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Abstract

This chapter presents the concept of metropolisation, defined as the dynamics of interaction between spatial-functional, political-institutional and cultural-symbolic integration processes across city-regions, which transform these fragmented territories into coherent metropolitan systems. We first discuss the arguments in favour of metropolisation as a strategic policy aim, as integrated city-regions become able to jointly reap the benefits of scale through mechanisms of borrowed size, and review some significant barriers. We then illustrate, through the case of the Dutch Randstad, the long-term process of interaction between the three dimensions of integration, operating in conjunction to become either barriers or incentives to a potentially virtuous cycle of city-regional integration. The metropolisation concept contributes to debates on whether city-regional economies should be defined by agglomerations or networks, the importance of historical legacies at the city-region scale, and the role played by governance arrangements and identity-building efforts, alongside functions and infrastructure, in city-regional integration.

Keywords: metropolisation, city-regional integration, extensive urbanisation, Randstad, borrowed size, metropolitan identity

1. The process of metropolisation

Many once distinct cities are becoming part of larger, multicentric city-regions, in a process of restructuring and integration of economic activity, spatial forms and institutional settings that has been captured under the concept of 'metropolisation' (Meijers et al., 2014; Cardoso, 2016a). Processes of metropolisation are not limited to regions dominated by one or several megacities which expand regionally over a hinterland, such as the cases of London, Paris or Tokyo. They also include constellations of similarly sized cities in relative proximity which operate in conjunction – the so-called polycentric urban regions. Metropolisation processes emerge from regional territories marked by extensive urbanisation, arguably the dominant mode of urban development of contemporary capitalist societies (Brenner, 2014). By cutting across spaces previously defined as mutually exclusive categories, such as 'urban', 'suburban', 'rural' or 'natural', and accentuating their convergence, extensive urbanisation redefines the conceptual meaning of cities, reconfigures the location and interaction patterns of urban activities, loosens hierarchies between places, and transforms their political and economic relations. It also brings entirely new challenges for planning and governance, including the need for an integrated policy agenda which treats these spaces as parts of an imprecise geography defined by common spatial, functional and economic processes and shared strategic priorities, rather than distinctive physical features.

In recent years, the formation of integrated city-regions in these fuzzy territories has become not only a research concern but a widespread strategy aim. The latter focuses on reaping the socioeconomic advantages that can emerge from integration between the cities and towns in a city-region, namely the ability to exploit a larger joint urban mass to achieve agglomeration economies, and their expansion beyond large cities. The argument is that through different forms of tighter spatial, cultural and institutional integration, agglomeration benefits are no longer spatially confined to central places, and dynamics of borrowed size (Alonso, 1973) emerge across urban networks. This implies that both large and small cities which are well connected and positioned in a network can enjoy a higher level of agglomeration economies than they would in isolation. The necessary resources operating at the city-region scale become accessible to them, and they can exploit a larger demographic and functional base, building on the positive associations between urban size and economic productivity (Meijers & Burger, 2017; Cardoso & Meijers, 2017a).

A further insight contained in the concept of metropolisation is that these urban forms, resources, activities and flows are not defined by, or limited to, a predefined set of network nodes ('urban centres') and their connections, as it is common in the polycentricity literature. Actually, their spatial spread and socioeconomic sphere of influence are becoming regionalised, field-like, and partly disconnected from localised clustering, whether mono- or

polycentric (Soja, 2011). For instance, in terms of size and distribution of employment areas, the key characteristic of 70% of the 356 metropolitan areas in the US is spatial diffusion, with some of them being *also* relatively monocentric and some *also* relatively polycentric (Hajrasouliha & Hamidi, 2017). This is supported by the ubiquitous presence of material (e.g. transport, utilities) and immaterial (e.g. wireless communication) infrastructure.

As a result, city-regions undergoing metropolisation processes demand more than a shift from monocentric to polycentric perspectives, based on a network imaginary of 'nodes' versus 'background'. In fact, metropolisation might be better described by zonal than by nodal concepts, in which functional, economic, political or morphological 'centres' are density peaks in a generally continuous 'urban field' (Friedmann & Miller, 1965) whose spaces vary more in degree than in kind. The socio-economic or environmental effects of urbanisation, both beneficial and detrimental, can therefore be seen as fluctuations of intensity of 'agglomeration externality fields' (Phelps et al., 2001; Burger & Meijers, 2016), where different measures of distance decay apply (Drucker, 2012).

Taking this approach seems more consistent with the patchy but continuous settlement patterns visible in many city-regions, which reflect their spatial and demographic extension and provide the geographical space of potential metropolitan activity and policy. Moreover, it avoids a spatially selective view of city-regional networks, paying attention also to what happens *between* the nodes, where a large amount of the population, firms and institutions operate, and bringing these 'peripheral' voices into the debates about the city-regional future (Sieverts, 1997; Harrison & Heley, 2015).

However, the availability and reach of urban fields varies widely across and between city-regions, whose level of integration "depends on the lens through which it is assessed" (Burger et al., 2014:816). In many cases, local size (Meijers et al., 2016) or historical-political legacies (Cardoso and Meijers, 2016) are the main determinants of the location and spread of important urban functions and also help cluster political power in privileged places, creating serious imbalances in the socioeconomic fabric of city-regions. Metropolisation does not happen in thin air, and is driven by forces highly dependent on context. These forces are made visible by spatial-functional processes of expansion, merger and interconnection, which may indeed look morphologically similar across regions. But they are intertwined with a variety of distinctive cultural-symbolic aspects changing the scope of city-regional identities and perceptions of place, as well as political-institutional frameworks supported by different governance arrangements. The mutual interaction of these three dimensions in space and time may represent a stimulus or a barrier to the process of metropolisation. Therefore, metropolisation is not only an interpretative lens to analyse the spatial, functional and

institutional integration happening in city-regions, but also a tool to outline development strategies aimed at harnessing these processes.

In this chapter we synthesise the existing research on city-regional integration, as interpreted by the metropolisation lens. By doing so we aim to answer two questions. First, *why* should metropolisation be fostered? What is in it for the participating cities and towns? We go over the policy and economic arguments in favour of integration as a way to trigger a higher level of agglomeration benefits, to enable wider access to these benefits and still mitigate some of the costs of urban agglomeration. While evidence points to a positive effect of greater functional, institutional and cultural integration in European city-regions, there are variations and barriers, caused by policy biases, historical legacies and functional imbalances, that must be addressed.

Second, we ask *how* metropolisation takes place. Here we delve into the tripartite process of metropolisation to show how its three dimensions are intertwined and can either activate each other in a virtuous cycle or create deadlocks which interrupt the process. We take the Dutch Randstad, the quintessential polycentric city-region, to illustrate what could be called the (potential) upward spiral of metropolisation. We take a closer look at so far underexplored angles of metropolisation, including the role of identity-building in representing and constructing the city-region imaginary, and conclude by stressing some decisive features of city-regional integration processes.

2. Why should metropolisation be fostered?

2.1 Making a 'mega' of something that is not

Several scholars, including Jane Jacobs (1969) and, more recently, Edward Soja (2011) have been fascinated with the potential benefits accessible only in large and diverse cities, which, they argue, are positive externalities generated by the nature of urban space itself. These include the concentration of, and access to, flows of capital, knowledge and information, a diversified and specialised labour market, the presence of high-quality public infrastructure and advanced services, and an unmatched variety of goods and consumer amenities. Several studies by economists have also shown that urban size and density are associated with higher productivity, as large cities multiply the possible interactions between 'sharing, matching and learning' agents (Duranton & Puga, 2004; Melo et al., 2009; Combes & Gobillon, 2015). Given these positive associations, capturing the additional demographic-functional mass and diversity spread across highly urbanised surrounding territories is an opportunity for cities to upscale their field of interactions, building upon size as a proxy for the mechanisms of

agglomeration economies – in other words, the bigger the better, and the city-regional imaginary makes a 'mega' of something that is not.

However, integration is considered necessary because 'the sum of small cities does not make a large city' (Meijers, 2008). In other words, the added economic and functional performance of, say, two nearby cities of 500,000 inhabitants is not as high as one large city of one million. According to Parr (2004), flows of people, commodities or ideas do not travel as well between different cities in a city-region as within a single large city. Multicentric city-regions may experience several disadvantages that large, integrated cities can mitigate: common barriers to performance detected by earlier research are institutional and spatial fragmentation, functional redundancies, uncoordinated transport planning, disconnected housing and labour markets, imbalanced distribution of investment, unwillingness to cooperate by local authorities in the absence of a metropolitan government, and a lack of common historical, cultural or political references able to shape a joint identity and shared strategic priorities (Van Houtum, 1998; Lambregts, 2006; Nelles, 2013; Ahrend et al., 2015; Cardoso, 2016b).

In economic terms, these shortcomings are all barriers to inter-city flows, or 'trade costs' in economic jargon. Behrens et al. (2014) show that the reduction of such 'trade costs' between different urbanised regions (e.g. through better transport links, meaning functional integration) not only induces growth in existing cities but also changes existing urban hierarchies. Initial core-periphery equilibria are dissolved by frictionless flows and the expanding regional market that results from these flows induces more urbanisation, until a new equilibrium is reached around a polycentric set of interdependent cities. This provides an economic model explaining what the authors call 'massive urbanisation', or rather, an upward cycle of metropolisation: functional integration measures induce regional-scale urbanisation, which in turn increases the agglomeration economies present in the region and creates the incentive for further integration measures.

2.2 From agglomeration costs to network benefits: externalities and borrowed size

Acknowledging the potential shortcomings and benefits of multicentric urban systems gives policymakers in different types of city an incentive to consider integration a desirable strategy. Two different but important economic geography questions contribute to their reasoning, and their answers meet at the crux of city-regional integration. The first question, more relevant for large core cities, is how to keep enjoying the economic benefits of urban agglomeration but avoid that the costs of overconcentration become greater than the returns. The second, more relevant for smaller cities, is how can cities in the vicinity of other (similar or larger) cities

achieve together a higher level of urbanisation economies. City-regional integration provides a potential route to address both problems.

First, it has been argued that continuous concentration of activity in a single, large centre may produce increasingly negative returns (Camagni et al., 2016). This is due to a variety of spatial economic reasons, such as saturation of infrastructure, traffic congestion, higher land and property costs, institutional barriers to expansion, and the inelasticity of housing supply, in interaction with a decrease in life satisfaction and increase in social inequality in the largest mega-cities (Broersma & Van Dijk, 2008; Lenzi & Perucca, 2016; Glaeser et al., 2016; Florida, 2017). Therefore, other ways to capture the benefits of agglomeration that mitigate some of these costs must be tested. Given the proposition that network economies might substitute for agglomeration economies and achieve comparable benefits (Johansson & Quigley, 2003), there are arguments to invest in the development of a strongly networked city-region composed of several cities rather than the densification of a single mega-city. Indeed, Meijers et al. (2016) show that the presence of important functions in the domains of international institutions, science or advanced producer services does not depend entirely on local urban size. In this model, which includes 'urban network' and 'urban field' interpretations (Burger & Meijers, 2016), the organisation of agglomeration benefits spreads over a larger geographical area, in which several places closely interact to *synergistically combine* (more than merely adding up) their size, mass and diversity into a larger and well-connected entity. This entity can expect a higher level of urbanisation economies than individual cities would yield in isolation, potentially avoiding some costs of overconcentration. In addition, core cities can improve their cost-benefit balance by spatially redistributing activity without losing functional control. This is all the more true for large, dominant cities that can leverage their economic and political agenda onto their region, thus providing an incentive to policymakers.

The second question looks at the problem from a different angle. Integration must be perceived positively also by smaller cities in a city-region formed around a large centre, as well as by cities of similar size in a polycentric setting without a leading core. These less powerful players are likely to ask what is in it for them if they give up some autonomy and redirect investment priorities to pursue city-regional integration. Here, the arguments revolve around the concept of borrowed size (and its counterpart, agglomeration shadows). As formulated by William Alonso (1973), smaller cities within a larger city-regional complex can perform better than they would do in isolation due to their access to the agglomeration benefits of larger nearby cities, including population, amenities and workforce. They retain the advantages of smaller size, such as lower congestion or more affordable real estate and cost of living, and enjoy the benefits of larger size, through easy access to and from other centres.

The original definition of borrowed size has been extended and contested by Phelps et al. (2001) and Meijers & Burger (2017). First, the word ‘size’ in ‘borrowed size’ is imprecise in that it can refer to the borrowing of functions as well as to the borrowing of performance. Some cities may profit from the larger demographic and economic potential on which they build through metropolitan integration, growing for instance more quickly (*borrowed performance*) or being able to host activities, artefacts or urban functions that they could not support by themselves (*borrowed functions*). These two dimensions may or may not coincide in one place, one may be present but not the other, or both can be missing. Indeed, integration may also cause places to be emptied out of growth potentials as well as urban functions by a dominant and more competitive neighbour, in which case they are said to lie under an ‘agglomeration shadow’. However, in other cases, the integration with that neighbour means they trade proximity to a limited array of potentials and functions for accessibility to a larger, more diversified and specialised range of urban functions and development opportunities. Pursuing integration could thus be a win-win situation for most cities and towns in regions characterised by extensive urbanisation: Alonso gives examples of urban systems in Germany and the Netherlands, as a “hint that it is possible to have one’s cake and eat it too” (Alonso, 1973: 200).

Many dominant capital cities also borrow from nearby smaller cities, for instance in terms of hosting higher-order functions which build on their additional support base. However, dynamics of borrowed size emerge not only when small cities profit from the proximity to a larger city, as Alonso suggests, but also when similar sized cities interact in an urban region and all mutually benefit from their combined mass. This makes the borrowed size concept quite popular in countries with polycentric urban systems, such as the Netherlands.

However, evidence for the question whether it generally works has been relatively scarce, as much research has gone into case study approaches where specific contexts play a strong role and generalizations are hard to support. A recent study with wider application (Meijers et al., 2018) defined 117 European morphologically polycentric city-regions and associated their levels of functional, institutional and cultural integration (the three dimensions of metropolisation) with their performance. Performance was defined as the extent to which urbanisation economies have developed, proxied by the presence of metropolitan functions. Integration was measured by efficient and frequent transport connections for the functional dimension, existence and type of metropolitan governance bodies for the institutional dimension, and political and language homogeneity for the cultural aspect. The hypothesis was that the more city-regions integrate along these three dimensions, the more they will resemble single, large agglomerations in terms of how flows travel across them, and the better their performance. The broader claim was that urban network/field externalities may reproduce agglomeration externalities.

The study concluded that integration significantly contributes to city-regional performance. Functional integration through transport connections is particularly decisive. However, in the literature, opinions differ as to whether it is more productive to invest in connecting the main cities in the region with each other and with other large centres elsewhere (what could be considered an 'urban network' approach) or making the transport links serve many more smaller cities, with less intensity in the main cores but greater intra-regional density and variety of connections (arguably closer to an 'urban field' approach). Two reports about UK city-regions published almost simultaneously provide a good synthesis of this discussion, as one focuses on the relation between size and agglomeration benefits and argues for the former approach (Swinney, 2016), while the other contests that narrative and defends the latter for the benefit of small and medium-sized cities and their socioeconomic role (Cox & Longlands, 2016).

While functional integration is the clearest example of the benefits of metropolisation, other dimensions also count. Institutional integration is relevant, but the existence of wide-ranging cooperation networks and their stability in time seems more important than whether these networks are formalised as city-regional governance bodies (Meijers et al., 2018). This is interesting because one of the barriers to integration noted by previous research is precisely the imposition of a metropolitan authority, led by default by the core city, onto the larger city-region. Lefebvre (1998), Feiock (2007), Nelles (2009), and Cardoso (2016b) have shown that the success of city-regional governance depends heavily on the willingness to cooperate by different actors. Actors, especially those outside the leading places of power, are less likely to cooperate and support city-regional networks when the benefits of integration are poorly distributed, the balance of power is tilted towards a handful of dominant centres, and when they feared they are more likely to be emptied out of autonomy, activities and functions than to profit from borrowed size dynamics.

This is where the hard mechanisms of institutional integration touch upon the diffuse dimension of cultural-symbolic integration. Realistic mutual perceptions, shared priorities and willingness to cooperate depend on cultural proximity between actors. Van Houtum (1998) argues that 'mental distance' between nearby places (political preferences, language, place attachment) hampers economic interaction. Nelles (2009) adds that subjective perceptions of power balance (based on historical identities) are more important for city-regional integration than actual distributions of power based on objective accounts of population or economic weight. City-regions need joint strategies and visions perceived as positive in different kinds of urban setting, and top-down, hierarchical models of integration tend to work against this (Lefebvre, 1998). A city-first bias risks alienating many spaces and voices from the debates about a common future (Harrison & Heley, 2015) and several scholars call for horizontal policy

arrangements between more actors to induce greater stability and collaboration – again, a contrast between hierarchic 'network' and diffuse 'field' views of city-regional (power) configurations. It is therefore telling that the economic performance evidence by Meijers et al. (2018) gives more weight to the existence and persistence of cooperation networks of some kind than to the formal role of a metropolitan authority.

3. How does metropolisation take place?

3.1 The intertwined and evolutionary nature of metropolisation processes

The discussion so far suggests that the process of metropolisation should not be analysed from a static point in time or only from a spatial-functional, institutional-political or symbolic-cultural point of view. These dimensions are intertwined and interdependent, becoming either mutual incentives or barriers to a potentially virtuous cycle of city-regional integration which unfolds in time and space. While research focusing only on one dimension may provide valuable insights about specific chains of events, it risks becoming too laboratorial and a-historical, taking important processes of change as given without a critical evaluation of longer-term interactions with the other dimensions of metropolisation, of which these evolving processes are both outcome and trigger.

The attention to long-term interactions embedded in the metropolisation approach makes the historical perspective more relevant than it is usually recognised in city-regional research. Actually, the attention to history is a key difference between traditions in urban studies and research of the city-region scale, as if the history of 'urbanisation' is outside the actual history of 'urbanism', originally shaped as a discipline with 'proper' cities in mind (Grosjean, 2010). However, city-region formation also follows specific historical trajectories, and their spatial, functional, political and socioeconomic configurations are imprinted over physical, infrastructural and cultural traces left behind by centuries of human activity on the territory (Batty, 2001). Neglecting city-regional history makes planners and policymakers adhere to generic concepts and strategies arguably valid everywhere (Lambregts, 2006). The fact that these are successfully implemented in some places and fail miserably elsewhere attests to the limitations of a-historical 'travelling theory' - see for example the critique of the import of Dutch spatial planning concepts into the Flemish system and their poor adaptation to a totally different city-region formation history (De Meulder et al., 1999).

Metropolisation, as a lens of interpretation, goes for greater depth and critical analysis. In the remainder of this section, the process of metropolisation in a classic megacity-region, the Dutch Randstad, is analysed. Using examples of interaction between the spatial-functional,

political-institutional and cultural-symbolic dimensions of integration, we explore their (in)ability to shape what could be called an upward spiral of metropolisation. We build our conceptual framework on two assumptions. First, that these three dimensions of metropolisation are always present and interacting in a process of city-regional integration. Second, that they can play different roles in the process, namely by (1) acting as the necessary backdrop, support or trigger on which an intentional, explicit process depends; (2) enacting that explicit process, in the sense of materialising the need to fulfil or the action to carry out; or (3) profiting from the outcome of the interaction of the other two, potentially supporting – now acting as role (1) - the continuity of the cycle. To exemplify these roles, consider the following illustrative interactions:

- The need to move among different metropolitan centres and connect disparate mobility flows and systems needs to be materialized by a process of **functional** integration, but the actual carriers of that ability – e.g. better transport infrastructure – are triggered by, and depend on, the support of institutional decisions and mutual coordination between actors framed by **institutional** integration. At the same time, the daily mobility habits and the perception of that overall coordination will influence how people imagine the boundaries and identity of the city-region, helping **cultural** integration (Kübler, 2018).
- Similarly, many infrastructural, land use or collective service provision challenges have a city-regional scale and **institutional** integration helps address them. But the willingness to cooperate by authorities, either through informal networks or by adhering to a metropolitan government, partly depends on the strength of shared identities and perceived proximity, which are triggered by **cultural** integration. At the same time, an advantage of institutional coalitions is to become a more relevant economic and political actor, able to influence higher tiers of government, precisely to ensure that the city-region secures the investments that support **functional** integration (Cardoso & Meijers, 2017a).
- Finally, metropolitan identity', a form of **cultural** integration based on affective and cognitive perception of the city-region as a significant space by its inhabitants, is triggered by the experience of easy and regular mobility across different settings in the city-region together with the experience of undertaking different daily activities in each place (residence, work, school, shopping, leisure) allowed by **functional** integration (Kübler, 2018; Vallbe et al., 2018). But actively developing that dimension is in the interest of a variety of institutions because it is what, in turn, makes **institutional** integration more palatable for citizens

3.2 Navigating city-regional histories: Budapest

To understand this intertwining, let us briefly turn to the example of Budapest. Until the mid-nineteenth century, the cities of Buda and Pest were two neighbouring but separate entities on each side of the Danube. They were almost uncannily different: Buda was hilly, conservative, representative of imperial power and catholic. Pest was flat, revolutionary, commercial and the hotbed of Hungarian radical nationalism (Lukács, 1988). A movement towards integration was not obvious and can only be explained by the complex interaction of functional, institutional and cultural factors. Around the 1840s, the political tensions between what both sides represented symbolically gave the authorities an incentive to solve the instability through institutional integration. Integration had a political aim of unifying the country, even more than the city, but also a cultural dimension, namely the world-city ambitions of a new Habsburg metropolis that could compare to Paris and Vienna. This vision was carried by a functional integration device, the now famous Chain Bridge, which opened in 1849. Once the functional dimension was in place, actors on both sides adhered to a broader institutional integration campaign, lured by the world-city promises previously planted by the authorities and the cultural symbolism of a unified Magyar nation. The increasing acceptance of this future identity allowed the formation of a Metropolitan Planning Board in 1870, tasked with integrated spatial-functional planning for the unified city, but whose non-pragmatic role was precisely to further instigate those promises, by planning development much in the image of Paris. The perception of a new identity developed among the population as the name change (first Pest-Buda, then the more euphonic Budapest) was adopted by institutions and political discourse and became part of daily life. Shortly after, the end of the fees for crossing the bridge completed the functional integration aspect.

3.3 The process of metropolisation in the Randstad

Here we provide a contemporary account of the process of metropolisation in the Randstad, the large conurbation in the Western part of the Netherlands that includes the main cities of Amsterdam, Rotterdam, The Hague and Utrecht, and many smaller cities, such as Almere, Delft, Leiden, Dordrecht or Haarlem. Its spatial organisation illustrates the need to consider the field interpretation of city-regions alongside the network interpretation. In fact, for an estimated population of about 7.5 million, the four main cities which constitute the ‘nodes’ of the city-region have a population of 2.4 million, with another 1.6 million in cities over 100,000 inhabitants and the remaining 3.5 million spread across a variety of smaller municipalities. An interpretation of the Randstad, whether for economic, policy of spatial planning purposes, focusing only on the main nodes would clearly be selective and risk alienating the ‘in-between’

(Sieverts, 1997) which constitutes the bulk of the city-region. Morphologically, the city-region is not as dispersed as, for instance, Flanders or Northern Italy, but ongoing urbanisation is bringing it closer to a patchy and fragmented ring of urbanisation of varying density around an 'empty' core than a set of neatly separate nodes – doing justice to the Randstad ('rim city') name. And, as the study of regional flows becomes more sophisticated data-wise, they reveal dense patterns of criss-cross linkages of variable intensity which are hard to cluster around a handful of nodes or into a simple network design without discarding substantial data (Burger et al., 2014; Meijers & Peris, 2018).

Opinions differ as to whether the Randstad is a functionally integrated city-region. Burger et al. (2014) note that it depends on the sector of activity and subgroup of population analysed, a variability conceptualised as multiplexity and heterogeneity. No general claims can be made about the overall integration of any city-region, which can vary from tightly to loosely integrated according to perspective. This not only makes policy measures aiming at strengthening integration difficult to assess, as they can have different effects on different sectors and demographies, but also difficult to implement, as they can be perceived differently by actors, depending on their own 'measure' of city-regional integration.

Large-scale transport projects, as typical carriers of functional integration, are prone to be both a complex product and a driver of interactions between functional, institutional and cultural processes. The quest to unify the transport system in the so-called 'South Wing' of the Randstad, known as RandstadRail, is a case in point, and highlights aspects of the interactions denoted above. RandstadRail is a city-regional transport system organised around the cities of The Hague and Rotterdam, serving a potential population base of nearly 3.5 million people (Giezen et al., 2014). It responds to the need to commute across the housing, employment and service locations in the city-region as an alternative to the private car. To take advantage of the already existing city networks, RandstadRail combines high-frequency tram, metro and bus services, instead of building a totally new system. This option increased the complexity of planning and engineering but reduced the overall costs and facilitated the compromise between the actors responsible for each part of the system.

Giezen et al. (2014; 2015) have written extensively about the development of this megaproject along its two decades of duration (1989-2010). Their approach is particularly useful because they analyse "the decision-making process that brought about this change, highlighting the crucial moments and strategic decisions that enabled it to materialise" (Giezen et al., 2014:415). In other words, the authors look for the interactions between the institutional dimension of metropolisation and the functional dimension materialised by RandstadRail. Their findings highlight a series of relevant points.

In the first five years the project was basically in deadlock due to poor integration at the city-region scale. Civil servants in the cities of Rotterdam and The Hague conducted closed negotiations from which other city-regional actors were excluded. They had contrasting visions based on the priorities and expectations of their own municipalities, which amounted to expanding their local transport systems and consequently could not be integrated into a bigger project. But the deadlock started to break when non-municipal actors started engaging with the project. In 1995, the transport companies of Rotterdam and The Hague and the regional bus company published a draft proposal for a fully-fledged transport system, this time framed by a city-regional narrative. This helped the original players climb out of their trenches and restart the discussion.

The new narrative helped the creation, in 1995, of what would be the decisive actors for the remaining years, namely two new inter-municipal authorities, Rotterdam City-Region (SRR; 14 municipalities, 1.3 million inhabitants) and Haaglanden City-Region (SGH; 9 municipalities, one million inhabitants). This step towards institutional integration boosted the decision-making process, which was no longer stuck to the institutional habits and priorities of the two main cities (Giezen et al., 2015). As larger players, the city-regions were also able to secure control over public transit funding, normally given by the national government to provinces rather than inter-municipal coalitions. This provided an incentive for consensus and a focus for their activities. Indeed, when the plan of a totally new system was deemed too expensive by the government, the arena of discussion offered by the city-regions managed to avoid a new deadlock and encouraged the creative solution of seamlessly integrating the existing tram and metro networks ‘mid-way’ as a joint system. Mediated by the city-regions, the largest players (Rotterdam and The Hague) were able to tell the public that they maintained their original agendas (using tram in The Hague and metro in Rotterdam), not losing face while they compromised on a solution which was functionally and financially better for the region.

Giezen et al. (2015) call the creation of the city-regional authorities a profound ‘socio-historical adaptation’, and see functional integration mega-projects as “frontrunners for larger institutional changes and practices” (Giezen et al., 2015: 1014). In a clear illustration of the complex dynamics of metropolisation, functional processes of change influence and are influenced by institutional processes of change. The authors thus conclude:

> *On the one hand, the introduction of the regions gave a crucial boost to RandstadRail. On the other hand, however, one of the very reasons for instituting the regions was the need to cope with complex transport projects like RandstadRail, and later, delivery of RandstadRail provided some much-needed legitimacy to the young institution. The mega*

project seems thus to have been simultaneously the recipient as well as the driver of this socio-historical adaptation. (Giezen et al., 2015: 1012).

Despite their rather pragmatic *raison d'être*, the two city-regional bodies responsible for the RandstadRail process were integrated (in 2014) into the Metropolitan Region Rotterdam The Hague (MRDH; 23 municipalities, 2.3 million inhabitants), which represents the whole south wing of the Randstad and has broader competences, including multimodal transport and economic competitiveness. However, MRDH and the Amsterdam metropolitan region to the north are also likely to formalise a division and put on hold any incentive to politically construct the entire Randstad as a meaningful entity. While it is unclear why a project dedicated only to the south wing was called *Randstad*-Rail, it was nevertheless a gesture which carried a symbolic message of integration – although there were no ambitions to extend the mega-project to that scale, the Randstad was at the time the dominant spatial concept, years before the idea of MRDH emerged. But another message of a smaller scale of cultural-symbolic integration would appear in the renaming of Rotterdam Airport (serving the region as a functional integration device) as Rotterdam-The Hague Airport in 2010, as a trial for the institutional integration that MRDH consolidated years later.

The Randstad case illustrates the difficulty of recognising the effects of interactions involving the cultural-symbolic dimension of metropolisation. Well over 100,000 travellers use RandstadRail every day (HTM & Mott MacDonald, 2016), and many more commute by car and regular train. Studies by Kübler (2018) in Switzerland and Vallbé et al. (2018) in Catalonia suggest that daily mobility across city-regions by people living, working, playing or shopping in different urban settings tends to expand their place attachment, formerly associated to one city or neighbourhood, to the larger scale, shaping a 'metropolitan identity' where citizens identify and politically engage with matters pertaining to the city-region. While place scale works against place attachment, the strongest predictor of emotional attachment is time spent in a place and repeated exposure to it (Lewicka, 2011). In this sense, the increased exposure to a larger and diverse territory provided by transport networks may develop this 'sense of region' and deepen the Randstad metropolisation process. In another example of potentially positive interaction, it is important to note that the rail network in selected corridors of the city-region is evolving to a 'timetable-less', high frequency model similar to an urban metro system, with a train every ten minutes (ProRail, 2018).

However, a sense of region evolves in ways which are hard to anticipate and may become disassociated from the Randstad imaginary. Place naming is an important carrier of cultural-symbolic integration, serving both to *represent* and to *create* a region anew (Cardoso & Meijers, 2017b). The Randstad name originates in a 1938 discussion on where to locate a

new national airport, and it was used by KLM and the city of The Hague to argue against the location of Schiphol airport, suggesting that such an infrastructure should be centrally located at the heart of the ring of cities in the West of the Netherlands. While it paradoxically originates from a debate showing the rivalry and dividedness of the area, rather than its integration, the designation soon turned into a popular territorial concept to denote the urbanised west. However, in its original elaboration in the 1950s, the Randstad was only a functional integration concept, with no ideas about institutional or cultural-symbolic integration strategies (Lambregts & Zonneveld, 2004). And even as a functional integration vision, it remained quite abstract and distant from daily life, lacking concrete projects of public transit or significant metropolitan urban functions. For a long time, the planners' interpretation of 'functional integration' was about allocating the balanced distribution of economic activity and 'living milieus' of different quality (Lambregts & Zonneveld, 2004). This technocratic and abstract formulation probably missed the opportunity to benefit from the triple interaction processes contained in the metropolisation concept, leaving its local embeddedness vague and ambiguous. The Randstad is indeed a household word in Dutch – the city-region clearly 'exists' at the cognitive level, but not at the affective level (Rollero and De Picolli, 2010), and the combination of the two is arguably important to embed a spatial identity into a geographical territory. In addition, the outside view was not positive either, and the Randstad also came to stand for the privileged 'core' looked upon critically by the rest of the country and inviting rival alliances in other regions. It turned into a carrier of identity with multiple interpretations that enabled a 'we' versus 'them' distinction.

These problematic associations make Lambregts (2006) refer to the Randstad as a 'potential' metropolis lacking the levels of integration and the strong sense of identity that leading centres like London or Paris are able to project onto their wider regions – not only due to the pragmatic and symbolic identification of the larger area with the core, but also to the core city's ability to define the city-regional political and economic agenda. The 2007 OECD Territorial Review of the Netherlands (OECD, 2007) reports that, although the Randstad is a relevant functional scale, its citizens identify much more with their home town or city than with the vague city-region. This is not likely to change, as stronger institutional integration frameworks in the north and south wings replace the Randstad concept and seem more aligned with the actual functional interdependencies as well as with daily commuting needs (Ruimtelijk Planbureau, 2006).

The conceptual strength but insufficient implementation of the Randstad as an arena of metropolisation, functionally, culturally and institutionally speaking, was recognised again around the end of the 1990s, when an unusually broad coalition of actors gathered to form the Deltametropolis Association. The group aimed at all the potential benefits of integration:

addressing challenges of metropolitan scale, international competitiveness ambitions, intra-regional cooperation over competition, inter-city exchange of best practices, and building a large player able to engage with the national government for investment and project implementation. The founding manifesto (Deltametropool, 1998) had many features of a fully-fledged metropolisation process. It included a functional dimension, with a vision for an integrated network of rail and road transport connections across the region (§13) and the generation of functional diversity and complementarity via integrated planning of metropolitan functions in different cities (§14). It covered the institutional dimension, with the emergence of the formal governance arm of the network, Regio Randstad, and ambitions to "perhaps even aspire to the formation of a full-blown Randstad government" (Lambregts et al., 2008:51). And it contained a cultural-symbolic dimension, choosing a name that reflected the Dutch cultural and spatial history based on the river delta landscape, and aiming to "clarify the similarities and differences between the present situation and the Deltametropolis in the public opinion sphere" (Deltametropool, 1998: §21). Overall, the vision echoed the inclusive 'urban field' concept of metropolisation, with its plea to transform the diffuse 'disassembled city' made of a multitude of urban fragments and forms into a coherent, 'assembled city' of regional scale, via functional synergies, transport connections, reshaped natural spaces and cultural-symbolic aggregation factors (§12).

Despite the initial enthusiasm, the Deltametropolis vision also dwindled, after failing to find internal stability and a responsive national government. Interestingly, Lambregts et al. (2008) find functional, institutional and cultural reasons for the failure of this quintessential metropolisation project. First, there was little justification for functional integration, as the relations and interdependencies at the Randstad scale were weaker than those within the north and south city-regions, and there were no functions that clearly needed to be governed at the higher level. Second, there were institutional barriers caused by the inter-municipal competition designed into the Dutch fiscal and administrative system (although rather modest compared to other countries) which limited the cities' ability to cooperate, as well as the likely loss of influence of the national government over a powerful integrated Randstad. And there were historical-political rivalries, with symbolic Randstad-wide projects (e.g. the Green Heart turned into a 'metropolitan park' or the high-speed transport network) considered utopian and never carrying enough weight to unify the actors around a vision. Nevertheless, Deltametropolis put the Randstad scale back into the national debate spotlight, boosted cooperative networks, such as Randstad Regio, which survived and is able to lobby nationally and at the European Union level, and raised awareness of the importance of functional integration, helping justify decisions such as the shift to 'timetable-less' train networks across the region.

4. Concluding remarks

The long-term, interdependent and tripartite process involving spatial-functional, political-institutional and cultural-symbolic dimensions that transforms loose collections of close-by cities into integrated city-regions can be captured under the concept of metropolisation. In the Randstad, this metropolisation process comes in waves, with different scales, sectors and dimensions of integration prevailing at different times. The historical interaction of functional, institutional and cultural dimensions created barriers as well as incentives to the process. Like many megacity-regions, metropolisation has been incomplete and fragmented, and the relevance of considering the Randstad a significant scale of functional, institutional and cultural interdependencies is contestable. On one hand, one could argue that the processes of extensive urbanisation and integration extended to cover a large part of the country, so that the economy and the government of the Randstad overlap in many ways with the national policy scale. On the other hand, important questions about the benefits of metropolisation are being asked at the scale of the Amsterdam metropolitan region and the MRDH, namely how integration contributes to the economic productivity, political voice, international competitiveness, organising capacity and quality of life of both city-regions. An important question is whether the fact that these city-regions are clearly centred on leading cities (Amsterdam and Rotterdam-The Hague), unlike the 'diffuse' Randstad, contributes to greater cooperation among actors, a stronger metropolitan identity and clearer city-regional agendas with sufficient resources and critical mass. Or will the dominance of the large cities alienate actors in smaller places from pursuing a positive spiral of development, politically and symbolically conforming to a core-periphery model with little ambition? For instance, could the inclusive 'Deltametropolis' designation, with its ambition to resonate culturally and historically across the region, compensate the fact that the impulse came from the four big cities, with other institutional actors playing a secondary role?

City-regional governance has sometimes been called 'policy without politics' (Zimmermann, 2014) – people, firms and institutions care more about outcomes than processes, and whether city-regional infrastructures and functions work is more important for daily life than knowing whether they were shaped by a representative or participatory process. In the Randstad, people live, work, shop and play in different places, which do not feel too detached from each other due to the functional distribution and strong connectivity (Randstad Regio, 2017). Top-level functions in small historic cities, such as large universities in Delft or Leiden, borrow size from the city-region and enjoy the advantages of a privileged urban setting. The need to locate at the core of the large cities as a factor for success does not seem too pressing and the megacity-region as a whole performs well in most economic indicators (Randstad Regio, 2017). It is unknown how much further integration would have contributed

to performance, quality of life or realising the ambitious vision last formulated by the Deltametropolis group. But the Randstad case confirms that metropolisation processes cut across different forms of urban space beyond static hierarchies, occur at many simultaneous scales, come in waves, take a very long time, cannot be restricted to a single dimension of analysis or strategy, are always in progress but always incomplete, depend on, and adjust to, specific historical and spatial contexts, and are both the trigger and the product of complex interactions whose emergent properties cannot be anticipated from the observation of their individual components.

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