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Metropolisation: the winding road toward the citification of the region

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ABSTRACT

We aim to consolidate the concept of metropolisation as a lens to examine urban region integration in territories characterized by extensive urbanization. Metropolisation is defined as the process through which institutionally, functionally, and spatially fragmented urbanized regions become integrated as coherent metropolitan systems. This novel framework is captured by three notions: inversion, multiplexity, and convergence. Inversion changes the dominant perspective of cities dissolving into urban regions (the “regionalization of the city”) toward urban regions consolidating into extensive cities (the “citification of the region”). Multiplexity examines this process as a continuous interaction of intertwined spatial-functional, political-institutional, and cultural-symbolic facilitators and inhibitors of integration with overlapping effects. Convergence stresses the blurred distinctions between concepts that used to belong either to the “urban” or the “regional”. This editorial to the special issue explores the multilingual genealogy of metropolisation, discusses its ability to understand contemporary urbanization, and examines its implications for theory and policy.

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1. Introduction

Many once distinct cities are being increasingly embedded into larger urbanized regions, which experience processes of large-scale restructuring and integration of economic activities, spatial forms, and institutional arrangements. Such transformations occur mainly in territories characterized by extensive urbanization, arguably the dominant mode of urban development of contemporary capitalist societies (Brenner, 2013). Extensive urbanization is an umbrella term used to denote a variety of transformative processes cutting across, reshaping, and bringing together spaces formerly configured as mutually exclusive categories, such as “urban,” “suburban,” “rural,” or “natural.”

More than a one-way process of urbanization of what was formerly not urban – a city-centric assumption that often predominates in research and policy (Brenner & Schmid, 2014) – these developments denote a gradual convergence of the physical, functional, and socioeconomic characteristics of spaces inhabited by human activity. The outcome is a generalized “urban field,” dense and consolidated in some regions, scattered and

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incomplete in others, but building an increasingly integrated continuum, whose elements differ more in degree than in kind and where different places within each other's field of influence knit together and interact. This paper focuses on the facilitators and inhibitors of this process of integration. They most visibly entail spatial processes of expansion, coalescence, redistribution, and networking of urban forms and functions, but evolve as in interaction with political-institutional changes carried by various governance bodies and networks, as well as cultural-symbolic aspects re-scaling urban identities and place perceptions. We capture this long-term, intertwined, and tripartite process under the concept of metropolisation (Cardoso, 2016; Meijers et al., 2014).

This Special Issue reviews a series of real-world manifestations of metropolisation. The aims are to contribute to the consolidation of the concept, discuss its ability to understand contemporary urbanization, and examine its implications for policy. We first evaluate the conceptual dilemmas of extensive urbanization, arguing that urban region definitions are more usefully circumscribed around common trajectories of change than predefined physical features and boundaries. We then show that many of these changes amount to processes of territorial integration along several dimensions, and discuss why enabling this integration has become a policy aim in many regions. Framed as a useful lens to understand these processes, we go over the genealogy of metropolisation, which has been defined in different ways, and flesh out a reformulation by gathering literature from various academic traditions and languages whose overlap has not received sufficient attention yet.

To help clarify the concept and how it differs from other understandings of urban region integration, the discussion on metropolisation is organized around three main concepts:

- (1) **Inversion**, as we shift from the idea of “regionalization of the city” to the “citification of the region.” Considering the diffuse morphological and functional patterns of many urban territories, and the need to overcome the persistent spatial selectivity of the debates about their definition and future, urban regions can be represented by zonal concepts of “field” alongside nodal concepts of “network” – metropolisation, therefore, departs from the spatial imaginary of polycentricity. Rather than seeing cities as dissolving into urban regions, we ask what happens when urban regions consolidate into extensive cities.
- (2) **Multiplexity**, as we show that the visible spatial-functional dimension of metropolisation is inseparable from, and intertwined with, simultaneous political-institutional and cultural-symbolic transformation processes. The interaction of these dimensions in space and time may be a stimulus or a barrier to the process of metropolisation. We exemplify this co-evolution and its feedback relations and argue that it makes metropolisation context-dependent, contingent, and dynamic. As a result, long-term historical processes that researchers rarely mobilize to study the urban region scale gain a new relevance.
- (3) **Convergence**, as we argue that metropolisation illustrates the confluence of “urban” and “regional” themes, not only regarding theoretical concerns but also policy challenges and planning tools. The long history of urbanization beyond the inherited reference point of the city justifies a departure from models which leave categorical distinctions between types and scales of a place untouched. By cutting

through categories, the metropolisation lens can analyze processes of integration happening at the scale of urban regions as well as help envision strategies aimed at harnessing these processes.

The paper concludes with a presentation of the special issue, drawing connections between the contributions, discussing manifestations of metropolisation in different contexts as well as some relevant concerns for a research agenda on the process of metropolisation.

2. Some defining features of extensive urbanization¹

The phenomenon of urban forms and activities spreading across large territories is not new at all. Peter Hall (2009) pinpoints the first reference to the “city-region” as a spatial concept in Patrick Geddes’ *Cities in Evolution* (1915). And well before that time, processes prefiguring extensive urbanization, in the sense that they were more about the gradual densification of scattered territories of human activity than the expansion of established cities, were occurring in Europe (Batty, 2001; Fisher, 2013). Cardoso (2018, p. 225) quotes literary-minded travelers, such as Silveira in 1789, describing urbanization in north-western Portugal: “the villages and hamlets are so numerous, that it looks like a *continuous city*” [our italics]; and Daniel Defoe touring the West of England around 1724, “infinitely populous [...] interspersed with a great number of villages, I had almost said innumerable villages, hamlets and scattered houses.”

But a threshold of scale, ubiquity, and environmental impact has certainly been passed in recent decades with the generalization of unbounded and fragmented urbanization processes shifting the matter of concern of urban studies from the “city” to the city-region, urban region, and other neologisms trying to define these new entities (Ascher, 1995; Brenner & Schmid, 2014; Friedmann & Miller, 1965; Gottmann, 1961; Hall & Pain, 2006; Sieverts, 1997; Soja, 2000; Sudjic, 1992). Extensive urbanization, a term drawn from European research and policy (Font, 2007; Grosjean, 2010) therefore appears in contrast to “intensive” urbanization. The latter entails the expansion of cities into larger conurbations over a relatively non-problematic, a-historical void (the “hinterland”), often driven by transport infrastructure and comprehensive planning around core-periphery hierarchies, and following a typical development cycle (Van den Berg et al., 1982). By contrast, the “extensive” is diffuse, multicentric, undirected, and fragmented, allows simultaneous local trends rather than a lifecycle of successive stages, and evolves by pervasively colonizing existing infrastructure and functional clusters rather than sequential expansion (Secchi, 1989; Sudjic, 1992). The concept of metropolization aims to understand how the different types of integration processes navigate this novel context.

“Please, draw me a region”²

Many critiques of extensive urbanization follow a city-centric tradition of separating what is properly “urban” and “not urban,” the latter defined “in relation to something considered the city proper – whether broadly ‘good’ or ‘bad’ – since at least medieval times” (Phelps et al., 2006, p. 9). More recently, less selective lenses have appeared in concepts such as the “Rural-Urban Region” (Piorr et al., 2011), interpreting urban, peri-

urban, and rural areas in Europe as a multi-functional continuum sharing common features, and proposing an integrated *urban* policy agenda to engage with this “new kind of space” (ibid.:19). According to these authors, urban versus non-urban oppositions become barriers to policymaking when the whole population has access to infrastructure and functions and can be similarly embedded in an urban economy and lifestyle; when natural areas have been integrated in the available consumer amenities; and when agriculture has de-ruralized and is now an urbanized market activity.

However, problems remain regarding the delimitation these regions for statistical, analytical, or planning purposes. Soja (2011) notes that the density gradient between core and peripheries in most metropolitan areas has flattened and variations occur across regions. Schmid argues that classic features – size, density, and heterogeneity – are no longer distinctive for particular places and “no longer provide fruitful criteria in analysing the urban reality of today” (Schmid, 2006, p. 173). Brenner and Schmid (2014) find administrative and demographic thresholds arbitrary, while Nello (2001) notes the fuzzy boundaries and contradictory outcomes of functional, sociological, and morphological definitions. Views have evolved to seeing urban regions as “variable geometry” arenas, contingent on policy aims or theoretical lenses, whose empirical definition – morphological, functional, or institutional – is pragmatic, temporary, and contextual (MacLeod & Jones, 2007; Nelles, 2013). The challenge, for Brenner and Schmid (2014), is therefore not to presuppose the fixity of differentiating socio-spatial features, but to examine the historical reconstitution processes of the territory, the spatial and non-spatial transformations shaped by and shaping urbanization. Some of these transformations are relevant for our discussion, as they imply new challenges for urban region integration. Table 1 summarizes them:

3. The perspective of metropolisation

These spatial, functional, social, and institutional transformations both carry and constrain the processes of urban region integration. To understand them, we resort to the term metropolisation.³ In a short definition, metropolisation refers to the series of events through which institutionally, functionally, and spatially fragmented urbanized regions become integrated along various dimensions and emerge as connected systems at a higher spatial scale. This section examines the mechanisms behind this integration and their implications.

First, it is important to explain why the formation of integrated urban regions has become not only a research concern but also a desirable policy aim. The socioeconomic advantages coming from tighter and deeper integration amount to the capacity to jointly exploit a larger urban mass to unlock greater agglomeration economies, while mitigating the negative returns of excessive concentration of activity in a single, large center (Camagni et al., 2016; Glaeser et al., 2016). Larger population size and lower institutional fragmentation are positively associated with economic productivity (Ahrend et al., 2015; Melo et al., 2009), while a greater number, quality, and variety of urban functions enhance place attractiveness for people and firms (Burger et al., 2015; Glaeser et al., 2001). Given these positive associations, capturing the additional demographic-functional mass and diversity spread over the territory is an opportunity for regions to control the field where agglomeration economies operate and bypass

Table 1. Extensive urbanization features and challenges for the metropolisation process.

Process of change/reconstitution	Challenges for metropolisation
<p>(1) <i>Disaggregation of centrality features</i> Classical definition meant simultaneous local maximization of aggregation of top-level functions, enhanced accessibility and presence of collective symbolic references. These qualities no longer converge in the same locality, can be partially claimed by different places at the same time and occur in temporary, incomplete combinations. (Schmid, 2006; Domingues, 2008a)</p>	<p>Inherited socio-spatial relations between assumed 'cores' and 'peripheries' are contested as they claim partial stakes of centrality. Different locational logics of urban functions in different sectors, according to which partial maximization to pursue. Need for adaptation of transport system to multi-scalar needs of daily mobility between complementary centralities.</p>
<p>(2) <i>Uneven metropolitan development</i> Apparently increasing spatial isotropy of urban territories deeply cut by functional, economic and policy imbalances. This is caused by local size effects reminiscent of central place logics, legacies of power concentration or the mode/hierarchy of formation of each urban region. (Burger et al., 2015; Cardoso & Meijers, 2016)</p>	<p>Tendencies for integration coexist with pressures for fragmentation between places that matter and those that don't. Incentive for integration varies between locations, spread of benefits is unclear. Uneven opportunities for individuals and firms to pursue residential, employment and amenity preferences.</p>
<p>(3) <i>Metropolitan attachment and identity</i> Individual sense of place attachment, formerly linked to city or neighborhood, can be extended to urban region scale, enabled by extensive daily mobility and regular interaction with various urban settings and jurisdictions. This contributes to legitimacy of metropolitan governments, joint identity-building, citizen engagement with metropolitan priorities. (Kübler, 2018; Lidström & Schaap, 2018)</p>	<p>Policymakers late to acknowledge metropolitan orientation of people, still persistent city bias valuing some urban configurations more than others. Peripheralization of parts of urban region for investment and policy, exclusion of relevant people and institutions from debates about common future.</p>
<p>(4) <i>Variable geometry governance</i> Horizontal and inclusive arrangements of urban region governance emerge which do not require institutional consolidation or fixed boundaries. They aim to facilitate agile, purpose-based coalitions and enable willingness to cooperate among actors holding different stakes of power. (Lefèvre, 1998; Nelles, 2013)</p>	<p>How to replace possibility of coercion by perception of shared gains among cooperating actors. How to balance between necessary leadership capacity and unwelcome dominance of main city/actor. Weak symbolic and political recognition of networks as shaping a shared identity, unlike traditional boundaries.</p>

some of its diseconomies, thus reaping the benefits of scale. This approach explores the potential of interconnected urban systems, where agglomeration economies are no longer confined to core cities, and different places can “borrow size” to access greater benefits, as the necessary resources operating at the urban region scale become available to them (Alonso, 1973; Burger & Meijers, 2016; Phelps et al., 2001).

Functional and institutional integration is necessary, however, following evidence that the sum of separate nearby centers does not attain the same level of agglomeration advantages as those available in a single center of similar size (Meijers, 2008). Parr (2004) suggests that people, commodity, and knowledge flows do not travel as easily in these polycentric urban regions as in single large cities: spatial and institutional fragmentation, functional imbalances, uncoordinated transport planning, disconnected housing markets, biased public investment, little cooperation among local authorities, and lack of a common identity gathering people and institutions around shared priorities, are some of the shortcomings of poorly integrated urban regions (Jenks et al., 2008; Lambregts, 2006; Nelles, 2013; Sweeney, 2016). In response, Meijers et al. (2018) find evidence that integration has a consistently positive influence on the economic performance of urban regions and can be a desirable development strategy.

The genealogy of metropolisation

As a loosely defined term used in several languages, the literature has used “metropolisation” with different meanings – demographic, economic, planning, spatial – and rooted in European debates. The term is the anglicized form of the French “*métropolisation*” whose most common definition denotes the concentration of functions, activities, and population in the largest metropolitan areas. The concept emerged as a result of the demographic growth trends in the largest cities detected by the 1990 French census, and predicted that metropolitan areas would increasingly detach their economic and demographic profile from the remaining territory and have closer relations with other large centers worldwide than with their own hinterland.

From an economic geography perspective, such processes are functionally selective, and stronger in knowledge-intensive services and industries (Kräkte, 2007). Metropolisation is a type of urban restructuring with “*polycentric relations [...] and the establishment of new economic functions in the most attractive metropolises*” (ESPON, 2012, p. 7). This introduces polycentricity as a defining feature of metropolisation, as well as intra-regional convergence indicating a process of integration – growth occurs “*not only in the core city, but also on the regional level within the metropolitan agglomeration and the region*” (ibid.).

Dutch researchers have developed the related notion of “*metropoolvorming*,” an aspirational planning concept once applied to the Dutch Randstad, aimed at turning this “disassembled city” made of a multitude of urban fragments into an “assembled city” of regional scale, given coherence and urbanity in multiple dimensions by functional synergies, transport links, manipulated natural spaces, cultural identity symbols, and joint governance (Deltametropool, 1998). “*Metropoolvorming*” can occur at several spatial scales; it is not only about the Randstad but also small cities in remote areas strengthening their networks to enable greater agglomeration benefits (Meijers et al., 2012).

This resonates with Southern European literature, notably the Italian (spatial) concept of “*metropolizzazione*”. The extensive urban territories of variable size and density in Northern Italy, operating as spatially and functionally integrated entities but not clustering into polycentric nodes or hierarchical structures, invited descriptions of regional urbanization as early as the 1960s (De Carlo, 1962; Quaroni, 1967; Secchi, 1989), a tradition taken over by contemporary scholars like (Balducci et al. 2011; 2017). These scholars avoided debates about the “death of the city” and the “decentralization, dispersion or even *disloyalty*” (Balducci et al., 2017, p. 4) to what counted as urban, by seeing a multi-dimensional, regional-scale process of city-in-the-making, able to experience the socioeconomic effects of urban agglomeration without conventional spatial concentration, and benefit from integrated planning strategies.

The concept of metropolization used in this paper connects the analytic and the aspirational to expand all of the above: by exploring multi-dimensional integration processes, it relationally intertwines political-institutional and cultural-symbolic dimensions with the spatial-functional changes dominating previous definitions. Furthermore, besides emphasizing how an urban region becomes an integrated territory for daily life and activity, it also asks how it acquires city-like qualities overall and what planning strategies work toward that goal. This stimulates a transition in theory and practice

through which the qualities and features formerly attributed to the space of the city are reconstructed for the urban region scale. We draw upon this view to introduce the first distinctive feature of metropolisation: Inversion.

INVERSION: from the regionalization of the city to the citification of the region

Indovina (1990) points out that the attention given to urban dispersion has obscured the parallel phenomenon of metropolisation, meaning the consolidation of extensive urbanization as a new process of city-making. Preceding Sieverts (1997), Soja (2011), and Brenner (2013), Indovina questions assumptions about the apparent loss of integrity of urban places caused by the “regionalization of the city.” Conventional cities are indeed contested but the process of metropolisation can rebuild city-like qualities at the regional scale: “*Dispersion generates the metropolisation of territory which, in turn, prevents that dispersion damages individual and social life; under certain conditions it can even provide economic growth and social development.*” (Indovina, 2014, p. 109). The conditions include reconstructing the sites of, and devices for, spatial interaction, economic activity, cultural encounter, and social relations, so that the qualities that define the city are present across urban territories. Similarly, Sieverts (1997) argued for the urbanity of the *Zwischenstadt*, the disregarded spaces “in-between” cities, which are nonetheless “*realms people care about*” (Sieverts, 1997:x). The fact that this argument was initially translated to English as the book title “*Cities without cities*,” illustrates well the difficulties in abandoning embedded core-periphery ideologies.

Metropolisation, therefore, stresses a process of *citification of the region*, not interpreting cities as dissolving into shapeless urbanization. From the aggregation and connectivity of spread out functions, people, and activities, the rearrangement of multiple urban programs and devices, and the adoption of integrated planning and governance tools, a larger, better equipped and more diverse city may emerge at the urban region scale, that was not previously *there* as a recognizable entity (i.e. not “locked-in” in the expansion process of a core city or traced back to the mere sum of polycentric nodes). The spatial, functional, symbolic, and political features that define urbanity become *territorial*, rather than exclusive of some nodes. Similar ideas are present in the RUR concept (Piorr et al., 2011) and the Deltametropool Randstad manifesto (Deltametropool, 1998), discussed earlier, as well as in the “city of cities” concept used by Nello (2001) to analyze urbanization in Catalonia and by Balducci et al. (2011) in Milan: the urban qualities, expectations, and events usually reserved for “proper” cities are reassigned to *any point of the territory*, and the correspondent spatial imaginary of the city is rescaled for the urban region. Peter Hall illustrates this shift in two statements with an interval of 8 years:

“Great art [...] can come about only in a very special kind of city.” (Hall, 1998, p. 158)

However, ...

“I find this immensely refreshing, [...] you can cause a theatre to flourish not only right at the heart of a great city, but also in lots of other interstices all over the place, which to me is terribly encouraging.” (Hall & Hall, 2006, p. 384)

From urban network to urban field

Inversion implies that urban forms and flows are not defined by, or limited to, a predefined set of network nodes (“urban centers”) and their connections, as is common in the polycentricity literature. Their spatial and socioeconomic effects are regionalized and partly detached from local clustering, whether mono- or multicentric (Soja, 2011). For instance, in terms of size and distribution of employment areas, the main characteristic of 70% of the 356 metropolitan statistical areas in the USA is spatial diffusion, with some being *also* relatively monocentric and others *also* relatively polycentric (Hajrasouliha & Hamidi, 2017). In the polycentric urban region that popularized the concept more than any other, the Dutch Randstad, only about one-third of the population of 7.5 million actually lives in the four main nodes that “define” the region – even if the Randstad is known for a neatly compact urban pattern when compared with more diffuse urbanization in Belgium, Germany, or Italy.

Seeing networks as a language to describe something else, Van Meeteren also opts for skipping the “urban network party” (Van Meeteren, 2016, p. 5), as that language is inadequate for geographies where “it is difficult to disentangle the nodes from the in-between” (Van Meeteren, 2016, p. 6), such as the Belgian “nebular cities” covered in his research. The same case can be made for a variety of places evolving through extensive urbanization processes. Indeed, by paying attention to a set of discrete nodes and their connections and reducing the in-between spaces to a background, the polycentricity lens may become too selective and fail to capture important, albeit unconventional, elements of urbanization (Gordon & Richardson, 1996). Admittedly, a network is just a way of seeing and we can make it as tight as we want, up to where the nodes are juxtaposed. But the utility of the concept then becomes doubtful.

Therefore, beyond the shift from monocentric to polycentric models, extensive urbanization can be understood by *zonal* alongside *nodal* concepts, where functional, morphological, or economic centers are density peaks, varying in features and intensity, in a generally continuous urban field. Fields were important in what became known as the “quantitative revolution” in Geography in the 1960s, the meeting of geography and systems thinking coming from regional science (Angel & Hyman, 1972; Berry, 1964; Friedmann, 1978). Field concepts borrowed metaphors from the natural sciences, especially physics, which was then revisiting the notion of “field” as an entity in itself, with intrinsic measurable features and emergent effects, rather than a mere function of the particles (i.e. the “nodes”) that create it (Feynman, 1970). Through this lens, the fabric of urban fields varies more in degree than in kind and is defined by a set of regionalized common processes rather than distinctive, localized physical characteristics. Functional, economic, or environmental effects related to urbanization, for instance, both beneficial and detrimental, can be seen as fluctuations of “agglomeration externality fields,” detached from nodes and hierarchical relations in a network (Burger & Meijers, 2016; Phelps et al., 2001). Morphologically, the zonal approach is also consistent with the patchy but continuous patterns visible in many urban regions, which reflect their field-like spatial organization and the real-world arena of metropolitan activity. As a policymaking frame, by discarding assumptions about “nodes” that matter more than the “background,” the field lens reduces spatial selectivity and helps include the voices of

Table 2. Spatial understandings of urban regions (adapted from Neuman & Hull, 2009).

Framework	Spatial interpretation	Typical examples/techniques
Linkages	Connections between points	Polycentricity literature; transport studies
Gradient	Fluctuation of a phenomenon	Environmental indicators mapping; geodemographics; statistical surfaces (GIS)
Boundary	Contiguous categories	Political jurisdictions; morphological categories

Table 3. How metropolisation compares to the polycentricity imaginary.

Analytic lens (way of seeing)	Spatial imagination (level of abstraction)	Structuring principle (main process)
Network	Polycentricity	Interaction
Field	Metropolisation	Integration

people, firms, and institutions operating in the “in-between” in the debates about a common future (Harrison & Heley, 2015).

Metropolisation can therefore be inserted in the typology of urban region understandings developed over time, which Neuman and Hull (2009) summarize under three frameworks (see Table 2):

The “linkages” framework governs polycentricity studies, which focus on flows between nodes. Typifying spatial categories by morphology, population thresholds or administrative border uses the “boundary” framework. Metropolisation takes the diversity of expressions taken by urbanization as fluctuations of a continuous dynamic condition – an urban field – and fits into the “gradient” framework. Still, it is an abstraction, a way to see space, but one more structured around the principle of integration than of interaction. In short, metropolisation is perhaps for the image of the urban *field* what polycentricity is for the image of the urban *network* (see Table 3):

3.1 MULTIPLEXITY: the driving forces of metropolisation and their interaction

Field-like urbanization does not imply homogeneity. Urban fields are variegated and uneven between and within urban regions: “each little droplet of the nebula is a world of its own” (Van Meeteren, 2016, p. 199). Accordingly, integration “depends on the lens through which it is assessed” (Burger et al., 2014, p. 449). As the papers in this issue show, metropolisation does not happen in thin air and is driven by forces dependent on spatial and temporal contexts, whose interaction results in unique trajectories in every urban region. The drawbacks of poorly integrated urban regions, discussed above, are experienced differently everywhere. Therefore, metropolisation processes should not be analyzed as a snapshot in time or only from one perspective. This would isolate events from interaction with contingent processes along other dimensions of integration, of which they are both outcome and trigger. Here, we analyze the spatial-functional, political-institutional, and cultural-symbolic dimensions, as they are able to subsume important aspects of integration. These dimensions are intertwined and interdependent, establishing mutual feedback relations which can either hinder or stimulate the unfolding of

metropolisation processes. To explore their interactions, we must take into account that they can play different roles at different times, namely by:

(R1) acting as backdrop, trigger, or support on which an intentional, effective process depends;

(R2) enacting that process, in the sense of materializing the need to fulfill or action to carry out;

(R3) exploiting the effect of the interaction between the other two roles, potentially supporting – now under Role (1) – the continuity of the cycle.

Limiting each dimension to one role at a time is a simplification, as their ongoing interaction is likely to create secondary effects throughout the process. But it is helpful to understand what these dimensions entail and their possible combinations, as in the following examples:

- The need to move among different urban region centers and to connect diverse flows and systems needs to be materialized by a process of *functional integration* (role 2), but the actual carriers of that ability – e.g., transport infrastructure – depend on political decisions and mutual coordination between actors supported by *institutional integration* (role 1). At the same time, the resulting daily mobility abilities and the perception of that overall coordination influence how people re-imagine the boundaries and identity of the urban region (Kübler, 2018), enabling greater *cultural-symbolic integration* (role 3).
- Many policy problems of metropolitan scale must be addressed by *institutional integration* (role 2). But the willingness to cooperate of actors, either through informal networks or a governance authority, partly depends on perceived shared identities and perceived proximity (Van Houtum, 1998) facilitated by *cultural-symbolic integration* (role 1). When they emerge, an advantage of such coalitions is to become a more relevant economic and political actor, able to influence higher tiers of government, for instance, to secure investments that support *functional integration* (role 3) (Cardoso & Meijers, 2017).
- A sense of “metropolitan identity,” the affective and cognitive perception of the urban region as a significant space by its inhabitants is behind *cultural-symbolic integration* (role 2). But that sense is triggered by regular movement across, and interaction with, different metropolitan settings for different activities (residence, work, school, leisure), allowed by *functional integration* (role 1). At the same time, stimulating that symbolic dimension can make *institutional integration* more palatable for citizens (role 3) as they are more prone to acknowledge the urban region scale and the need for governance.

It is outside the scope of this paper to discuss specific cases of these interactions. The reader is directed to work exploring their real-life manifestations at different scales and times, from the nineteenth-century integration of the cities of Buda and Pest, to contemporary metropolisation in the Dutch Randstad (Cardoso & Meijers, 2016, *forthcoming*), all carried by a mix of interrelated cultural-symbolic visions, political-institutional decisions, and spatial-functional devices which evolved together, in constant adaptation, both as trigger and outcome of each other’s transformations. This focus on relational factors makes the historical perspective more important than it is usually

recognized in regional urbanization research, as the interactions may only become visible over a large time-span and their outcomes may have a long temporal lag.

Planning for metropolisation

Integration processes have impacts on different places and scales, allow different outcomes for different groups, and there is little knowledge about their long-term causality on urban economies. Therefore, planning for the “extensive city” has been a concern of scholars and policymakers as a way to address the challenges of urbanization which are relatively stable across places – e.g., enabling access to urban functions and infrastructures, building regional organizing capacity to access resources and reduce inequalities, raising economic critical mass and political voice, or developing a metropolitan identity. Harnessing the three dimensions of metropolisation can result in concrete strategic measures, and this operative aspect of the concept distinguishes *potential* and *effective* metropolisation (ESPON, 2012).

Solutions include creating planning bodies able to design coherent strategies across spatial scales (Hall & Pain, 2006) undeterred by the territorial and conceptual unboundedness of the urban field; taking the urban region as the “city” for intervention and using the urban planning toolkit to provide livability *at any point of the territory* rather than in predefined centers (Balducci et al., 2011); developing regional transport systems to support demographic trends (Bentlage et al., [this issue](#)); or turning “core city” networks and devices, such as light rail systems or cultural amenities, into “urban region” networks and devices, rescaling the uses and programs of the city and bringing together – physically and symbolically – dense stable centers and diffuse peripheral areas. Such visions of the “urban as city” are nevertheless contested, as recently noted by Granqvist et al. (2019), who show how the vision by the City of Helsinki to turn arterial highways into city-like boulevards, with urban design features and light rail complements, was praised for bringing urbanity to where it was lacking, as much as attacked for reducing the efficiency of the traffic network.

3.2 CONVERGENCE: a history of urbanization beyond the history of urbanism

The discussion so far demands a convergence of concerns and concepts which used to belong either to the field of the urban or the regional. Several scholars have made this case, namely Soja, writing that the “*increasing fusion of the urban and the regional in theory, empirical analysis, social activism, planning and public policy is creating many new pathways for innovative critical and comparative research.*” (Soja, 2015, p. 372). Urban regions hold generative power to stimulate many socioeconomic processes through agglomeration and interaction effects over the urban field. But they can contemplate different ways to spatially and functionally organize these processes over time (of which “the city” is clearly a successful one). As noted earlier, this has appeared in European literature for decades, even if with rather modest generalization ambitions. But concepts based on local observations and formulated in several languages (*ville-territoire*, *città diffusa*, *Zwischenstadt*, etc.) have prevented this theoretical body of work to travel well.

There is some resistance to the idea that urban and regional scales belong together. One objection is historicist: extensive urbanization is something *outside* the city, broadly

associated with the second half of the twentieth century. According to Grosjean (2010), the history of *urbanization* falls outside the actual history of *urbanism*, a discipline that took cities as the point of departure and defined the rest in opposition to them, consolidating a binary representation of urbanization as expansion “over an assumed and unproblematic spatial-historical void” (Cardoso, 2018, p. 226). Neglecting the historical process of formation of urban regions invites assumptions that spaces beyond cities were a-historical backgrounds and that new urban forms “appear from nowhere” (Batty, 2001, p. 636). But in fact, some aspects of regional (proto-)urbanization were visible across territories well before urban scholars started defining their discipline. Today’s extensive urbanization, often imprinted on physical, infrastructural, and socio-cultural traces from long ago (Batty, 2001), reveals again how the urban is grounded in the broader history of territory.

Some ways to represent the integration between what used to be inside or outside the urban still hang on city vs. non-city binaries (or, rather, “urban” vs. “regional” themes). Such is the case of “hybridity,” according to Angelo (2017). In the natural sciences, a “hybrid” is a combination of the features of two fundamentally different organisms: a mule is an animal hybrid, the Minotaur is a mythological hybrid; the Garden City was an urbanism hybrid, combining the best of two different “species,” city and nature. But hybridity assumes that the originating organisms were from a categorically different taxonomy, and that we can still recognize the original features of each one in the hybrid, something that the metropolisation approach contests. Indeed, not only do fragmented and incomplete urbanization processes have a long history parallel to the city, but they have a tendency “to explode inherited morphologies of urbanism at all spatial scales” (Brenner & Schmid, 2014, p. 743). This raises doubts over the assumptions that things started with categorically different organisms, and that we can still recognize their original features.

In response, Domingues (2008b) replaces the “hybrid” by the “transgenic” to visualize regional urbanization. Transgenesis (from biology) is a deeper process of recombination of materials, which does not necessarily keep the formal features of its progenitors. Transgenic organisms emerge from blending and interaction of any number of (parts of) organisms and become a new entity, rather than an association of existing things. Closely related to the principles of emergence in complex systems, the product of transgenesis has properties which cannot be decomposed back into the initial elements that recombined to create it – the traits specific to those elements may no longer be recognizable. With a metropolisation lens, it is tempting to see the urban region as a transgenic organism, whose new properties were not necessarily present in, borrowed by, or exclusive of, the “city,” the “suburban,” the “rural,” or the “natural” worlds, but emerge from their contextual, contingent, and dynamic processes of integration along different dimensions. What functions as urban at a given place and time – spatially, functionally, culturally, or symbolically – is the outcome of this co-evolution with few prior assumptions about predefined features, scales, or boundaries.

This approach can enable new definitions of urban regions. For example, the study of European metropolitan areas by the German BBSR institute (BBSR, 2011), abandons all predefined administrative or morphological distinctions to construct their objects of study. Choosing a functional approach, the authors start by plotting the location of all top-level metropolitan functions deemed relevant for urbanity over a borderless,

featureless territory. Then, they select a threshold to define clusters containing a certain density of metropolitan functions. Finally, they plot isochrones depicting accessibility to those functional clusters, obtaining an empirically constructed, bottom-up definition of metropolitan areas which is independent of administrative borders, existing urban systems, morphologies, and predefined locations of centers. The actual location, size, shape, and boundary of each urban region start open-ended and emerge as the outcome of a step-by-step analytic process, rather than a point of departure. While choices must be made regarding what elements and thresholds count for the definition, this approach illustrates the open-ended, relational, integrative, and spatially inclusive perspective of metropolisation.

4. Papers in this special issue

The papers that follow demonstrate and reflect on real-world examples of metropolisation and address the concepts of inversion, multiplexity, and conversion. Also, each paper adopts the perspective of a different type of stakeholder in the process of metropolisation: major cities (Herrschel), rural stakeholders (Urso), local governments involved in regional cooperation (Nelles), universities (Addie) and households (Bentlage, Müller, and Thierstein).

Jen Nelles (Nelles, 2019) argues that the focus on multiplexity inherent to the metropolisation lens opens up new ways of defining metropolitan space that go beyond the “tyranny” of the conventional approach stressing functional indicators. She explores whether a focus on the boundaries of metropolitan institutions, in themselves the product of the complex interaction between spatial-functional, cultural-symbolic, and institutional structures, provides a good basis to identify evolving metropolitan spaces. Focusing on Regional Intergovernmental Organizations in the United States, she finds that institutional actors often define metropolitan space differently, and in a less city-centric way than common functional definitions (MSAs). A case is made for spaces of governance being a more appropriate proxy to define metropolitan space, as they are negotiated and contested as by real actors and created to govern real space.

The paper by Giulia Urso (Urso, 2020) extends this line of reasoning, looking at the attitudes of policy-makers from rural parts of the metropolitan area that have become integrated with a leading city, in this case Genoa in Italy. Interestingly, whereas we often see cities developing networks outside their region to pursue their interests (see Herrschel, [this issue](#)), the same holds for those metropolitan-rural regions, as they are simultaneously embedded in national policy frameworks for “rural space.” Urso documents a remarkable difference in agency of rural actors in both spaces of governance, identifying historical, cultural, and political barriers preventing them from actively engaging in metropolitan place-making. This leads to a questioning of the “convergence” dimension of metropolisation, as dichotomies such as urban/rural or city/region still prevail, at least in the mind-set of key rural actors.

The contribution by Jean-Paul Addie (Addie, 2019) focuses on the “inversion” dimension of metropolisation, exploring the role of universities in reconfiguring the city at the regional scale, referred to as “university regionalism.” He extends our “multiplexity” framework by moving beyond functional, institutional, and symbolic dimensions to include the creation and mobilization of knowledge and knowledge

production. Tracing the spatial imaginaries adopted and mobilized by higher education institutes in the Greater New York region, as well as their spatial behavior (location, sites of knowledge production, engagement in spatialized cooperation networks), Addie finds that universities play a significant role in creating (post-)metropolitan spaces. However, there are limits to university regionalism as it is constrained by territorialized funding, governance mechanisms, and institutional mandates. Like Urso (2020), this shows the continued importance of entrenched local political geographies in any metropolisation process.

Bentlage, Müller, and Thierstein discuss different forms of metropolitan structure, focusing particularly on the monocentricity versus polycentricity dimension. They examine how the unfolding process of metropolisation in the Munich Metropolitan Area in Germany changes its spatial organization. Empirically, the focus is on the location preferences of households, which are associated with (perceived) possibilities to exploit agglomeration and network economies and avoid the corresponding diseconomies. The result is an intricate pattern of simultaneous concentration, deconcentration, and dispersion dynamics by households, highly dependent on inherited transport and urban structures, e.g., the existing radial transport system. But they also suggest that these dynamics can and should be steered in new directions. This implies that guiding the process of metropolisation is an important metropolitan planning challenge.

Finally, the paper by Tassilo Herrschel stresses the tensions and convergence between the “urban” and the “regional,” which he frames as “network” and “territorial.” A particular role is attributed to large cities as interlocutors between these opposing interpretations of regions, as they shape the unbounded network spaces of cities but also link them to their state territories. This position of large cities leads to tensions between urban competitiveness, selective inclusion, and democratic legitimacy at different spatial scales, including the metropolitan scale that may become more fragmented in terms of opportunity structures due to urban individualism. Herrschel explores how regional collectivism and this urban individualism can be reconciled in the Danish-Swedish Øresund Region, following an approach that disentangles spatial-functional, political-institutional, and cultural-symbolic dimensions in the process of metropolisation of this region.

We deeply regret that just days after submitting a revised version of this paper to *Urban Geography* from what turned out to be a hospital bed in Germany, Tassilo Herrschel passed away after a short illness. Tassilo was a scholar with an international reputation in urban studies, who was able to cross disciplinary boundaries and who had a special interest in cross-border regions and post-socialist cities. We are glad that our paths have crossed regularly, and those who had the pleasure of meeting him will share the experience of having vivid and thoughtful conversations and discussions on these issues that he was so knowledgeable about. This article marks the untimely end of a long and productive career in academia in which he has inspired many students and colleagues to be independent, open-minded, and critical thinkers, just like he was. The reader should know that we as special issue editors have taken responsibility for the final major editing of his paper.

5. Conclusion

This introductory paper discussed metropolisation as a process and a lens to examine urban region integration in territories characterized by extensive urbanization. Among the concepts aimed at understanding these processes, metropolisation is unique in gathering literature from different traditions and languages whose relations and overlaps have not received sufficient attention yet. Urban region conceptualizations often amount to local syntheses based on empirical observations and specific research traditions. What is lost in translation among them is perhaps one of the fragilities of the concept: as Cheshire and Gornostaeva point out, “each country has its own idea of what a ‘city’ is” (Cheshire & Gornostaeva, 2002, p. 17). This paper contributes to finding common ground between different debates, guided by three important notions:

- *Inversion*, the theoretical, empirical, and policy implications of understanding urban regions as consolidating into extensive cities rather than cities dissolving into urban regions, a field-like approach to metropolitan space which we label as the citification of the region.
- *Multiplexity*, the potential of examining urban region integration processes as a continuous interaction in space and time of linked spatial-functional, political-institutional, and cultural-symbolic dimensions with overlapping materializations, recurrences, and effects.
- *Convergence*, the blurring of distinctions between concepts, concerns, and challenges that used to belong either to the “urban” or the “regional,” turned into means to analyze the nature of urban regions and think about their development.

As any exploratory idea which gathers insights from different origins, metropolisation still has its own conceptual tensions to resolve. For instance, the reader may notice that the arguments about “Inversion” and “Convergence” do not sit too comfortably together. In the former, we claim that entire urban regions are consolidating into cities, acquiring qualities, uses, and programs which used to belong to the realm of the city, and that is why integration at that scale is important to reap the benefits of urbanity at any point of the territory. In the latter, we argue that seeing urban regions against the reference frame of the city is insufficient to understand their distinctive nature and integration processes. This needs reconciliation and reflection on to further elaborate our formulation. Clearly, we do not use a *tabula rasa* approach often attributed to planetary urbanization scholars (a claim contested anyway as a caricature – see Brenner, 2018). Extensive urbanization processes have not reduced the features of the city to a historical accident, and metropolisation even makes the case for the reconstruction of those features at the regional scale. But it does allow the disentanglement between urban *forms* and urban *qualities*. Such qualities, both outcome and trigger of multi-dimensional integration processes, include functional arrangements, symbolic and identity constructs, institutional and planning frameworks, or the generation of agglomeration benefits and costs. Metropolisation is thus concerned with identifying and mapping urban qualities territorially spreading with variable intensity and thereby constructing new urban fields.

These qualities are not stable in space and time which leads us to prefer processes over materiality to define urban regions. As the following papers show, choosing which

features, actors, and processes “count” as generators of urbanity is a contingent decision which depends on place, time, and purpose – highlighting the spatial-functional, political-institutional and cultural-symbolic dimensions is an adequate choice, as they subsume other, less prominent aspects, but also a simplification that can be contested. Therefore, as a “way of seeing,” metropolisation will often benefit from other theoretical frameworks to help select the relevant processes according to the questions at hand. Likewise, choosing where these relations stop before falling into a “planetary” urban field and losing all nuance – in other words, determining the boundary of the urban region – is also contingent and purpose-oriented, and may be framed against a locally defined, temporary threshold, as in the BBSR example discussed earlier.

Metropolisation, therefore, shares commonalities with a critical realism approach which aims to find a *realistically adequate*, even if provisional, explanation (Danermark et al., 2012). The search for this type of explanation is usually associated with a high adaptivity to context. This helps to consider the questions of “what,” “when,” “where,” and “who” and explore the winners of losers of urban region integration, which is useful to avoid seeing urban fields as homogeneous and equating overall outcomes with local fortunes. For instance, relational concepts which include their antithesis, such as “borrowed size” and “agglomeration shadows,” are useful to examine metropolisation effects (Burger & Meijers, 2016) because they illustrate the need for a careful decomposition and contextualization of integration processes. This also allows differentiating between the ways different agents advance urban region integration – e.g., at the level of households (through mobility), firms (through economic interaction), or institutions (through identity-building narratives).

The metropolisation lens will profit from further fine-tuning to focus on these different scales and levels of analysis, something that the papers in this Special Issue try to achieve. It remains to be seen whether metropolisation allows for generalization and prediction. Can we study enough cases of urban region integration along different dimensions to detect patterns of *speed*, *direction*, and *depth* of the metropolisation process? If those patterns can be associated with specific spatial, political, or socio-economic conditions or historical trajectories, we may know more about the relevance of the concept for regions of the world outside Europe or North America covered here, and perhaps explore the conditions which allow a just, integrative, and socially beneficial metropolisation process to flourish.

Notes

1. While Brenner and Schmid’s notion of planetary urbanization is consistent with the implications of the term “extensive”, they usually refer to “extended” urbanization. Being a past-participle-made-adjective, “extend-ed” still leaves a core-to-periphery aftertaste, something made larger, grown out of something else. We prefer the adjective “extensive” to overcome this chronological resonance and highlight the actual condition rather than its evolution from an assumed starting point.
2. Seymour Morsy, councillor at Val d’Oise department, France, Metropolisation Community of Competence of the International Urban Development Association, Paris (no date provided).
3. Or, in some cases, metropolitanis[z]ation (the terms have been used interchangeably).

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References

- Addie, Jean-Paul. (2019). The limits of university regionalism. *Urban Geography*, 1–21. Retrieved from: <https://doi.org/10.1080/02723638.2019.1591144>
- Ahrend, Rudiger, Farchy, Emily, Kaplanis, Ioannis, & Lembcke, Alexander. (2015). *What makes cities more productive? Evidence on the role of urban governance from five OECD countries*. OECD.
- Alonso, William. (1973). Urban zero population growth. *Daedalus*, 102(4), 191–206.
- Angel, Shlomo, & Hyman, Geoffrey. (1972). Urban spatial interaction. *Environment & Planning A*, 4(1), 99–118. Retrieved from: <https://doi.org/10.1068/a040099>
- Angelo, Hilary. (2017). From the city lens toward urbanisation as a way of seeing: Country/city binaries on an urbanising planet. *Urban Studies*, 54(1), 158–178. Retrieved from: <https://doi.org/10.1177/0042098016629312>
- Ascher, François. (1995). *Métapolis ou l'avenir des villes*. Odile Jacob.
- Balducci, Alessandro, Fedeli, Valeria, & Curci, Francesco (eds.). (2017). *Post-metropolitan territories. Looking for a new urbanity*. Routledge.
- Balducci, Alessandro, Fedeli, Valeria, & Pasqui, Gabriele. (2011). *Strategic planning for contemporary urban regions*. Ashgate.
- Batty, Michael. (2001). Polynucleated urban landscapes. *Urban Studies*, 38(4), 635–655. Retrieved from: <https://doi.org/10.1080/00420980120035268>
- BBSR. (2011). *Metropolitan areas in Europe. BBSR-Online-Publikation 01/2011*. Bundesinstitut für Bau-, Stadt- und Raumforschung.
- Bentlage, Michael, Müller, Christine, & Thierstein, Alain (this issue). *Location decisions of private households and the emergence of polycentric urban regions*. Revealing the transformation of the Munich Metropolitan Area. *Urban Geography*.
- Berry, Brian. (1964). Cities as systems within systems of cities. *Papers in Regional Science*, 13(1), 147–163. Retrieved from: <https://doi.org/10.1111/j.1435-5597.1964.tb01283.x>
- Brenner, Neil. (2013). Theses on urbanization. *Public Culture*, 25(1), 85–114. Retrieved from: <https://doi.org/10.1215/08992363-1890477>
- Brenner, Neil. (2018). Debating planetary urbanization: For an engaged pluralism. *Environment and Planning D: Society and Space*, 36(3), 570–590. Retrieved from: <https://doi.org/10.1177/0263775818757510>
- Brenner, Neil, & Schmid, Christian. (2014). The ‘urban age’ in question. *International Journal of Urban and Regional Research*, 38(3), 731–755. Retrieved from: <https://doi.org/10.1111/1468-2427.12115>
- Burger, Martijn, & Meijers, Evert. (2016). Agglomerations and the rise of urban network externalities. *Papers in Regional Science*, 95(1), 5–15. Retrieved from: <https://doi.org/10.1111/pirs.12223>

- Burger, Martijn, Meijers, Evert, Hoogerbrugge, Marloes, & Masip-Tressera, Jaume. (2015). Borrowed size, agglomeration shadows and cultural amenities in North-West Europe. *European Planning Studies*, 23(6), 1090–1109. Retrieved from: <https://doi.org/10.1080/09654313.2014.905002>
- Burger, Martijn, Meijers, Evert, & van Oort, Frank. (2014). Multiple perspectives on functional coherence: Heterogeneity and multiplexity in the randstad. *Tijdschrift Voor Economische En Sociale Geografie*, 105(4), 444–464. Retrieved from: <https://doi.org/10.1111/tesg.12061>
- Camagni, Roberto, Capello, Roberta, & Caragliu, Andrea. (2016). Static vs. dynamic agglomeration economies. Spatial context and structural evolution behind urban growth. *Papers in Regional Science*, 95(1), 133–158. Retrieved from: <https://doi.org/10.1111/pirs.12182>
- Cardoso, Rodrigo. (2016). *Building the extensive city: Processes of metropolisation in European second-tier urban regions* (doctoral dissertation). UCL.
- Cardoso, Rodrigo. (2018). Localising urbanisation trajectories: Comparing the emergence of second-tier urban regions in Europe. *Urban Research & Practice*, 11(3), 223–246. <https://doi.org/10.1080/17535069.2017.1328068>
- Cardoso, Rodrigo, & Meijers, Evert. (2016). Contrasts between first-tier and second-tier cities in Europe: A functional perspective. *European Planning Studies*, 24(5), 996–1015. <https://doi.org/10.1080/09654313.2015.1120708>
- Cardoso, Rodrigo, & Meijers, Evert. (2017). Secondary yet metropolitan? The challenges of metropolitan integration for second-tier cities. *Planning Theory & Practice*, 18(4), 616–635. Retrieved from: <https://doi.org/10.1080/14649357.2017.1371789>
- Cardoso, Rodrigo, & Meijers, Evert. (). The process of metropolisation in megacity-regions. In Andre Sorensen & Danielle Labbe (Eds.), *Handbook on megacities and megacity-regions*. (pp. 360-375) Edward Elgar.
- Cheshire, Paul, & Gornostaeva, Galina. (2002). Cities and regions: Comparable measures require comparable territories. *Les Cahiers De L'institut D'aménagement Et D'urbanisme De La Région D'île De France*, 135, 13–32.
- Danermark, Berth, Mats, Ekström, Liselotte, Jakobsen, & Karlsson, Jan. (2012). *Explaining society. Critical realism in the social sciences*. Routledge.
- De Carlo, Giancarlo. (1962). *Relazione del seminario "La nuove dimensione della citta, la citta-regione"*. Ilse.
- Deltametropool. (1998). *Verklaring Deltametropool*.
- Domingues. (2008b). Transgénicos. In André Tavares & Ivo Oliveira (Eds.), *Arquitectura em Lugares Comuns* (pp. 27–35). Dafne Editora.
- Domingues, Alvaro (2008a, May). *Urbanização Extensiva – Uma nova escala para o planeamento. Paper presented at CITTA - Annual Conference on Planning Research*, Porto.
- ESPON. (2012). *POLYCE - metropolisation and polycentric development in central Europe. Final report*.
- Feynman, Richard. (1970). *The Feynman lectures on physics*. Addison-Wesley.
- Fisher, Axel. (2013). Urbanisation sans urbanisme. Une histoire de la ‘ville diffuse’ (review). *Planning Perspectives*, 28(2), 333–335. Retrieved from: <https://doi.org/10.1080/02665433.2013.774564>
- Font, Antonio. (2007). *La explosión de la ciudad*. Ministerio de la Vivienda.
- Friedmann, John. (1978). The urban field as human habitat. In Larry Bourne & James Simmons (Eds.), *Systems of Cities: Readings on structure and growth policy* (pp. 42–52). Oxford University Press.
- Friedmann, John, & Miller, John. (1965). The urban field. *Journal of the American Institute of Planners*, 31(4), 312–320. Retrieved from: <https://doi.org/10.1080/01944366508978185>
- Glaeser, Edward, Kolko, Jed, & Saiz, Albert. (2001). Consumer city. *Journal of Economic Geography*, 1(1), 27–50. Retrieved from: <https://doi.org/10.1093/jeg/1.1.27>
- Glaeser, Edward, Ponzetto, Giacomo, & Zou, Y. (2016). Urban networks: Connecting markets, people, and ideas. *Papers in Regional Science*, 95(1), 17–59. Retrieved from: <https://doi.org/10.1111/pirs.12216>

- Gordon, Peter, & Richardson, Harry. (1996). Beyond polycentricity: The dispersed metropolis, Los Angeles, 1970-1990. *Journal of the American Planning Association*, 62(3), 289-295. Retrieved from: <https://doi.org/10.1080/01944369608975695>
- Gottmann, Jean. (1961). *Megalopolis: The Urbanized Northern Seaboard of the United States*. The Twentieth Century Fund.
- Granqvist, Kaisa, Sarjamo, Sauli, & Mäntysalo, Raine. (2019). Polycentricity as spatial imaginary: The case of Helsinki City Plan. *European Planning Studies*, 27(4), 739-758. Retrieved from: <https://doi.org/10.1080/09654313.2019.1569596>
- Grosjean, Benedicte. (2010). *Urbanisation sans Urbanisme: Une histoire de la 'ville diffuse'*. Madraga.
- Hajrasouliha, Amir, & Hamidi, Shima. (2017). The typology of the American metropolis: Monocentricity, polycentricity, or generalized dispersion? *Urban Geography*, 38(3), 420-444. Retrieved from: <https://doi.org/10.1080/02723638.2016.1165386>
- Hall, Peter. (1998). *Cities in Civilisation*. Weidenfeld & Nicolson.
- Hall, Peter. (2009). Looking backward, looking forward: The city region of the mid-21st century. *Regional Studies*, 43(6), 803-817. Retrieved from: <https://doi.org/10.1080/00343400903039673>
- Hall, Peter, & Hall, Peter. (2006). Re-urbanizing the suburbs? The role of theatre, the arts and urban studies. *City*, 10(3), 377-392. Retrieved from: <https://doi.org/10.1080/13604810601111532>
- Hall, Peter, & Pain, Kathy. (2006). *The polycentric metropolis: Learning from mega-city regions in Europe*. Earthscan.
- Harrison, John, & Heley, Jesse. (2015). Governing beyond the metropolis: Placing the rural in city-region development. *Urban Studies*, 52(6), 1113-1133. Retrieved from: <https://doi.org/10.1177/0042098014532853>
- Herrschel, Tassilo (this issue). Competitiveness, metropolitan-centric regionalism and/or the cohesive state. *Urban Geography*.
- Indovina, Francesco. (1990). *La citta diffusa*. DAEST, STRA-TEMA.
- Indovina, Francesco. (2014). *La Metropoli Europea. Una Prospettiva*. Franco Agnelli.
- Jenks, Mike, Kozak, Daniel, & Takkanon, Pattaranan. (2008). *World cities and urban form: Fragmented, polycentric, sustainable?* Routledge.
- Kräkte, Stefan. (2007). Metropolisation of the European Economic Territory as a consequence of increasing specialisation of urban agglomerations in the knowledge Economy. *European Planning Studies*, 15(1), 1-27. Retrieved from: <https://doi.org/10.1080/09654310601016424>
- Kübler, Daniel. (2018). Citizenship in the fragmented metropolis: An individual-level analysis from Switzerland. *Journal of Urban Affairs*, 40(1), 63-81. <https://doi.org/10.1111/juaf.12276>
- Lambrechts, Bart. (2006). Polycentrism: boon or barrier to metropolitan competitiveness? The case of the Randstad Holland. *Built Environment*, 32(2), 114-123. Retrieved from: <https://doi.org/10.2148/benv.32.2.114>
- Lefèvre, Christian. (1998). Metropolitan government and governance in western countries: A critical review. *International Journal of Urban and Regional Research*, 22(1), 9-25. Retrieved from: <https://doi.org/10.1111/1468-2427.00120>
- Lidström, Andres, & Schaap, Linze. (2018). The citizen in city-regions: Patterns and variations. *Journal of Urban Affairs*, 40(1), 1-12. Retrieved from: <https://doi.org/10.1080/07352166.2017.1355668>
- MacLeod, Gordon, & Jones, Martin. (2007). Territorial, scalar, networked, connected: In what sense a 'regional world'? *Regional Studies*, 41(9), 1177-1191. Retrieved from: <https://doi.org/10.1080/00343400701646182>
- Meijers, Evert. (2008). Summing small cities does not make a large city: Polycentric urban regions and the provision of cultural, leisure and sports amenities. *Urban Studies*, 45(11), 2323-2342.
- Meijers, Evert, Hollander, Koen, & Hoogerbrugge, Marloes. (2012). *A strategic knowledge and research agenda on polycentric metropolitan areas*. European Metropolitan network Institute.
- Meijers, Evert, Hoogerbrugge, Marloes, & Cardoso, Rodrigo. (2018). Beyond polycentricity: Does stronger integration between cities in polycentric urban regions improve performance?

- Tijdschrift Voor Economische En Sociale Geografie*, 109(1), 1–21. Retrieved from: <https://doi.org/10.1111/tesg.12292>
- Meijers, Evert, Hoogerbrugge, Marloes, & Hollander, Koen. (2014). Twin cities in the process of metropolisation. *Urban Research & Practice*, 7(1), 35–55. Retrieved from: <https://doi.org/10.1080/17535069.2013.827906>
- Melo, Patricia, Graham, Daniel, & Noland, Robert. (2009). A meta-analysis of estimates of urban agglomeration economies. *Regional Science and Urban Economics*, 39(3), 332–342. Retrieved from: <https://doi.org/10.1016/j.regsciurbeco.2008.12.002>
- Nelles, Jen. (2013). Co-operation and capacity? Exploring the sources and limits of city region governance partnerships. *International Journal of Urban and Regional Research*, 37(4), 1349–1367. Retrieved from: <https://doi.org/10.1111/j.1468-2427.2012.01112.x>
- Nelles, Jen. (2019). Alternative manifestations of metropolisation: Spatial dissimilarity and the tensions between heuristics and realities of metropolisation. *Urban Geography*, 1–16. Retrieved from: <https://doi.org/10.1080/02723638.2019.1670572>
- Nello, Oriol. (2001). *Cataluña, ciudad de ciudades*. Milenio.
- Neuman, Michael, & Hull, Angela. (2009). The futures of the city region. *Regional Studies*, 43(6), 777–787. Retrieved from: <https://doi.org/10.1080/00343400903037511>
- Parr, John. (2004). The polycentric urban region: A closer inspection. *Regional Studies*, 38(3), 231–240. Retrieved from: <https://doi.org/10.1080/003434042000211114>
- Phelps, Nicholas, Fallon, Robert, & Williams, C.L. (2001). Small firms, borrowed size and the urban-rural shift. *Regional Studies*, 35(7), 613–624. Retrieved from: <https://doi.org/10.1080/00343400120075885>
- Phelps, Nicholas, Parsons, Nick, Ballas, Dimitris, & Dowling, Andrew. (2006). *Post-suburban Europe: Planning and politics at the margins of Europe's capital cities*. Palgrave.
- Piorr, Annette, Ravetz, Joe, & Tosics, Ivan. (2011). *Peri-urbanisation in Europe: Towards a European Policy to sustain Urban-Rural Futures*. University of Copenhagen.
- Quaroni, Ludovico. (1967). *La torre di Babele*. Marsilio.
- Schmid, Christian. (2006). Theory. In Roger Diener, Jacques Herzog, Marcel Meili, Pierre de Meuron, & Christian Schmid (Eds.), *Switzerland: An Urban Portrait* (pp. 163–223). Birkhäuser.
- Secchi, Bernardo. (1989). *Un progetto per l'urbanistica*. Einaudi.
- Sieverts, Thomas. (1997). *Cities without Cities: An interpretation of the Zwischenstadt*. Routledge.
- Soja, Edward. (2000). *Postmetropolis: critical studies of cities and regions*. Blackwell Publishing.
- Soja, Edward. (2011). Regional urbanization and the end of the metropolis era. In Gary Bridge & S. Sophie Watson (Eds.), *The new blackwell companion to the city* (pp. 679–689). Blackwell Publishing.
- Soja, Edward. (2015). Accentuate the Regional. *International Journal of Urban and Regional Research*, 39(2), 372–381. Retrieved from: <https://doi.org/10.1111/1468-2427.12176>
- Sudjic, Deyan. (1992). *The 100 mile city*. Harcourt Brace.
- Sweeney, Paul. (2016). *Building the Northern Powerhouse. Lessons from the Rhine-Ruhr and Randstad*. Centre for Cities.
- Urso, Giulia. (2020). Metropolisation and the challenge of rural-urban dichotomies. *Urban Geography*, 1–21. Retrieved from: <https://doi.org/10.1080/02723638.2020.1760536>
- Van den Berg, Leo, Drewett, Roy, Klaassen, Leo, Rossi, Angelo, & Vijverberg, Cornelis. (1982). *Urban Europe: A Study of growth and decline, vol 1*. Pergamon Press.
- Van Houtum, Henk (1998). *The development of cross-border economic relations* (doctoral dissertation). ThelaThesis Publishers.
- Van Meeteren, Michiel (2016). *From polycentricity to renovated urban systems theory: Explaining Belgian settlement geographies* (doctoral dissertation). Ghent University.