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Environment and Planning

Environment and Planning A

Conceptualizing Urban Shrinkage

1. Urban shrinkage as a conceptual challenge

Since the second half of the 20th century, urban shrinkage has become a common pathway of transformation for many large cities across Europe and North America. Profound population losses have been reported from numerous old-industrial locations throughout Europe and North America, but also from Japan, Australia, Russia, and other regions (Oswalt and Rieniets, 2006). According to a recent study, around 40 per cent of all European urban areas with more than 200,000 inhabitants experienced a loss in population between 1960 and2005. In eastern Europe alone, three out of four larger cities were losing population in the early 2000s (Mykhnenko and Turok, 2008).

While the occurrence of shrinkage is fairly universal, its determinants are less obvious and does not follow universal patterns. When walking through deteriorating neighbourhoods in Detroit, in northeastern USA, in Donetsk in eastern Ukraine, or in Halle in eastern Germany, one can observe similar physical phenomena, but a closer examination reveals that, beneath the surface similarities, remarkable differences exist. Whereas shrinkage in Detroit is largely a story of 'white flight', in Donetsk it is an outcome of demographic change, whilst in Halle it is a consequence of massive job-related outmigration (Rink et al., 2010). Other places suffer from either deindustrialization or suburbanization, and often all of these challenges merge together. What, then, is shrinkage? Which processes does it entail?

Urban scholarship provides a number of credible answers to these questions. Studying shrinkage is far from being a novelty. In fact, urban population losses have been the subject of various strands of urban and regional studies since the middle of the 20th century – yet rarely have the phenomena under study been given the same name. In the majority of studies, even the term shrinkage (German: *Schrumpfung*) itself was not used. Terms such as decline, decay, blight, abandonment, disurbanization, urban crisis and demographic depression were more popular. It was only around the advent of this millennium (and in the context of a public urban development programme targeting massive housing vacancies in eastern Germany) that the term shrinkage gained more prominence in academic and public debates. Since the mid-2000s, the term itself has become more widely used and accepted within the international policy commentariat (*The Daily Telegraph*, 2009; *The Economist*, 2011). Starting with the internationally pioneering "Shrinking Cities" project (2004-2008), the term itself and the scientific concept of shrinkage have been elaborated and reflected in a large number of scholarly publications (see section 2 of this paper), special issues of academic journals (e.g. the March 2012 edition of *The International Journal of Urban and Regional Research* and the June 2012 edition of *Built Environment)*, as well as international initiatives such as the Shrink Smart research consortium funded by the European Union's 7th Framework Programme Socio-economic Sciences and Humanities (see www.shrinksmart.eu), the 2009-2013 EU COST Action on "Cities re-growing smaller" (CIRES) with its expert network on shrinking cities (see www.shrinkingcities.org). Shrinkage has not only gained acceptance, but has, in fact, become a new master framework for a broad range of empirical studies, ranging from contributions related to the causes of urban population losses, through the discussion of trajectory typologies, to the study of planning responses. While we fully acknowledge the contribution that all these papers have made to our understanding of shrinkage, we also find that there is a lack of integration between these strands of research. Too often, different perspectives on the phenomenon stand in isolation next to each other, without fostering

mutual communication. But how, for example, can shrinkage be thought of as a consequence of demographic changes without taking the economy into account (and *vice versa*)? Or, how can appropriate planning responses be developed without contextualising shrinkage? The problem here, we think, is not only to explain 'how shrinkage comes about', but also to study shrinkage as a process, i.e. simultaneously as a presupposition, a medium, and an outcome of continually changing social relationships. If we wish to understand shrinkage in a specific location, we need to integrate theoretical explanations with historical trajectories, as well as to combine these with a study of the specific impacts caused by shrinkage and to analyse the policy environment in which these processes take place.

With this paper, we would like to offer an integrative model that maps the entire process across different contexts and independently of local or national specifics. It covers causes, as well as impacts, responses, and feedback loops, and the interrelations between these aspects. This model does not 'explain' shrinkage in every case; instead, it builds a framework into which place- and time-specific explanations can be embedded. It is thus a heuristics that enables communication, if not comparison, across different contexts. With the help of this model, we hope to find a way in which shrinkage can be studied in both a conceptually rigorous and historically specific way. We present, in a nutshell, a theoretical analysis of shrinkage that avoids offering a single or universal explanation of what is essentially a complex phenomenon. Instead of an invariant 'process of shrinkage', we portray a 'pluralist world of shrinkages'.

The paper is structured as follows: following this introduction, we trace different strands of thought within which urban scholars have historically addressed shrinkage-related issues and expand on existing conceptualizations explicitly dealing with shrinkage (section 2). In section 3, and building on existing research, we introduce and explain a heuristics as an original and innovative theoretical approach for grasping urban shrinkage. In a fourth section, we apply our heuristics to two examples of shrinking cities: Halle in eastern Germany and

Makiivka in eastern Ukraine. The paper concludes with methodological suggestions for structuring the debate on urban shrinkage in the future.

Throughout our argument, we draw on the substantial empirical work and field studies conducted in the course of a major international research undertaking on shrinking European cities, which was funded through the 7th Framework Programme (Socio-economic Sciences and Humanities) collaborative project *Shrink Smart - Governance of Shrinkage within a European Context* 2009-2012 (grant no. FP7-SSH-CT-2009-225193).

2. Setting the scene: debating shrinkage

Although urban population losses are by no means a new topic, there is no single strand of research that is only, or predominantly, dedicated to shrinkage. Quite on the contrary, there is a variety of concepts that refer to shrinkage, but do not address the issue directly. Terminology is often inconsistent, differing according to times and national backgrounds. Against this background, the following section presents an overview on terminologies of and debates on shrinkage. Here, we distinguish between scholarly contributions that implicitly address shrinkage as one trajectory among others and scholarly work dealing explicitly with urban shrinkage This overview serves a twofold purpose: a) it clearly establishes that the number and diversity of approaches represents a challenge for research, especially for defining a common understanding of what we mean when we speak about shrinkage; and b) it presents the existing rich body of work that conceptually addresses shrinkage or decline which we used to construct the cross-contextual heuristics that will be introduced in section 3. We start with theories that address inhomogeneous trends of urban and regional development and population losses that result from them (1) and then narrow the focus to empirically driven scholarly work dealing explicitly with urban shrinkage (2).

(1) Economic decline and population losses have been a central theme of a broad spectrum of urban theorising since the late 1970s. Thereby, without explicitly focussing on urban shrinkage, relatively disparate conceptualisations were put forward to understand population losses in cities. The first type of explanation refers to the *stage* or *life cycle* theories of urban development, as most prominently proposed by Berry (1977), and van den Berg and colleagues (van den Berg et al., 1982). In this context, what we, today, call shrinkage, was happening mainly in the phase of "counterurbanisation". It was explained as an outcome of the devaluation of the inner-city stock, which, combined with overcrowding, led to out-migration to the urban hinterland, thus causing population decline in the core city. According to Berry, shrinkage was an integral part of urban development; thus, quasi-universally implying an inevitable population decrease in the core with the onset of urban expansion at the fringe of cities. Just a few years later, van den Berg developed a model that distinguished four stages of urban development. Here, disurbanization forms the third phase of urban development, in which the total population of the urban area (the core and the hinterland) decreases, in favour of small and medium-sized cities in the broader hinterland. What both concepts have in common is that they consider the phase of large-scale redistribution and deconcentration of population to be an inevitable result of urban development. Growth is followed by decline, so that, with on-going urbanisation, cities are bound to shrink.

A second set of explanations for population decline in the urban core can be found in various contributions on *suburbanization*, ranging from "boomburbs" (Lang and LeFurgy, 2007), through "exopolis" (Soja, 1989), "edge cities" (Garreau, 1991), and "post-suburbia" (Teaford, 1996) to "slum cities" (Davis, 2006). Whereas this literature covers a wide range of differing conditions, what it has in common is its depiction of contemporary urbanization trends as occurring mainly on the city periphery, thus shifting settlement and population dynamics away from the core city. Moreover, this literature goes beyond the traditional

explanation of suburbanization as a form of spatial expansion of cities because it describes new forms of urban growth, in which suburbs become urban spaces of their own. The corollary of this kind of suburban development, however, is a weakening of the centre, which loses its traditional function and becomes prone to decline.

The third collection of relevant theoretical literature focuses on the *accumulation of capital* and its *spatial-temporal circulation* as a prime explanation for the dynamics of urbanization under capitalism. As forcefully argued by Harvey (1982; 2006) and Smith (1984), a 'see-saw-movement' of investment, disinvestment and reinvestment makes uneven development a 'normal' characteristic of capitalist urbanization. Under these investment conditions, shrinkage (like gentrification) is movement by capital, not people: whilst some places are successful in attracting investment, others unavoidably fail to do so and are plagued by abandonment, decreasing attractiveness and, eventually, a decrease in residential population. Moreover, because capital – once invested into a particular spatial setting – quickly devaluates, today's investment might become a barrier to further accumulation tomorrow, so that urban spaces are continuously remade by a new round of *spatial fixes*.

Theories about *territorial divisions of labour* (Massey, 1984; Lipietz, 1977; Scott, 1988) provide the fourth type of explanation for urban and regional inequalities. These theories argue that urbanization is based upon various geographical concentrations of particular enterprises, industries, and labour. Similar to what later became known as the *new economic geography*, the territorial divisions of labour literature emphasises the circular and cumulative (dis-)agglomeration processes of urban and regional development (Dunford, 2003). In particular, the organization of production processes leads to specific functional and spatial aggregations of industry in space – which can dissolve again, when technological and organizational changes undercut their foundations. The concentration of urban population thus depends upon the actual forms of production and strategic decisions made by predominantly multinational corporations, as they adjust to economic and technological change. This has

been especially visible in the last three decades, during which the rise of post-industrial service sectors, the decentralisation of manufacturing, and the replacement of large labour- and space-intensive industries by smaller technologies have effectively eliminated the economic base of many cities in western Europe and North America (Birch and Mykhnenko, 2009).

The final type of explanations for urban population decline focuses on *demographic change*, chiefly on the consequences of decreasing birth rates and increasing life expectancy (Hartog, 2005; European Commission, 2007, 42-45; EEA, 2006, 11). Against the background of the so-called second demographic transition (van de Kaa 1987; Lesthaeghe 1995), it is argued that the persistence of birth rates below replacement level in the majority of countries of Europe and North America (reaching, in some cases like Ukraine or eastern Germany, the low-lowest levels of less than 1.4 children per woman, see Kohler and Hank, 2000) causes a long-term decrease in population. As a result, population growth in European cities has slowed down considerably over the last thirty years (Turok and Mykhnenko, 2007: 168-170), and it will most probably continue to do so during the next twenty-five years. The most commonly anticipated outcomes include a rise in the average age of the population, a decline in the working-age population, and changing migration patterns (European Commission, 2007: 45), all of which make further population loss a realistic perspective for a growing number of cities.

To sum up so far, urban research has generated an impressive range of well-developed conceptual tools to explain why it is likely that a number of localities will lose population. All of the theories consider shrinkage to be a common development, which is deeply embedded in the nature of urbanization, capitalist society, or demographic transformation itself.

All of these approaches focus on the causes of shrinkage. It needs to be emphasized, however, that the above-mentioned concepts and terminologies were developed at different times, within different theoretical frameworks, against different empirical backgrounds, by

people working on different research questions and in a variety of local, regional, and national contexts. Hence, it hardly comes as a surprise that the listed sets of urban studies scholarship do not form a consistent conversation. We will now turn to works dealing explicitly with shrinking cities and thus also with the consequences of shrinkage.

During the last ten years or so, a massive growth in contributions that studied shrinkage *empirically* has occurred. Instead of treating shrinkage as an object for building grand theories, increasingly more scholars are studying urban shrinkage as an empirical phenomenon in a narrower sense. In 2012, *Built Environment* and the *International Journal of Urban and Regional Research* devoted two special issues to shrinking cities, demonstrating that the academic and policy communities are finally becoming aware of urban shrinkage as a truly global and multi-faceted phenomenon.

In addition to many case studies, recent research on shrinkage, as such, has dealt mainly with 1) identifying causes of losses and decline (Reckien and Fernandez 2011; Hospers 2012; Wiechmann and Pallagst 2012; Hill et al. 2012), 2) describing and classifying trajectories of shrinking cities (Turok and Mykhnenko 2007 and Mykhnenko and Turok 2008 for Europe; Beauregard 2009 for the US; Wiechmann and Pallagst for a German-US comparison) or 3) discussing planning responses (recently: Schilling and Mallach 2012; Dewar and Thomas 2013; Jessen 2012; Hospers and Reverda 2012). Most of these analyses do not primarily follow the intention of providing a comprehensive or holistic explanation of shrinkage but, rather, highlight various aspects of it. Analyses dealing with causal explanations of losses and decline rarely address the wider debates mentioned above. They try to describe and classify urban trajectories rather than explaining them and focus mainly on population development data. Classifications are ordered according to severity, temporality, speed, etc., of shrinkage. Research on causes of shrinkage is sometimes combined with classifications or typologies (Wiechmann and Pallagst 2012). Most causal explanations demonstrate an economic, demographic, or economic-demographic bias and, hence, other

causes of population losses, such as ecological hazards, for example, floods or hurricanes (New Orleans represents an exception here, see Ehrenfeucht and Nelson 2013; Lowe and Bates 2013), or political breaks, such as the post-socialist transition after 1989 (Stryjakiewicz et al. 2012, Rink 2010), remain less considered. Literature on policy responses has been largely restricted to the planning, reuse, or strategy perspective (Schilling and Mallach 2012; Mallach 2012a; Schwarz 2012; Giloth and Meier 2012; Dewar and Thomas 2013; Panagopoulos and Barreira 2012; Liebmann and Kühn 2009) or to the assessment of policy responses (Fol 2012; Rößler 2010); work that also includes policy debates or political and ideational regimes, actor interests, civil society, and governance issues is still rare (recent positive examples are e.g. Kabisch et al. 2003; Bernt 2009; Bernt et al. 2010). A relatively recent strand of literature relates shrinkage conceptually to growth and tries to explain the co-evolution of urban dynamics that move in opposite directions (Beauregard 2012; Hill et al. 2012; Ganser and Piro 2012; Laursen 2012; Rink et al. 2012).

However, despite the broad range of empirical studies, many experts in the field (Audirac et al., 2012; Martinez-Fernandez et al., 2012a; 2012b; 2012c; Wiechmann and Pallagst, 2012; Musterd and Bontje, 2012) communicate their feeling – fully shared by us – that shrinkage continues to be frequently misunderstood. We would argue that this is due to a gap between macro-theoretical conceptualisations and empirical observations on a micro-level. What is missing, then, is theorizing on a meso level, i.e., theoretically guided reflections on the actual trajectories of shrinking cities that connect conceptual considerations with ‘real world processes’ that occur in shrinking cities and are detected by empirical research. With this paper, we offer a model of urban shrinkage to the scientific community that includes ‘the whole process’: causes, impacts, responses and feedback loops, as well as interrelations between the three aspects that are independent in a cross-contextual way, i.e., applicable to a variety of contexts.

3. Why and how do cities shrink? A heuristic model

3.1. Introducing the model

The model represents a pragmatic combination of various approaches that could be applied to different contexts (Figure 1). The heuristics thus, on the one hand, aims at connecting theorizing on the causes of shrinkage with a consideration of the impacts of shrinkage, the responses to it, and the interlinkages between the three issues. On the other hand, it adds to previous theorizing, because it deliberately goes beyond specific local and national case studies and is, therefore, cross-contextual. Compared to the approaches towards shrinkage discussed above, it thus enables a more 'pluralistic' approach to conceptualising, which favours different concepts for different localities. Our model aims to leave behind the constrictions connected with the prioritization of a single theoretical perspective and to build a heuristics that includes a variety of explanatory factors. Our heuristics is strongly based on our own empirical work, plus the recognition of heuristics elaborated by other scholars (see above). In doing so, our model goes beyond existing literature but is, at the same time, inextricably linked to it.

The aim of the model is "to capture the key processes and conditions of the urban phenomenon under review" (see Beauregard 2012, 481). We see it as a combination of, *firstly*, our own empirical work on shrinking cities in Europe, which forms the basis for the elaborated heuristics. *Secondly*, this model includes inter-textual work: we used existing literature to inspire and enrich our own systematization and explanation. It also shaped the type of systematization we have elaborated (see previous section). Our model consists of three main features: drivers of shrinkage, impacts, and responses. Drivers of shrinkage thereby operate at different spatial levels (from regional to global). They may be related to economic decline, demographic change, and settlement system changes in the form of suburbanization

and urban sprawl (Couch et al. 2005; Nuissl and Rink 2005; Kabisch, S. et al. 2008). They may also include environmental disasters and radical changes in the political and administrative systems (e.g. through border changes due to warfare or the peaceful in-/exclusion of territories; see Oswalt and Rieniets 2006; Großmann et al. 2008). Population decline is the main indicator of urban shrinkage (similar to research by other scholars; see Bradbury et al. 1982; Turok and Mykhnenko 2007).

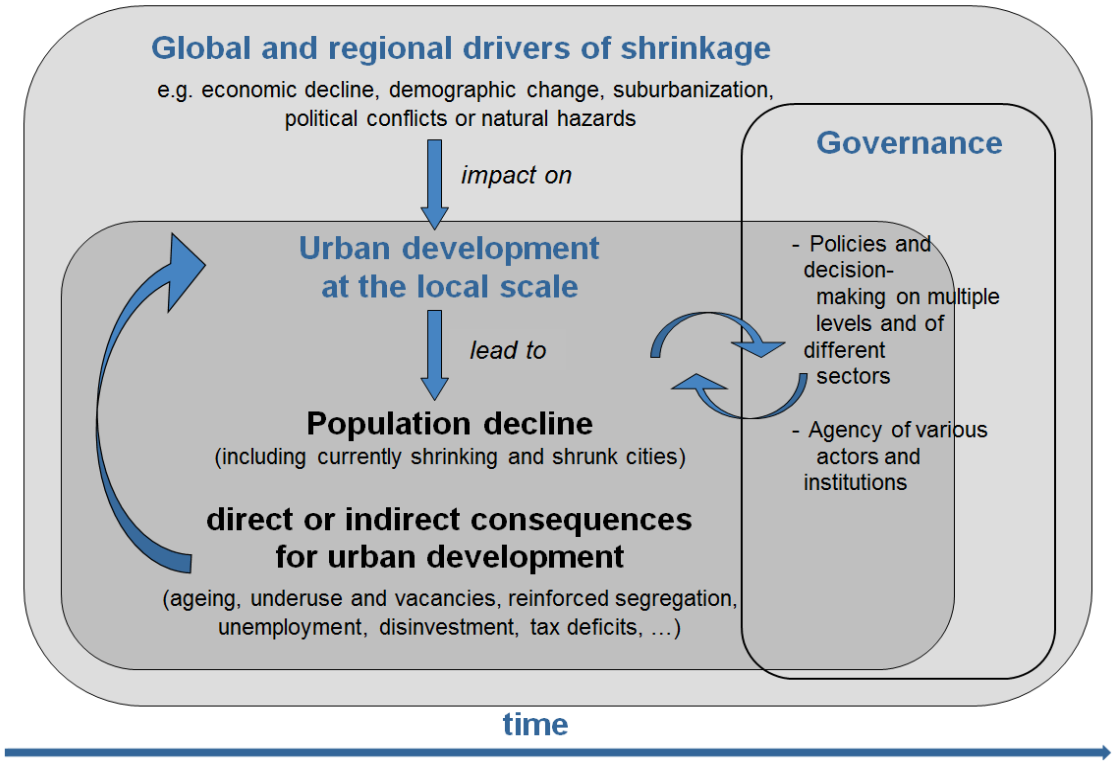
The triggers leading to population loss directly or indirectly impact on urban development. They affect the local labour market, socio-spatial differentiation, housing, patterns of land use, the state of social and technical infrastructure, municipal finances, investment, and the overall local economy (Couch and Cocks 2011a, 2011b; Koziol 2004; Fol 2012; Scorsone 2012; Moss 2008; Mallach 2012a; Thomas 2012). We define the *direct* consequences of shrinkage as either those resulting from population loss (e.g. housing vacancies, the under-use of infrastructure, and decreasing tax revenues), or as the immediate effect of these macro-processes, for example, the emergence of brownfield sites following deindustrialisation. Subsequently, the *indirect* consequences are defined as a combined product of feedback loops (see Figure 2). This could be the demise of a specific neighbourhood that initially registered outmigration, e.g. because of a factory closure, then experienced abandonment and decay, as well as neglect in policies, and an influx of marginalized households, which then led to a complete change in the status of this neighbourhood.

Furthermore, the model acknowledges that the individual trajectory of urban shrinkage is influenced by particular governance arrangements operating on different spatial levels, from local to global, and through time. In this context, shrinking cities are not only driven by the direct general triggers mentioned above, but are also subject to the forces of their context, that is local, regional, national, and European politics, and the struggle between private and public interests. The responses of shrinking cities to influences exerted by supra-local actors

and agencies thus co-determine the course of urban development (Bernt et al. 2010; European Commission 2011). Finally, since shrinkage is a highly dynamic process, the conceptual model must be also located within the particular historic context (Beauregard 2009).

In the next section, we will test our model in an interpretative way: it is a good model "if it makes sense to explain complex situations in our cases and others; if when applied to a case, it allows one to see aspects that were previously invisible, or seemingly unimportant; if those involved in the case think it is on target; and is it generates new ideas, new thinking, and even debate." Innes and Booher (2010:16)

Figure 1: Urban shrinkage: a heuristic model



Source: Authors' work.

The following section applies the model to two shrinking cities: Halle in eastern Germany and Makiivka in the Donbas, Ukraine.

3.2. Applying and discussing the model: the cases of Makiivka and Halle

Makiivka (Ukraine)

The city of Makiivka is situated in eastern Ukraine, in the Donetsk conurbation, the core of the industrial Donbas region that has been affected by population and economic decline since the late 1980s. Makiivka, Donetsk's poorer and more troubled direct neighbour, lost 21.3% of its population (or 96, 844 net residents), having started to shrink half a decade earlier than the rest of Ukraine.

*Global and regional drivers of shrinkage***:** The shrinkage in the eastern Ukrainian city of Makiivka is due to two major factors conceptualised above, namely *demographic change*, affecting most of the European continent, and regional *economic decline*. Firstly, the city's population structure was influenced by a gradual decline in fertility in the European part of the Soviet Union, which had fallen below the replacement rate in the mid-1970s. As forecast at the time, without significant inward migration from elsewhere, further economic and social development of the western USSR was going to be seriously compromised (Lewis and Rowland 1979). By the 1990s, overall fertility in Ukraine reached one of the world's lowest-low levels of under 1 live birth per 1,000 women. Secondly, Makiivka was hit hard by several waves of de-industrialisation. Starting as a 'slow-burn' decline of the Ukrainian Donbas coalfields in the 1970s, the city's economic decline was propelled by the 'sudden shock' of the collapse of the USSR, and 'the shock therapy' of the post-communist economic transition (Mykhnenko 2011; for a discussion of exogenous shocks, see Lee 2013). During the tumultuous 1990s, Makiivka lost 73% of its industrial production; even after almost a decade of growth in the 2000s, at the beginning of the 2008 financial and economic crisis, Makiivka's

industrial output was still two-thirds below its pre-transition level of 1990 (Swain and Mykhnenko 2007).

Direct and indirect consequences of population decline: The city's de-industrialisation and negative demographic development have been more profound than in the wider Donbas region. The two main drivers of shrinkage started to manifest themselves in Makiivka well before the collapse of state socialism. Between 1987 and 2012, the city's population shrunk by almost 100,000 inhabitants, from its peak of 455,000 to 356,118, corresponding to a 22% decline over fifteen years. Several major consequences of population decline soon followed. Firstly, Makiivka, along with the entire Donbas region, was profoundly affected by *ageing*: between 1995 and 2009, the number of under 15-year-olds declined by 46%; the number of 15- to 24-year-olds declined by 9%, whilst the third youngest population category (25- to 44-year-olds) declined by 17%. In the meantime, the population of 65-year-olds and over increased by 12%. The average age of Makiivka residents rose to 41.8 years. Secondly, urban shrinkage has led to a decline in the number of children attending pre-school day care facilities, with the overall number dropping by 12,000 (or 57%) between 1990 and 2008. During this period, the number of primary and secondary school pupils declined by 28,000, a fall of 51%. Nurseries, kindergartens, and schools became *underused* as a result. The increase in the number of *vacant* residential properties in Makiivka has not been as dramatic or visible as that in Halle (and eastern Germany generally). Nevertheless, the availability of housing in the city increased by 19.3%, growing from 16.1 to 19.2 m^2 per capita in twenty years. In addition, 582,000 m^2 (around 7%) of Makiivka's overall housing stock was demolished or rendered uninhabitable during this period.

Furthermore, the closure of many of Makiivka's unprofitable factories, plants, coal mines, and steel works since the early 1990s was a result of significant public and private sector *disinvestment*. About one-third of all jobs in the city were lost as a consequence, generating *unemployment*. By 2010, 35% of all households in the city had fallen into arrears

with utilities payments: the sum of unsettled energy, heating, and water bills grew to €40 million. Finally, impoverishment and payment arrears have added to the city's fiscal burden, increasing its *tax deficit* and making Makiivka almost entirely dependent on external sources of public funding. Consequently, Makiivka's economic decline has created a powerful *feedback loop* between ageing, unemployment, out-migration, and (further) population loss. In the 2000s, the highest rate of unemployment in Makiivka was amongst 15- to 25-year-olds and women; at the same time, the largest proportion of out-migrants from the city consisted of young people and women of childbearing age, thus reinforcing the city's negative demographic growth trajectory.

Governance response: The policy response of the local government actors in Makiivka was channelled through two main decision-making activities. Firstly, the city engaged in a series of attempts to 'rationalise' and 'optimise', involving a dramatic reduction of public services and infrastructure provision. As a result of *urban austerity* (Peck 2012), one in five medical practitioners lost his/her job between 1990 and 2010; the number of nursing staff declined by around 40%, whilst the number of hospital beds was cut by half. In 2010, yet another ward of the city's central hospital was closed down. Social and cultural amenities have also faced a steep decline: one-third of all local libraries have been shut, and the number of social clubs in the city fell by 39%. Before the announcement of a new wave of school closures in 2011-2012 (eight in total), Makiivka had already lost 18 (or one in five) of its primary and secondary schools. In addition, 107 nurseries and kindergartens were closed down (a decline of 57% in total). The length of the central heating pipelines in the city was reduced by 119.8 km or 27.4%; the provision of central heating itself declined by 62.2%. Public administration was also reduced in size: in 2001, as a measure to increase efficiency, the city council of Makiivka pioneered the abolition of inner-city borough councils, amalgamating all the financial resources under its control. By 2010, the share of spending on 'public administration' in the city budget declined by at least one percentage point to 5.0%.

Secondly, the *local authorities* sought *external finance* and assistance. In 2008 the city managed to attract over 20 million Euros for the clearance and re-development of a major brownfield site as a retail outlet by METRO Cash & Carry, the world's third largest retailer. However, the city's greatest success has been in lobbying for a larger budgetary share in the process of national income re-distribution. By 2010, the share of central government transfers in the budget of Makiivka had tripled, covering 54.2% of the council's expenditure. Ukraine's system of territorial re-distribution of income was designed in the early 2000s, to mitigate localised hotspots of economic depression (Mykhnenko and Swain 2010). Being a stronghold of Ukraine's ruling *Party of the Regions* and a loyal supporter of President Yanukovych during the 2004 and 2010 electoral campaigns, Makiivka has enjoyed a fair share of attention from the *central government* and its agencies.

Halle (Germany)

Halle has been considered to be Europe's fastest shrinking city for the past two decades. The city has faced urban shrinkage since 1990. It lost 30% of its total population (98,725 inhabitants) between 1986 and 2008.

Drivers of shrinkage in the post-socialist transition: As is typical for shrinking post-socialist cities, Halle grew until the late 1980s, with a peak population of 329,625 in 1986. It then lost population rapidly during the 1990s and stabilized in the late 2000s. The population stood at 232,535 in 2012. There are three major reasons for the rapid population decline during the 1990s. Firstly, as in Makiivka, Halle was hit by deindustrialisation. The city belonged to the industrial hubs of the former GDR. Halle and the surrounding regions were a stronghold of the chemical industry in the socialist era; most of the plants were shut down shortly after reunification with western Germany. Overnight, thousands of jobs disappeared. At the same time, people could move easily to economically thriving regions in western Germany, in order to find employment. Thus, a wave of out-migration took working-age

residents out of the region. In-migration was relatively marginal. Secondly, suburbanisation added to outmigration. In the second half of the 1990s, about 37,000 people moved into the suburban zone. Thirdly, a demographic shock contributed to population losses, with the annual number of births dropping to half of the pre-1989 level. Thus, on top of out-migration the city lost 1,000 to 1,600 people yearly during the 1990s, due to death surpluses. Today, both out-migration and the death surplus have slowed down, and suburbanisation came to a halt after 2000. The population of Halle has stabilized over the last three years.

Direct and indirect consequences of population decline: As in many shrinking East German cities, high unemployment rates, accelerated aging, housing vacancies, and underused social and technical infrastructures were some of the consequences of shrinkage. The city's budget was overburdened and the administration was forced to reduce spending. After the closure or privatization of Halle's (and the entire region's) industrial base, *unemployment* increased in the course of the 1990s and fell only after 2005, due to welfare reforms. At the peak, around 2000, the unemployment rate reached 21% (compared to 9% nationally). Moreover, out-migration was socially selective and led to a reduction of qualified labour. The local income level has remained below the German average, and the city has not been able to close this gap. Halle's index of *ageing,* that is, the relationship between inhabitants 65 years or older and those younger than 15 years, rose from 76% in 1989 to 214% in 2008. The aging of the population was a combined outcome of age-selective out-migration and the drop in birth rates. Together with aging and low birth rates, household sizes decreased. In particular, the proportion of one-person households increased from 34 to 44 % (1994-2008). Due to this trend, household numbers decreased to a lesser extent than population numbers.

Another severe effect of shrinkage was a steep *decrease in the number of children* attending kindergartens and schools. The number of school enrolments decreased by more than 50%, from a peak in 1993, until today. As a consequence, 68 out of 142 schools were

closed. The technical infrastructure was also affected by decreasing demand for services such as water supply networks or public transportation. The population density of the area served by public transport in Halle decreased by 37% between 1985 (231 inhabitants per hectare) and 2008 (145 inhabitants per hectare). The most prominent and most widely discussed consequence of the population losses was housing vacancies, which occurred due to an overlap of out-migration and new constructions. At the peak in 2003, more than 31,000 flats – one fifth of the housing stock – were vacant.

Governance response: Halle represents the only example of our sample of 10 shrinking cities that deliberately planned for shrinkage with the vision to decline up to 200,000 people. The first governance responses to the impacts of shrinkage were federal and state programmes aimed at stabilising the local labour market, subsidising private investments, and promoting urban regeneration. However, the results remained piecemeal and had only limited success in terms of the on-going population loss. Around 2000, when the impacts became more serious and visible in various policy fields, in particular in relation to housing, housing vacancies became the starting point of the public and political debate on shrinkage in Halle. This debate resulted in a change of strategy: in parallel with further economic stabilisation strategies, the downsizing of the entire city was formulated as an overarching goal (City of Halle 2007). The main policy for reaching this goal was urban restructuring, i.e., the demolition of unrequired housing, elimination of oversized technical infrastructures, and closure of social infrastructures. Housing companies and municipal utility companies were the main stakeholders involved in urban restructuring. Their motivation was a rational one: they were hit so hard by vacancies and decreasing population density that they were threatened by the risk of bankruptcy. Against this background, the federal government introduced an assistance programme "Urban Restructuring East" (*Stadtumbau Ost*) in the autumn of 2001, which, for the first time in the history of German housing policies, provided subsidies for the demolition of housing and infrastructures. It was designed as a consolidation

programme for the housing industry, intending to support municipal housing companies and large cooperatives and prevent them from collapsing. As a consequence, demolitions were mostly undertaken in the large housing estates on the city fringes, for two reasons: firstly, these estates were managed predominantly by municipal and cooperative housing companies, so that only a handful of actors cold make decisions about a large number of flats and, secondly, the general planning idea was to shrink the cities or demolish housing from the peripheries inwards, so that the inner city housing districts could be strengthened (Fliegner 2010). For instance, the large housing estate Halle-Silberhöhe had a peak vacancy rate of 40%. By 2013, about 6,000 flats out of a total of 15,000 had been demolished there. In parallel, social infrastructure has also been reduced (18 out of 20 child care establishments and 6 out of 8 schools have closed). At the same time, with the help of promotional events such as the International Building exhibition IBA Urban Redevelopment Saxony-Anhalt 2010, an old inner-city neighbourhood became the object of upgrading (ibid.).

Thus, the governance of urban restructuring in Halle has largely depended on the federal programme "Urban Restructuring East". Under this programme, municipalities were assigned the central role for restructuring. As a result, informal structures and networks, consisting of representatives from housing associations, municipal housing and utility companies, and tenants' organisations, were formed to govern the process. Within the respective network, demolition goals, plans, and the distribution of public subsidies were subject to negotiation. In addition, a few informal working groups, dealing with specific questions of restructuring (such as infrastructures) or with different districts, were established. To handle the social impacts of restructuring, neighbourhood management was introduced, especially in the large housing estates. The governance model, of course, could be seen as a "grant coalition" (Bernt 2009), since the stakeholders' strategies were highly dependent on external finances, mainly public subsidies. The approach was seen as successful because it rescued housing companies from bankruptcy, stabilised population numbers and nearly halved

the vacancy rate, to approx. 11 % (16,000) in 2012. The continuous and substantial public support, in a variety of forms, was crucial for this success. In contrast to well-known forms of pro-growth governance, this can be seen as "welfare governance", which serves to balance inequalities and to avoid polarization (Pierre 2011, 93-98).

Cross-referencing the two cases and discussing the model

What can we learn by looking at shrinkage in the two cities through the lens of the discussed theories and our heuristic model? As both examples show, no single theory about causes is suitable for explaining the whole story. Whereas both Halle and Makiivka were subject to industrial restructuring and, thus, bear witness to the theoretical consideration of new economic geography, in Halle, suburbanization also played a major role. This shows that one explanatory factor alone will not cover the full range of causes; rather, this can be achieved by combining different approaches (section 2, part 1). As we have demonstrated elsewhere (Haase et al., 2013), an understanding of shrinkage that integrates several theories addressing various parts of the process, as suggested here, is in line with the actual state of theorizing about urban population loss. In particular, we contend that shrinkage should not be universally attributed to a single macro-explanation. Thus, for example, economic decline in the course of a crisis of Atlantic Fordism might explain the emergence of population losses in a particular setting. However, in other settings, it might not have enough explanatory power. Urban shrinkage therefore evolves when the place-specific interplay of economic transformation, suburbanisation, demographic change, and, maybe, of even other drivers, leads to population decline. Trajectories of shrinkage depend on numerous and variegated drivers and contexts and are thus path-specific. Therefore, typologies such as 'long-term vs. short term', 'more vs. less intense' shrinkage run the risk of abstracting from this variety and concealing the diversity of trajectories behind a single quantitative indicator. In addition, both cases show clearly that, e.g., the life-cycle or suburbanization theories mentioned above are insufficient as

well, because they consider only population flows or the settlement structure. Local processes are influenced not only by national, continental, and global processes, e.g., demographic shifts, but also, as it is the case in Makiivka and Halle, by additional triggers such as the post-socialist transition, which accelerated/reinforced the scope of shrinkage and, subsequently, operated partly both as a cause and a catalyst. Although both cities represent post-socialist industrial places, and the consequences of shrinkage show similar attributes (e.g., ageing, underuse, disinvestment, tax deficit), a number of specific aspects come into play as well (e.g., housing oversupply in Halle, fiscal austerity in Makiivka). As proposed by the model, local processes and action-taking have also been remarkably influenced by events at supra-local levels, i.e., the national and EU level. The main difference between the two cases in this regard is that Halle represents an example of welfare state policy, where consequences of economic decline and mass outmigration were compensated by state-financed urban restructuring (that could ease but not balance the losses), whereas Makiivka represents an example of neoliberal policy, based on market rules and competition, within a context of state centralism and budget redistribution between the regions at the national scale. Makiivka's response towards shrinkage focuses, subsequently, on the reduction of public expenditure and on the search for additional (private) money which, in fact, led to increasing austerity and poverty. Halle's response was, by contrast, embedded in state-led welfare and restructuring programmes with the aim of 'right-sizing' the city, based on an integrated master plan. Whereas Halle has used considerable external public funding to improve the quality of life of its remaining residents, Makiivka is doomed to hope for trickle-down effects from private investment; at the same time, fiscal austerity may negatively affect the functionality of many basic urban services, making the city even less attractive to any potential new-comers (see the new debate on urban austerity and its consequences, e.g. Peck 2012). As the most recent development in Halle, characterized by the stabilization of the population, shows, shrinkage can also come to a halt, due to many factors: in the case of Halle, it was the result of new in-

migration (and less out-migration); efforts to maintain the city amenities during the period of shrinkage also probably had a positive impact. What we have learned is, in a nutshell, that differences between local pathways (of shrinking cities) can be explained largely by the interrelations of factors summarised in the heuristic model (despite common or similar causes, depending on the national contexts). Moreover, there is a lack of literature that deals with the feedback loops between policy responses and further development, as well as with the multi-level character of policy response – exceptions are still rare (e.g. Dewar and Thomas 2013). Here, our model offers a framework for bringing together these issues systematically. In this vein, this paper also contributes to theory integration, because it demonstrates a way to use knowledge from different theory strands in a cross-referencing way.

4. Conclusion

Shrinkage will not 'disappear' from Europe's and the global urban future; on the contrary, accelerating demographic change (ageing) and the on-going economic and fiscal crises are likely to have an increasing influence on the population development of many cities across the continent. Shrinkage will thus stay on the research agenda. It needs to be better embedded into wider debates on Europe's and the world's urban future and viewed in a holistic, contextualized fashion. Our paper has shown that existing debates and approaches help to explain several aspects of shrinkage, but fail to encompass the whole picture. Moreover, wider theories related to the uneven development of cities and regions, as well as more empirically driven and explicit shrinkage research have not yet reached a state of mutual interaction. Given this context, this paper has introduced a heuristic model that stresses the need for a more integrative view and applies various theoretical perspectives to the same phenomenon. Applying the model to real world cases has made it obvious that, whilst knowledge about causes and consequences of as well as policy responses towards shrinkage

are fairly developed, there is a lack of integration of knowledge on governance issues and feedback mechanisms within most explanatory models. The heuristics introduced in this paper has sought to overcome this problem, remaining complex, context-aware, and not *a priori* normative. Many discussions about planning approaches for shrinking cities suffer from hasty comparisons and premature conclusions; for example, when the importance of housing vacancies, a typical characteristic for a shrinking city in Germany, is also assumed to be typical for, say, Ukrainian cities. Too often, this builds a procrustean bed for understanding the specifics of shrinkage in a variety of contexts and leads to an ill-founded transfer of 'best practices'. Best practices may, indeed, make a lot of sense in a particular context, but they may not always be compatible with other contexts. With the proposed model, we also offer an instrument for planners and decision-makers that calls upon them to think about 'their' case of shrinkage in a more specific way. Finally, the model has also made a contribution to theory integration; it has shown how different theoretical approaches can help to find explanations for its individual ingredients. In terms of feedback loops and the multilevel character of governance responses, the model has the potential to support the future research agenda for shrinking cities.

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