should be increased while sparing natural resources. Critics point out that the strategy tends to exacerbate regional disparities and the one-sided orientation towards selected functions increases a region’s susceptibility to crises. Moreover, it is noted that a poor environmental situation in the metropolitan areas could be legitimised with a reference to the balancing ecological function of rural areas (cf. Finke 1981).

The concept of functional and spatial division of labour developed from the 1960s to the 1980s. It was included in the Federal Spatial Planning Programme of 1975 as a goal for the entire spatial development (*BMBau* 1975). For implementation, large-scale priority areas were to be specified that especially served the purpose of free time activities, recreation, or the extraction of raw materials, for instance. As a result of economic concentration and specialisation processes, the spatial structure in Germany today is marked by a relatively advanced functional and spatial division of labour. In recognition of this actual development path, the informal strategy of the metropolitan regions (▷ *Metropolitan region*) shows that the basic idea of the functional and spatial division of labour is also significant for current thinking in spatial development.

3.6 Spaces with balanced functions

The concept of spaces with balanced functions should be seen as an alternative to the large-scale functional and spatial division of labour. It is explicitly connected with the need to offer residents in all regional subareas of the federal territory a high salary, good housing and living conditions, and good opportunities for recreation. To achieve this goal in rural regions, the densely populated focal points of settlements should be redeveloped and investment concentrated on suitable centres. The remaining municipalities of a region should benefit from this concentration

of services through good transport networks. As a criticism, it is pointed out that the degree of steering required for this is unrealistic and the resources needed to implement it are not available (cf. Hübler 1977).

The concept of spaces with balanced functions goes back to the work of Detlef Marx published in the early 1970s (Marx 1972). The ‘middle way’ strategy is to use the available resources optimally while creating equivalent living conditions. This was intensively discussed into the 1980s in connection with the possible future development of spatial planning (cf. Ernst/Thoss 1977). Ultimately, however, due to the criticisms levelled against it, this concept was not implemented.

4 Informal strategies of spatial planning and spatial development

The six spatial planning concepts described above were originally strongly geared towards being implemented through legally binding planning specifications. However, the fundamental ideas associated with these concepts can naturally also form the basis for informal planning. Thus, in the recent past, conceptual approaches that originate ‘from below’ with the participation of public and private stakeholders and which are deliberately not focused on legal standardisation have become more significant. To that end, aspects of traditional strategies are often taken up, to be adapted and enhanced as the problem requires. Two different examples of such approaches are metropolitan regions (cross-sectional) or supra-local concepts for retail trade and centres (sectoral). They are more important on the regional than the state level, not least due to the greater proximity to the affected and participating stakeholders. The implementation of these strategies is based on self commitment from the participating stakeholders. Accordingly, such strategies are normally not suitable as a solution for hard conflicts, but only in win-win situations (▷ *Informal planning*) (cf. Danielzyk/Knieling 2011).

Informal strategies have become more important in spatial planning and spatial development since the early 1990s. They arose from the criticism of formalised strategies and from the new understanding of how spatial planning is steered, and since then have served to flank the sovereign planning instruments (including their upstream strategies) that are characterised by an increasing loss of steering power. Since then, such strategies have received attention – with sometimes differently oriented content – in all federal strategy documents that are significant for spatial planning policy, and are mentioned in section 13 of the Federal Spatial Planning Act as approaches to enhance traditional spatial planning.

Today, informal spatial planning strategies constitute an indispensable complement to formal strategies. Their particular strength lies in being able to address the problem areas and strengths of various subsections of space in a given region in a targeted way and with the participation of all relevant stakeholders. The example of the metropolitan regions shows how an informal spatial planning strategy is flanked by spatial planning policies and federal state spatial planning policies: as a region of action organised from the bottom up, a ▷ *Metropolitan region* is an informal strategic development pact between regional stakeholders. Eleven metropolitan regions are formally recognised through resolutions of the Conference of Ministers for Spatial Planning and are designated in both text and graphic form in federal state spatial development plans.

5 Conclusions and outlook

This overview of the most important spatial planning concepts illustrates fundamental and sometimes contrary planning ideas about large-scale and urban-regional spatial structures and their further development. Most of these arose in the period of planning optimism in the 1960s and 1970s, in which spatial planning bodies claimed extensive control functions and the concepts indicated the basic framework for the intended spatial structure. In subsequent decades, it became clear that the means that spatial planning bodies had at their disposal to steer spatial development were insufficient to realise these concepts.

However, the concepts continue to contribute to and influence spatial development. In the ‘planner community’, they constitute generally known, fundamental planning and development concepts for sustainable spatial development that should be implemented with suitable resources.

To that end, spatial development plans are not based exclusively on a single concept, but on multiple concepts; the basic ideas of various concepts are interconnected without being explicitly designated or named as such. In current spatial development plans, the central-place theory and the concepts of decentralised concentration, inner before outer development, and territorial categories all come into play.

However, the effectiveness of these concepts in steering spatial development has lessened over time, since in many cases the concepts have ceased to do justice to the increasing complexities of spatial development. They are frequently based on an ‘either-or’ way of thinking (such as the concept of territorial categories in relation to an urban-rural polarity that is no longer as clear-cut), while demographic and economic development processes are increasingly differentiated from each other on a regional level and in many cases can no longer be tied to the criteria of spatial structures. The increasing significance of informal and ‘bottom up’ strategies for spatial development which have been developed in the regions takes this state of affairs into account.

Moreover, the social challenges which spatial planning is meant to help resolve have changed profoundly. This can be best illustrated by the change in significance of bringing about equivalent living conditions in spatial planning: many of the concepts described here originated in a time when the \triangleright *Equivalence of living conditions* was the central goal of spatial planning policy. As part of the welfare state model, disparities were to be compensated for by comprehensively expanding the infrastructure in the regions threatened by emigration, and by interregional transfers of resources. In today’s model of the state as guarantor, the equivalence of living conditions aims at equal opportunity and a minimum infrastructural resourcing in all subareas (cf. Blotevogel/Danielzyk/Münter 2014: 92). In this regard, the essential spatial planning challenge is currently to ensure the \triangleright *Provision of public services* against the background of demographic change and associated questions about the sustainability of centres: in the unavoidable closing down or dismantling of infrastructure, the institutions providing public services are to be concentrated in centres that are to be stabilised over the long term. Since they represent fundamental principles for safeguarding and enhancing spatial and central structures in this conflict over the distribution of services and resources, these concepts of decentralised concentration, the functional and spatial division of labour, the inner before outer development, and the central-place theory – elements of which should nonetheless be reinterpreted – also constitute an essential foundation,

just like the (informal) strategies and concepts for the provision of public services at the regional level cooperatively worked out by the regional stakeholders.

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