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Urban shrinkage in Germany and the USA: A Comparison of Transformation Patterns and Local Strategies

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Abstract

Many American and European cities have to deal with demographic and economic trajectories leading to urban shrinkage. According to official data, 13% of urban regions in the US and 54% of those in the EU have lost population in recent years. However, the extent and spatial distribution of declining populations differ significantly between Europe and the US. In Germany, the situation is driven by falling birth rates and the effects of German reunification. In the US, shrinkage is basically related to long-term industrial transformation. But the challenges of shrinking cities seldom appeared on the agendas of politicians and urban planners until recently. This article provides a critical overview of the development paths and local strategies of four shrinking cities: Schwedt and Dresden in eastern Germany; Youngstown and Pittsburgh in the US. A typology of urban growth and shrinkage, from economic and demographic perspectives, enables four types of city to be differentiated and the differences between the US and eastern Germany to be discussed. The article suggests that a new transatlantic debate on policy and planning strategies for restructuring shrinking cities is needed to overcome the dominant growth orientation that in most cases intensifies the negative consequences of shrinkage.

Introduction

In current planning debates the term ‘shrinking city’ usually denotes a densely populated urban area that on the one hand has faced a population loss in large areas, and on the other is undergoing economic transformations with some symptoms of a structural crisis (Pallagst, 2008). According to Oswalt (2006) more than a quarter of the world’s metropolises shrank in the 1990s. The number will continue to rise, notwithstanding ongoing urbanization processes. However, shrinking cities do not occur everywhere. They pool in certain areas, like the American rustbelt, Japan and, in particular, Europe.

Recent trends debates show a rising awareness that several cities in Europe and the US have to deal with the challenges presented by long-term demographic and economic trajectories leading to urban shrinkage, a process associated with housing vacancies, underused infrastructure and other negative impacts. Shrinking cities issues have often been predominantly interpreted as effects of the hollowing out of urban centres triggered by suburbanization and urban sprawl. In contrast to such assumptions, we argue that overarching globalization pressures have led to problematic development paths in many American and European regions. According to official data, 13% of the urban regions in the US and 54% of those in the European Union have lost population in recent years (Pallagst and Wiechmann, 2005; EU, 2007). As these numbers refer to larger urban zones that include suburban areas, shrinkage cannot be simply explained by suburbanization.

Urban shrinkage and economic decline in structurally weak areas — e.g. in old industrialized 'rust belts' or in towns on the periphery of the urban system — are most commonly symptoms of societal transformations that can likewise be observed both in Europe and the US.

The extent and spatial distributions of population decrease differ significantly between Europe and the US. In Germany the situation is driven by birth rates that have fallen far below the natural reproduction rate and by the consequential effects of German reunification in 1990. The breakdown of the state-directed economy in East Germany caused economic decline, deindustrialization and high unemployment rates. As in most parts of Eastern Europe, the combination of post-socialist and post-Fordist transformation processes led to exceptionally severe shrinkage phenomena with out-migration and natural population losses (Turok and Mykhnenko, 2007). The main observations that have been made by shrinking cities research in the US are the following: shrinkage can either be part of post-industrial transformation processes related to the long-term industrial transformation caused by the decline of the manufacturing industry, or it can be triggered by economic changes in the so-called 'post-industrial transformations of a second generation'[1] affecting high-tech industry (e.g. the dot-com bust). Moreover, shrinking and growing are processes that can be observed in parallel. Due to ongoing economic transitions and the overall population growth generated by immigration, many cities in the US have to provide for redevelopment in shrinking areas and for growth-related development at the same time.

This article provides a critical overview of the development paths and local strategies pursued by four examples of shrinking cities: Schwedt and Dresden in eastern Germany, and Youngstown and Pittsburgh in the US. Although the backgrounds of these four cases and the two countries are, of course, very different, it is instructive to compare how these cities react to global changes in demographic and economic terms. The main purpose of this comparison is thus to highlight the similarities and differences in the cases. While the topic of urban decline or city shrinkage has already been well documented in different national contexts (on both sides of the Atlantic), the research that has been conducted so far mostly lacks a comparative perspective on the factors and impacts of shrinkage and on the policies and strategies that have been implemented to tackle this issue.

A concluding section suggests that there is a need for a new transatlantic debate on policy and planning strategies for the restructuring of shrinking cities to overcome the so-far dominant one-sided growth orientation which in most cases intensifies the negative consequences of shrinkage.

Growth machines and demographic transitions: the role of economics and demography

For a long time shrinking cities were a stigmatized subject in planning. Now planning discourse in Europe, in particular in Germany, has actively taken on shrinking cities, and a great deal has been written on the topic (e.g. Häußermann and Siebel, 1988; Bontje, 2004; Gestring *et al*., 2005; Siedentop and Wiechmann, 2007; Bernt, 2009). In the United States, however, the academic discussion is still lagging behind, with only a few scholars addressing urban shrinkage (Beauregard, 1993; 2003; Hollander *et al*., 2009, etc.).

One of the main purposes of this symposium is to investigate possible paradigm shifts in planning, in particular a move away from growth-centred planning. In view of the reality of shrinking cities, this theoretical section seeks indications that the one-sided focus on growth in planning is over. In accordance with the central argument of this

1 Term coined by the Shrinking Cities International Research Network (SCiRN).

symposium, the authors hypothesize that planning for shrinking cities does not work if it presupposes urban growth. It requires instead a paradigm shift to something different from growth. Maybe this could be 'shrinking smart', as the authors suggested in an earlier publication (Pallagst and Wiechmann, 2005).

One of the anchor points of growth-related planning is the 'growth machine', set out by Molotch as early as 1976. He speculated then that 'the political and economic essence of virtually any given locality, in the present American context, is growth . . . The very essence of a locality is its operation as a growth machine' (Molotch, 1976: 10). Wolfe (1981) adds to this observation that growth is deeply embedded in American politics, in particular the aim of urban growth and development. In this scheme, population growth is a measure of success. The growth cycle reached its peak in the US during the 1960s. This was followed by a recession in the early 1970s that actually reversed the growth trend (Wolfe, 1981). Here it is necessary to add that the urban growth machine has appeared not only in the United States, but in every industrialized country to some extent.

How does the growth machine manifest itself in urban development, and is there an end of the growth machine in sight, taking shrinking cities into consideration? Although the realities have changed, and the growth machine paradigm as such may seem outdated, the 'urban growth machine', as most prominently framed by Logan and Molotch in their 1987 publication *Urban Fortunes*, still has surprising persistence when it comes to present-day planning. Growth is still a valid, and most often an unchallenged, planning paradigm — even, paradoxically, in shrinking cities. Many shrinking cities in Europe and in the United States have long underestimated the persistence of shrinkage in urban development, as manifest in a diminished economic basis, an out-migrating population, and housing vacancies. The City of Pittsburgh, for example, has a long-standing redevelopment history — always focused on new development projects that are supposed to bring growth back to distressed urban settings, as we will see later in this article.

With the active embrace of urban shrinkage in German planning discourse, one might speculate that growth has come to an end as the dominant paradigm in planning — at least in that country. Will this be a trend that will naturally appear in other countries as well, or is it driven by local or national specifics? This article contributes to comparative shrinking cities research by investigating two countries where the shrinking cities discourse is at different stages of development: the discourse on shrinking cities originated from Germany, in the early 2000s; in the USA, with the current economic crisis, the discourse is just now entering the broader public and academic debate. This comparison might offer insight into the way that the growth-related planning paradigm is changing.

Pallagst (2007) has called for a shift in paradigm when it comes to US planning for shrinking cities. Indeed, there is speculation that the political consensus for urban growth is diminishing in the United States (Purcell, 2000). However, the evidence that Purcell gathers for his hypothesis comes from a city that has long been the embodiment of a growing city: Los Angeles. This 'waned hegemony' of the urban growth machine has its roots in globalization and the diversification of economic interests (*ibid*.: 96). Nevertheless, all those calling for the end of the growth paradigm in planning sense that this will leave room for alternative paradigms.

Long-term demographic trends in industrialized countries support the notion that the consensus for urban growth has been called into question. In Germany the demographic situation is driven by the effects of the German reunification of 1990 as well as birth rates that have fallen far below the natural reproduction rate. Whereas economic decline, deindustrialization and high unemployment rates in eastern Germany caused by post-socialist and post-Fordist transformation processes were the most influential factor in population development in the 1990s, long-term development will by and large be conditioned by the birthrate and natural population losses.

According to Lesthaeghe and van de Kaa (1986; see also van de Kaa, 1987), Germany — like other industrialized countries, particularly in Europe — is going

through a 'second demographic transition'. The 'first demographic transition', which occurred in the first half of the twentieth century, was characterized by a high rate of marriage, low divorce rates and low age levels at first marriage. The second demographic transition began in the mid-1960s and accelerated during the 1980s. It comprises the behavioural effects of the people born in the interwar period. It is marked by declining numbers of married couples, rising divorce rates, an increasing age at first marriage, and falling fertility. Since the 1970s, as widespread uptake of the contraceptive pill took effect, birth rates declined far below the population replacement level. The second demographic transition also included a shift away from the conventional definition of 'families' as couples with children, to more varied forms of household that include an increasing number of blended families. Even though the theory of a second demographic transition is criticized for its determinism, it clearly describes the effects of an incontrovertible fact: the uncoupling of economic wealth and population growth in Europe.

Today, the shrinking cities phenomenon is widespread across Europe. According to the Urban Audit of the European Union (EU, 2007), out of 220 large and medium-sized European cities, 57% of the cities and 54% of the larger urban zones lost population in the period from 1996 to 2001. Included in this list are 22 German, 19 Italian, 11 British, and 5 Spanish cities. In Eastern Europe 53 out of a total of 67 cities shrank. This urban shrinkage in Europe is not predominantly caused by suburbanization. Of 98 larger urban zones (a functional urban region mainly based on commuter connections) included in the database, 54% shrank.

In a number of urban agglomerations, economic decline in structurally weak, old industrialized areas[2] has led to problematic development paths, in some ways similar to those in American metropolises like Detroit, Pittsburgh and Cleveland. This is particularly the case in Central and Eastern Europe, where the combination of post-socialist and post-Fordist transformation processes led to exceptionally severe shrinkage phenomena, with out-migration and natural population losses. However, the most important factor in Europe and other parts of the world, e.g. Japan, is the demographic trend, with birth rates far below the level necessary to sustain the population.

Urban shrinkage as such is not new. However, dealing with the results of demographic contraction processes — often linked with economic and physical contraction processes — and designing the restructuring of shrinking urban regions present some of the most challenging tasks for Europe's cities in the near future. On a pan-European scale it is risky to follow the current dominant paradigm and plan only for growth. Considering the low birth rates, population decrease in many cities is inevitable in the coming decades, regardless of future economic development.

Hence, the shrinking cities phenomenon represents a challenge to review the principles upon which urban policy has traditionally been based. A realistic view might entail planning for a future of considerably smaller cities: to depopulate run-down neighbourhoods, to re-green once built-up areas, and to adopt economic development plans that emphasize controlled shrinkage in smaller but nevertheless liveable places. The next sections discuss examples of shrinking cities in Germany and the US in order to further explore the realities of urban shrinkage and the planning strategies that have been applied in these settings. These examples will be discussed in light of the growth paradigm — its persistence or its change. Two examples of shrinking cities in each country have been chosen: Schwedt and Dresden in Germany; Pittsburgh and Youngstown in the US. Schwedt and Pittsburgh have been shrinking for many years, and can be considered 'typical' examples both of shrinkage and related (planning) strategies. Dresden and Youngstown can be considered turning points in planning and development for the German and US planning realms, as Dresden has managed to turn shrinkage into growth, and Youngstown has chosen a realistic planning vision aside from growth.

2 Typical examples are Bilbao, Glasgow, Saint Etienne and Essen.

Shrinking cities in Germany – in the vanguard of a paradigm shift?

Perception of shrinking cities

Ten years ago, shrinkage was a political taboo in Germany and systematically disregarded as a dominant development trend, even in deprived areas. This was also true for East Germany, despite the fact that the real shape of development there had long since been obvious. But, within the administrative system, conventionally oriented towards growth objectives, shrinkage was considered to be intractable. Policymakers and experts in the administration were unable to cope with the issue in a constructive way.

Since the turn of the millennium, however, the situation in Germany has changed significantly (Brandstetter *et al*., 2005; Oswalt, 2006). Suddenly, the term 'shrinkage' has resounded throughout the land. Innumerable activities and events deal with the issue. In 2000, an independent expert commission was installed by the German Federal Government to analyse the housing market problems related to contraction processes. East German cities like Schwedt, Eisenhüttenstadt and Hoyerswerda started to tear down buildings in large residential areas with federal and state support. Also in 2000, the Federal States (*Länder*) in East Germany established an urban restructuring policy with deconstruction and conversion measures in housing areas and an emphasis on the revitalization of city centres.

More broadly, endeavours to find a political answer to demographic shrinkage in East Germany show up in the 7-year programme *Stadtumbau Ost* (Urban Restructuring East, 2002–09), jointly run by the Federal Government and the six East German Federal States with a budget of 2.5 billion Euros. It is intended to stabilize the housing market by demolishing abandoned or underused buildings and improving the more stable residential quarters. The existence of integrated city-wide urban development strategies became a precondition for funding for the demolition of abandoned or underused buildings. The idea is that local strategies of urban restructuring should contribute to adapting the city to the consequences of urban shrinkage and should offer favourable conditions for new development opportunities. However, most strategies focus narrowly on housing market issues and local action is often confined to the removal of abandoned residential buildings, although these problems cannot only be solved in the housing market since they are caused by the overarching trajectories of depopulation and economic decline (Glock and Häußermann, 2004).

It is striking that the recent perception of shrinking cities in the German debate emphasizes aspects and the challenges of the housing industry. A broader notion of shrinking cities as symptoms of societal and physical trajectories is only nascent. However, in some ways experiences with conversion strategies in East Germany could be of value for many deindustrializing regions in other countries. Here, maybe for the first time in modern urban planning, planners disengage from the illusion of new growth and aspire to conduct a pragmatic deconstruction.

Manifestations and effects of shrinkage

After German Reunification in 1990 the development of the country's urban regions was characterized by a strong polarization of demographic developments with substantial population losses in the east and strong growth in the whole western part of the country (Siedentop *et al*., 2003). This growth caused an interregional and intra-regional deconcentration of population and employment in the west, whereas the transformation of the former GDR led in relative terms to an interregional concentration of population and employment in the eastern parts, accompanied by small-scale suburbanization (Herfert and Lentz, 2007). The result was a patchwork of prosperity and decline where growing and shrinking settlements developed in parallel and in close proximity. The overall population development was still driven by a positive balance of migration,

Table 1 Selected cities in East Germany

City	Total Resident Population 2001	2006	Change Absolute	% P.A.
Dresden	478,631	504,795	+26,164	+1.09
Chemnitz	255,798	245,700	–10,098	–0.79
Halle (Saale)	243,045	235,720	–7,325	–0.60
Erfurt	200,126	202,658	2,532	+0.25
Potsdam	141,907	148,813	6,906	+0.97
Cottbus	111,125	103,837	–7,288	–1.31
Gera	109,926	102,733	–7,193	–1.31
Jena	101,157	102,494	1,337	+0.26
Neubrandenburg	71,723	67,517	–4,206	–1.17
Görlitz	60,264	57,111	–3,153	–1.05
Bitterfeld-Wolfen	53,461	47,369	–6,092	–2.28
Suhl	46,765	41,861	–4,904	–2.10
Hoyerswerda	47,917	41,562	–6,355	–2.65
Schwedt	40,685	36,677	–4,008	–1.97
Eisenhüttenstadt	40,180	33,914	–6,266	–3.12

Source: Based on official statistics of the Länder

though the birth rate has been far below the natural reproduction rate since the 1970s. However, in the eastern parts of Germany the large deficit of births and the high levels of out-migration to the West were not offset by immigration from abroad.

In the 2000s the juxtaposition of growing and shrinking regions and cities has continued (see Table 1 and Figure 1). Today, regions with a population loss of more than 1% per year are still only found in eastern Germany, but more and more regions in the western part are following this path. Even though on the national scale net migration is still positive, natural population loss is leading to an increasing number of shrinking cities, especially in the more sparsely populated regions of eastern Germany as well as in the old industrialized areas of western Germany (BMVBS, 2006). Symptoms of this general development are increasing numbers of housing vacancies and derelict sites in cities and villages. Outcomes will also affect the economy, for example through a fall in demand, shortages of skilled workers and ageing workforces. In shrinking cities the efficiency and financial viability of public infrastructure and the provision of public services are called into question. As a consequence, a public debate has emerged on socially acceptable minimum standards for the provision of public services and infrastructures in shrinking regions.

As Glock and Häußermann (2004) point out, the transformation of the former socialist economy resulted in a process of deindustrialization that was faster and more thorough than any such economic transformation in the Western world. Whereas the German Democratic Republic was a highly industrialized state-led economy, the new *Länder* in East Germany now have the lowest rate of industrial employment within the so-called EU 15, the members of the European Union prior to the accession of 10 Eastern European countries in 2004. The most obvious physical result of these developments was a structural oversupply of buildings, plots of land, housing units and commercial spaces. However, not all of eastern Germany is shrinking. There are islands of growth in a sea of decline. This applies to cities like Dresden, Potsdam, Jena and Erfurt, which have high potential in fields like culture and research. In economic and demographic terms, these

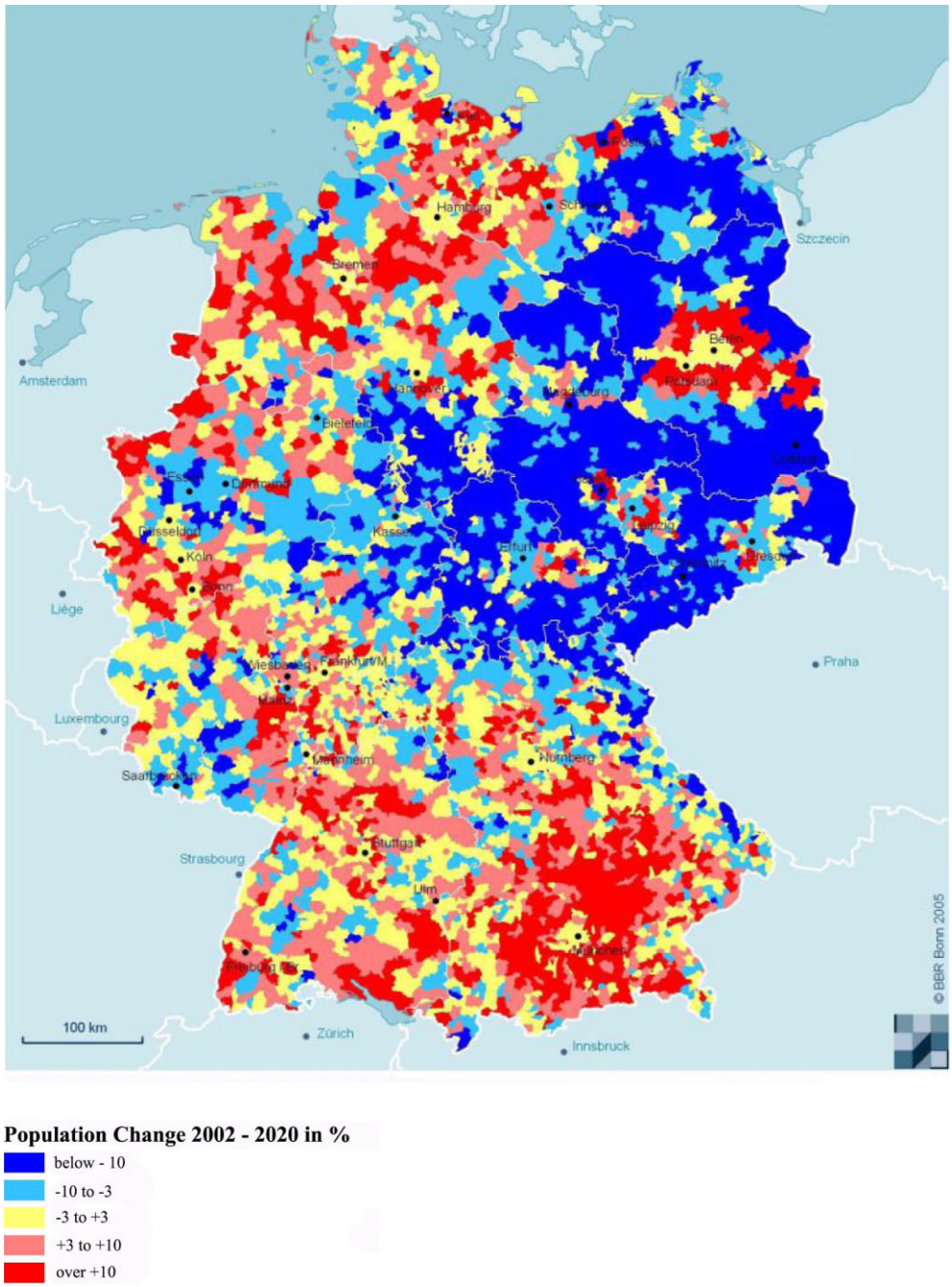

Figure 1 Percentage population change in Germany, 2002–20 (*source:* Bundesamt für Bauwesen und Raumordnung)

cities have become growth poles in a shrinking environment. But, compared with prosperous West German cities like Munich, Frankfurt or Hamburg, the situation is still challenging. Unemployment rates remain above 12% and purchasing power is approximately 10% below the national average.

Currently, the heterogeneous population dynamics in German cities have two main drivers: economics and birth rates. Whereas in the recent past economics played a major role in the emergence of regional disparities in Germany, it is very likely that the future demographic development of German cities will in large part be ruled by sustained low fertility rates. If this trend continues, even economically successful cities will face a population loss in the coming decades.

In the following this challenge and the way German cities accept it is illustrated by highlighting the cases of the cities of Schwedt and Dresden.

Schwedt: pioneer of deconstruction

In 1958 the Politburo of the Socialist Unity Party of Germany (SED) decided to erect one of its biggest industrial plants, the petrochemical combination (PCK), in Schwedt, a rural town on East Germany's border with Poland that had been largely destroyed in the second world war. Thanks to its petroleum and paper industry, Schwedt had grown by 1980 to 55,000 inhabitants. More than 90% of the housing units were provided in housing areas in buildings constructed with prefabricated elements.

After the political changes and the introduction of the market economy the industrial mono-structure proved to be a heavy burden. Even though the chemical plant could be maintained as a private limited company the number of jobs declined from 9,000 in 1989 to 1,400 in 2000. The unemployment rate increased to more than 20% and the population decreased by 35%, to 36,677 in 2006 (see Table 1). The updated population projection by the State of Brandenburg expects a further decrease to only 25,000 residents by 2030, less than half the 1990 peak (Landesamt für Bauen und Verkehr, 2008: 22).

The consequences of this rapid decline are manifold. For example, in the 1990s, six day-care facilities for children and two schools were closed. By 2001 more than 3,000 apartments had become vacant, approximately 13% of the local stock. For the city-owned housing companies, loss of rents and operating costs added up to approximately 4,000 Euros per year per vacant apartment (Adam, 1998).

This dramatic development led to early urban restructuring initiatives. The development in Schwedt can be divided into two major phases. Until the mid 1990s, city development in Schwedt was like that in nearly every other German city, dominated by the conventional urban planning instruments 'under the paradigm of growth and expansion' (Schauer, 2001: 22; authors' translation). Subsequently, an open and deliberate debate on the expected shrinkage in the near future led to a 'development principle of change without growth, yet with lasting losses of functional and physical capacities' (*ibid.*). To keep the remaining housing stock durable and rentable the City saw no alternative to extensive demolitions. In an iterative process, a cross-departmental working group of the City administration, the two City-owned housing companies and local politicians sought for solutions.

As a result, in 1999 the city council passed a redevelopment bylaw for the most distressed housing areas on the edge of the city that contained 10,100 apartments. This was part of an urban planning framework that included the phased demolition of 2,850 apartments and further stock reductions of 500 apartments by change of use and merging of units. The strategic approach of the City and the housing companies was to concentrate the local vacancies as far as possible in a single housing area. In this way the other residential areas could be stabilized and extensive demolitions at the edge of the city became possible. This principle is intended to produce reliability and assure that 'the shrinkage process won't become and won't be perceived as a process of agony' (Schauer, 2001: 25; authors' translation).

Over the past few years 5,400 apartments have been demolished in the city of Schwedt with state support. Thanks to this forceful intervention the vacancy rate dropped to 5.4% in 2008. In recognition of its role as a pioneer of deconstruction in Germany, in 2001 the City won first prize in the above-mentioned federal *Stadtumbau Ost* competition. The enormous problems in Schwedt led to a pragmatic realism instead of traditional growth

expectations. Planners could concentrate on feasible small steps and make use of support programmes produced by the State. Since the late 1990s, the city of Schwedt has no longer followed the paradigm of the growth machine. Planning has clearly taken on a new paradigm in the sense of pragmatic approaches reflecting the indisputable reality.

Dresden: a city between shrinkage and growth[3]

In the 1990s the development path of Dresden, located in the southern part of former East Germany, did not meet the high expectations that people had after the fall of the Berlin Wall. Rather, the East German economy underwent a 'system shock'. As a consequence, all important areas of urban development and public services underwent a radical change. The abrupt collapse led to escalating unemployment rates, accompanied by a dynamic out-migration to the western parts of Germany and a dramatic drop in birth rates. In the first half of the 1990s, Dresden faced a residential decrease — in particular in the historic neighbourhoods around the baroque city centre, where the housing policies of the GDR had left very bad housing conditions. At the same time, the city experienced vibrant construction — especially in the fields of large-scale retail and the hospitality industry. New commercial zones and office locations were planned and, after a certain time lag, relatively moderate construction activities were superseded by a period of 'hyper-dynamic' housing construction on the outskirts of the city, heavily influenced by national investment incentives (in particular a special depreciation amount of 50% of the building value plus a regular depreciation of 2% p.a.). Paradoxically, housing construction and out-migration reached their post-reunification peaks during exactly the same period, from 1995 to 1998. The result was an oversupply of housing, leading to a vacancy rate of more than 20% at the end of the decade.

In economic terms, the city recovered slowly from industrial breakdown. With state support, a highly competitive high-tech industry was established in the mid-1990s. The 'Silicon Saxony' microelectronics cluster with chip designers and semi-conductor and component manufacturers encompasses more than 760 companies and about 20,000 employees in the region. Today, 45% of industrial production comes from this sector, which has close linkages to various research institutions including the TU Dresden, a technical university with 35,000 students.

Since the turn of the millennium, Dresden has had an increasing population for the first time since the early 1980s, due to rising birth rates and a positive migration balance. This development is reflected in urban quarters in quite different ways. In particular, the historic neighbourhoods around the city centre have gained population, whereas the baroque city centre itself and the large housing areas of the 1970s and 1980s, composed of buildings made with precast concrete slabs, are still losing residents. Today, growing and shrinking neighbourhoods are located in close proximity. With the increasing vacancy rates in the city, the suburbanization process has nearly stopped. Obviously, Dresden has benefited from the easing of the housing market and the structural problems of the surrounding rural areas. Even though the city is growing, there is no need for new greenfield developments in view of the huge stock of brownfield sites.

Even though Dresden has become one of the growth poles in a shrinking environment, the current population — 513,000 residents in 2007 — is far below its peak of 650,000 residents in the 1930s. Due to the low birth rates in Germany a return to a shrinking population is expected after 2025.

How did the City react to these developments? In general, strategic planning in Dresden since 1990 can be divided into three major phases:

- *Phase I — Going for Growth (1990–95)*: In general, the first years after the political changes of 1989/90 represented a great departure from previous planning strategies.

3 This case description is based on more comprehensive reports on the Dresden case published first in German by Siedentop and Wiechmann (2007).

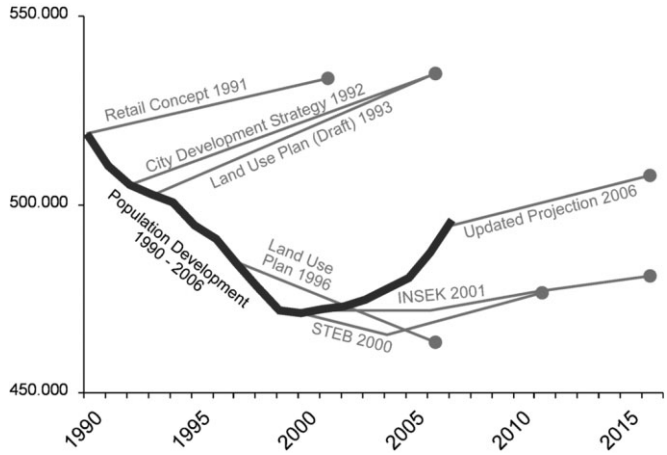

Figure 2 Population development and prognoses in Dresden since 1990 (projected on the basis of the territorial status of the city in December 1999)

The mass exodus of 60,000 people after 1989 was seen as a singular occurrence. The city development strategy was based on optimistic assumptions about future socioeconomic development. Zoning and infrastructure plans were adjusted toward a target figure of 520,000 residents. The ambitious stated aim was to turn the prevailing trend around and to make Dresden a city of immigration.

- *Phase II — Urban Restructuring (1996–2001)*: In the second half of the 1990s, the city changed its policy. In light of the loss of another 19,000 residents since 1991, faith in regaining the population size of 1989 gave way to widespread disillusion, despite good economic progress. The new zoning plan in 1996 assumed only 430,000 residents in 2005. Nevertheless, the City Council required that building areas and technical infrastructure still be designed for a city of 500,000. A major turning point in the urban planning of Dresden was the year 2000. The new strategic plan from 2001, called 'Integrated City Development Concept' (INSEK), was no longer growth-oriented. Instead, the model of the compact 'European city' — with an attractive urban centre, reduced land consumption and a stable population — was emphasized.

- *Phase III — Reurbanization (from 2002 on)*: In recent years, Dresden has experienced an unexpected growth of 25,000 residents, even though the surrounding State of Saxony is still losing population. Several developments are thought to have contributed to the trend reversal: locally rising birth rates, less suburbanization and a positive migration balance. As a consequence of population growth and the demolition of vacant buildings the average vacancy rates in the city have dropped. Today in Dresden, the remaining areas of shrinkage and decline are in close proximity to prospering and wealthy communities.

A comparison of development trends and administrative strategies reveals a striking a synchronicity over the past 15 years (see Figure 2). In times of heavy population loss, the city forecast a population increase. In a period of stabilization, local planners and politicians assumed continuous shrinkage. And as substantial growth set in, the prognoses were based on a premise of stable population development. To explain the discrepancies, one has to take into account, on the one hand, a certain time lag in analysing the structural development of settlements and, on the other hand, a normative bias toward optimism among the city's planners, which also played an important role. The city of Dresden consciously relied on growth and the reversal of negative trends. In

the face of great uncertainty about future developments, it abandoned the option of drawing synoptic plans and saw 'additive urban planning' — an incremental, growth-oriented strategy of limited actions — as the best opportunity to meet the specific requirements of the city's struggling neighbourhoods.

The description of Dresden's development path since the political changes of two decades ago demonstrates that most trends were very hard to predict, if not completely unforeseeable. In the 1990s, people — particularly politicians and planners — were too optimistic about the future. This reaction was by no means exceptional at that time. In practically every East German city local economic development was overestimated. Later on, as people focused on correcting this false estimate, nobody in Dresden anticipated the amount of new growth that would take place after the turn of the millennium. Today, areas of shrinkage and decline exist in close proximity to prospering and wealthy communities. The strategic challenge is to deal with this patchwork while accepting that the future remains unpredictable.

As one the most important growth poles in eastern Germany, Dresden is torn between keeping the growth machine alive and accepting that the economic decline in the surrounding areas and the demographic echo of the low birth rates after German reunification will inevitably lead to a new population downturn.

Shrinking cities in the USA — old wine in new bottles?

Perception of shrinking cities

Especially in the USA, urban planning often concentrates on either managing urban growth or tackling redevelopment in a fragmented (not a regional) way — this despite the fact that shrinkage often occurs throughout an entire metropolitan region. The current discourse in urban and regional planning in the US still shows a high affinity to growth tendencies (Pallagst, 2007). Despite the revitalization approach, usually focused on city centres, there is no active discussion of shrinking cities (Pallagst and Wiechmann, 2005). According to Robert Beauregard, one of the very few US planning thinkers investigating shrinking cities there, the focus on urban population losses and their consequences provides a counterpart to the literature on urban growth. He refers to shrinking population as a 'stigma', an issue at odds with the ideals of local decision makers (Beauregard, 2003: 673).

When looking at latest trends in the growth-centred urban and regional planning sphere, we find that 'smart growth', a North American version of sustainable urban and regional development is most popular. It embraces participatory planning and recovering small-scale neighbourhood planning. Like sustainable development it is based on bridging economic, environmental and social requirements.[4] Nevertheless, it has to be noted that — in order to achieve political acceptance — even in a tamed version, the centre of the concept is growth. An active discussion of urban, regional or metropolitan shrinkage, as provided recently by European planners, is missing.

To sum up the argument so far, urban and regional development in the US should deal with the problematic effect of shrinking cities. This could offer a window of opportunity to discuss a shift in paradigm from growth-centred planning to more sustainable regional development patterns and thus be of value for a stimulation, or alternatively a redefinition, of urban and regional governance in the US.

Manifestations and effects of shrinkage

A shrinking city is characterized by economic decline and — as a result — by urban areas in a process of transformation. Moreover, the loss of a certain type of employment opportunity sets off partial out-migration. In the US, shrinkage can either be part of

4 Other definitions of smart growth deal with diversity, density and design; on smart growth compare Nelson (2002) and Daniels (2001).

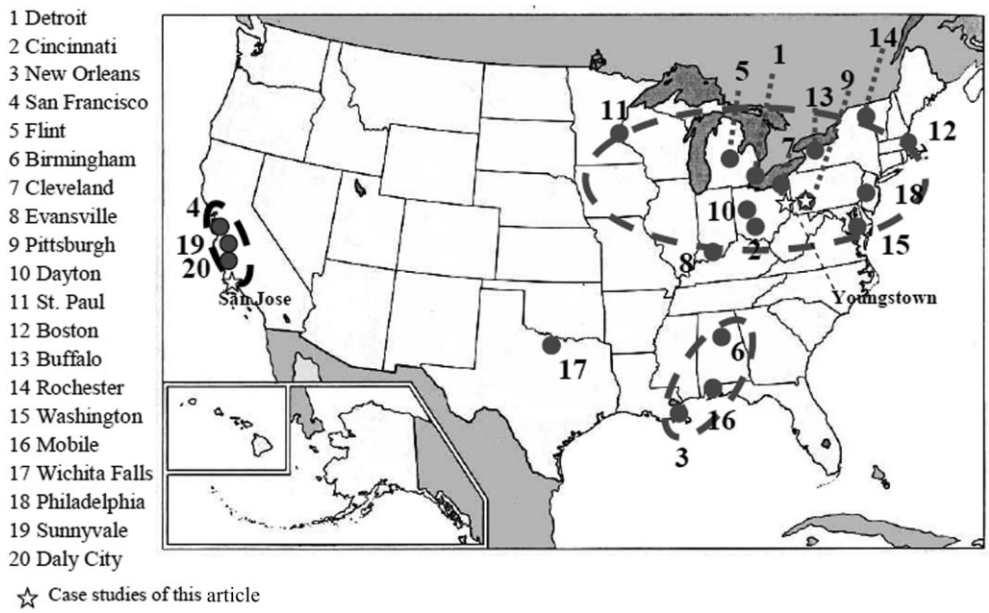

Figure 3 Urban shrinkage in the United States 2000–04 (*source:* US census data)

post-industrial changes related to a long-term industrial transformation process caused by the decline of manufacturing industry, or it can be triggered by economic changes in the so-called 'post-industrial transformations of a second generation' affecting high-tech industry (e.g. the dot-com bust).

Figure 3 illustrates the most recent clusters of shrinking cities of over 100,000 inhabitants in the US in terms of their population growth rate and ranked in a hierarchical order (ascending from the slowest growth rate).

The main observations of the shrinking cities research in the US are as follows:

- The phenomenon of shrinking cities is not confined to the well-known post-industrial 'rust-belt' examples, other areas are affected as well.
- Transformation processes occur within the sphere of land use; shrinking and growing are processes that can be observed in parallel (e.g. Pittsburgh's redevelopment projects create housing units).

This part of the article focuses on land use development in cities or city regions that can be characterized as 'shrinking' in terms of certain types of economies and the related population over a certain period of time.

To investigate these cases the article refers to US cities that have the following characteristics in common:

- They are affected by changes or decline in one specific economic sector.
- They have lost a significant amount of population following these economic changes.
- Economic and population changes have triggered or will most likely lead to changes in planning strategies.

As a result of growth tendencies on a national scale, US planning in many regions focuses on managing sprawling urban development. Since the 1990s, the central planning paradigm has been 'smart growth'. US planning discourses, however, widely disregard the specific situation of shrinking cities.

Table 2 Population decline in Pittsburgh

Year	1950	1960	1970	1980	1990	2000	2007
Population	676,806	604,332	520,089	423,938	369,879	334,563	311,218

Source: US Census data

Unlike in old industrial regions of Europe, shrinkage in the US is usually taking place in urban cores, while suburban regions continue to grow. In fact, early processes of shrinkage in the 1950s and 1960s were triggered by suburbanization. The sprawl pattern led to dramatic population losses in city centres. The problems of derelict sites, vacancies and abandoned urban quarters are well-known. The social consequences — exclusion, poverty and homelessness — are happening to a much more dramatic extent in the US than in European cities.

Nevertheless, suburbanization alone does not account for shrinkage in the US. Economic transformation has led to out-migration of the workforce on a regional scale ever since the sites of manufacturing industry entered a downward spiral, while new economic centres of the service, high-tech and recreation industries boomed.

The following sections tell the stories of shrinkage in two US cities — Pittsburgh, Pennsylvania, and Youngstown, Ohio, each representing a different path of shrinkage — and of the strategies that this situation called forth. The cities differ in size and are thus challenging to compare. Nevertheless, Pittsburgh represents conventional responses to shrinkage and Youngstown new responses. They are thus appropriate examples to demonstrate the US situation.

Pittsburgh's story of revitalization

Pittsburgh is one of the classic examples of a shrinking city in the US. This case study allows for an analysis of different planning paradigms which have been applied in the US in order to revitalize shrinking cities during the last 50 years.

In the course of decline of the steel and manufacturing industries, Pittsburgh has lost almost half of its population since the 1950s (Moe and Wilkie, 1997; see also Table 2). The city faces the process of hollowing out, where the inner city suffers from population loss, segregation and poverty, while the metropolitan region gains population due to suburbanization.

At an early stage Pittsburgh tried to bring population and businesses back to the city's core, trying to keep the growth machine alive. The first phase of revitalization, Renaissance I, started right after the second world war. This process focused on clearing vacant industrial sites by tearing down existing structures to create space for high-rise buildings, large projects such as Point State Park and new highways.

The interest of existing entrepreneurs in maintaining the competitiveness of Pittsburgh played an important role in the first revitalization efforts. It was to steer this process that the Urban Redevelopment Authority of Pittsburgh had been founded — one of the first institutions of its kind in the US (Economou, 1997). From the 1960s it was evident that discontent with the 'bulldozer' mentality of redevelopment — 'clear 'em out and tear 'em down' — was rising among citizens. Over the same period there was a shift towards redevelopment at the neighbourhood level, housing development designed to enhance the area and a valuation of historic buildings (Lubove, 1969).

At the beginning of the 1980s a national economic crisis set off a second wave of revitalization, Renaissance II (Crowley, 2001). This strategy aimed at finding a stronger diversified economic foundation for the city, based on high-tech industries, education, health care, culture and tourism. Moreover, key projects in the building sector and a new sports facility, the Three Rivers Stadium, were created in accordance with the mixed-use strategy. The implementation of the strategy was entrusted to 'public/private/

neighbourhood partnerships', representing the concerns of citizens and aimed at creating neighbourhoods. This was facilitated by the newly established Community Development Corporation (Lubove, 1996).

Pittsburgh's most recent revitalization efforts are related to a number of core projects known as the 'Big Splash' (Hunter Interests Inc, 2002). This endeavour focuses on reviving high-end retail — a land use mostly represented by large suburban shopping malls — in the downtown area. The process of gentrification also provides for the construction of new office buildings, housing units and high-end hotels. Interestingly, the plan will create — adjacent to additional parking spaces — pedestrian-friendly areas.

Despite these efforts, shrinkage has continued. Between 1980 and 2000 Pittsburgh's downtown experienced a population loss of 89,375 people, which was more than one fifth of the city's entire population. Over the same period of time the suburban region (Allegheny County) lost 12 % of its population (Levin and Chute, 2002). A huge proportion of this population loss is accounted for by the out-migration of young people, leading to a partial obsolescence of the city.

Using the example of Pittsburgh, we can identify different paradigms of revitalization in the US, which were also applied in other US cities.

- 1950s: Tear-downs and new builds following the rigid development principles of modernity;
- 1960s and 1970s: Shift in trends towards preservation of historic buildings and enhanced citizen participation;
- 1980s: Diversification of the economy, revitalization at the level of neighbourhoods by means of community building, and focusing on key projects and events such as sports stadiums (incrementalism);
- 1990s: Mixed use in the city centre (retail, housing, offices and hotels), and reconsideration of pedestrian-friendly spaces.

In sum, while the planning approaches in the city of Pittsburgh have changed over time, the overall development path still seems to cling to an urban growth paradigm.

Shrinkin' down in Youngstown

> 'Them smokestacks reached like the arms of god into a beautiful sky of soot and clay . . . Now the yard's just scrap and rubble . . . Here in Youngstown, here in Youngstown — My sweet Jenny I'm sinkin' down, here, darlin', in Youngstown'.
>
> (Bruce Springsteen, 'Youngstown', from the album *Ghost of Tom Joad*, 1995)

The image of the former steel town Youngstown is captured by Bruce Springsteen's song of the same name. The song pictures a dark scenario of economic decline, unemployment and urban decay.

For many years the city of Youngstown was caught in a downward spiral triggered by the downturn in the steel industry. Youngstown's population was cut in half due to out-migration from 166,000 in 1960 to a relatively consolidated 73,000 today (see Table 3). During this period the city lost its vitality with many older quarters disappearing and desolate abandoned spaces remaining. Youngstown was 'punchdrunk from an economic pummeling that makes the woes of its larger, more economically diverse neighbours, in Cleveland and Pittsburgh look comparatively manageable' (Rugare, 2004: 1).

Today the city has to face the problems of a town that has been shrinking dramatically and now displays a large number of vacant industrial and housing units, but has no chance of experiencing a significant rise in population ever again. Land use planners are

Table 3 Population decline in Youngstown

Year	1950	1960	1970	1980	1990	2000	2007
Population	168,330	166,689	139,788	115,436	95,732	82,026	73,818

Source: US Census data

especially concerned about the problems of maintaining the infrastructure that is now oversized in relation to the population that it serves.

The degree of shrinking made it clear from the beginning that conventional methods of US urban planning were reaching their limits: 'This puts everyone involved . . . into an unknown territory where they must find a way to plan for the future of a radical smaller city' (*ibid.*: 6). To cope with these problems the city initiated the planning process Youngstown 2010, combining the creation of a vision for the future with the implementation of a comprehensive plan based on the vision (Urban Strategies Inc, 2000).

The vision sketched out for the city until the year 2010 appears surprisingly realistic (*ibid.*):

- Accept that Youngstown is a smaller city: Youngstown should become the role model for sustainable cities of medium size.
- Define its role under the premises of a new economy: Youngstown has to face the realities of the new regional economic structure.
- Improve Youngstown's image and quality of life: the city should become a healthier and better place to live and work.
- Call for action: an achievable and action-oriented plan is needed to unleash ideas into action.

The whole process aims at rebuilding the city on a downsized scale with new principles like not planning for new settlement areas, but creating a land-management pool to make room for new parks and green spaces, and strengthening existing local businesses in the health, education, public administration and cultural sectors. An important part in this respect is played by regional governance, especially the search for solutions on a regional scale by means of stronger interlocal cooperation. Of special relevance also is the ecological component: rebuilding the city offers the chance for a 'greener' system of space and place (*ibid.*). Measures to implement this include the creation of a system of parks and open green spaces in the city and the revitalization of the Mahogany River for recreational purposes (*ibid.*).

Youngstown reacted to its enormous loss of population with a strategy of 'urban conversion' oriented towards enhanced quality of life and sustainable development. The breach with the growth pattern in land use planning and development that can be observed in the Youngstown case is almost revolutionary given US planning traditions. For the first time a shift in paradigm is about to occur leading from growth to 'shrinking smart'. The city is the first US shrinking city to break with the growth machine. In addition, Youngstown's example could add 'the green' to US planning. Moreover, it would be worthwhile testing Youngstown's approach on a regional scale.

The case studies set out above display two different types of shrinking city (one smaller and one larger) and two different ways in which urban and regional planning in the US is attempting to cope with shrinkage — conventional revitalization (Pittsburgh), and new sustainable paths (Youngstown). It should be noted that that the difference in the cities' size reflects a higher philanthropic base and more highly diversified cultural potential in Pittsburgh compared to Youngstown. This might explain why Pittsburgh could afford for so many years to follow the growth paradigm.

	Demographic Growth	Demographic Shrinkage
Economic Growth	① *Urban Growth Poles*	② *Transition Areas*
Economic Decline	③ *Urban Gravitation Centres*	④ *Downgrading Areas*

Figure 4 Matrix of urban growth and shrinkage with respect to economics and demography (*source:* authors' elaboration)

Refining the terms of the shrinking cities debate

Even though the shrinkage phenomenon is not new, the issues and challenges of shrinking cities have hardly ever appeared on the agenda of politicians and urban planners in the past. This may originate in a realization that accepting shrinkage as a dominant trend in parts of the industrialized world would inevitably mean reviewing the principles upon which urban policy has been traditionally based. As a consequence, the hitherto prevailing one-sided growth orientation, which in most cases intensifies the negative consequences of shrinkage, will have to be replaced by a new planning paradigm.

However, the examples from Germany and the US have demonstrated that shrinking cities can have many different attributes. This means that there are no generally applicable solutions for shrinking cities. While recent debates on 'shrinking cities' usually refer to two concurrent causative processes — population loss and economic decline — one ought to distinguish at least four types of city (see Figure 4):

1 *Urban growth poles* with an increasing population and economic growth,
2 *Urban gravitation centres* with an increasing population in spite of economic decline,
3 *Downgrading areas* in economic decline and with a decreasing population, and
4 *Transition areas* with a decreasing population in spite of economic growth.

The first type — *urban growth poles* (1) — represents the traditional ideal of the growth-oriented planning paradigm. The other three types show some symptoms of decline or shrinkage. The counterpart to the *urban growth poles* are the *downgrading areas* (4) where economic decline typically leads to out-migration and subsequently to population decrease. Many shrinking cities, including Schwedt, Pittsburgh and Youngstown, are of that type. Differentiating the economic and demographic dimensions enables two more types to be generated. On the one hand *urban gravitation centres* (3) comprise a large number of cities, in particular in the developing world, that have a high level of immigration and/or high birth rates in spite of the poor state of the economy.[5] On the other hand *transition areas* (2) are characterized by economic recovery without increase in population. This applies, for example, to the recent history of Dresden.

Shrinking cities in the US are predominantly perceived as part of the discourse focusing on suburban space versus the city centre. This pattern, which can be referred to as 'hollowing out' or 'the doughnut effect' can be found all over the country. It affects in particular those cities that have had to face population loss due to economic downturns — like the examples discussed in this article. Usually, US local authorities are directed to move from *downgrading areas* or *urban gravitation centres* to *urban growth poles*. Because *transition areas* are virtually non-existent, population losses are regarded as the consequence of economic decline. Revitalization efforts aim at economic growth as the precondition for population growth.

5 The San Francisco Bay Area during the Dot Com Crisis of the years 2000–04 would be an example of this kind of place.

Even though the problems of shrinking cities can be found in a regional or urban–suburban context, planning in these areas is to a large extent focused on revitalizing devastated city centres. These are the areas where the pressure of problems is greatest, but revitalization efforts often create gentrified areas and do not target the social needs of the poor. A view of the city region is complicated by the fact that revitalization lies in the hands of many different agencies, which are often acting in an uncoordinated way, among them planning departments and redevelopment agencies. This does not allow for the complexity of urban development to be adequately considered.

Against the background of the development of settlement structures in the US, and on the basis of the examples presented in this article, new planning efforts have emerged in recent years. Among them is the application of 'green' criteria as a model for planning and revitalization, in contrast to economic growth. Youngstown can be seen as a shrinking city that has attempted to turn away from the existing growth paradigm. Nevertheless, in the face of the traditional focus of US planning on economic and urban growth it must be doubted whether this will initiate a trend reversal. Nevertheless, for this city at least it offers a sensible and realistic alternative, and one which could be thought-provoking for cities in comparable situations.

In Germany *transition areas* are also exceptions, but they can increasingly be found in the former socialist east of the country where even economically successful cities like Dresden, Leipzig or Jena have experienced persistent population loss in certain periods and in large parts of the city. Hence, in eastern Germany local authorities are more focused on moving from type 4 *downgrading areas* to type 2 *transition areas*, i.e. on becoming economically successful, even under the conditions of a shrinking population, and — if the economic success is extraordinary — potentially moving subsequently from type 2 to type 1 *urban growth poles*. Unlike in the US, in Germany urban gravitation centres, defined as type 3, are virtually non-existent, because in an overall shrinking environment economic decline automatically leads to population loss. In the German debate population losses are traced back not only to economic issues but also to broader societal changes as described in the concept of the 'second demographic transition'.

Conclusions

Germany and the USA show shrinking cities discourses at different stages, with a well-established discourse in Germany, and a planning discussion just emerging in the USA. What can we learn from these discourses and respective cases of shrinkage with a view to changing planning paradigms?

Shrinking in the US is a more complex problem than perceived by urban and regional planning thus far. However, unlike in most European countries, these shrinking processes are embedded in population growth at the national level. Against this background and in light of a more market-oriented planning culture, a discourse on shrinking cities like the one taking place in Europe is not in sight in the US.

In the eastern part of Germany the level of suffering caused by the dramatic effects of the post-socialist economic transition and the sharp decrease in fertility rates combined with sustained processes of out-migration led to a lively debate on the issues of shrinking cities after the year 2000. The combined effects of deindustrialization, suburbanization, post-Soviet recomposition and demographic factors have produced a hitherto unknown model of decline (Oswalt, 2006). Therefore, a substantial part of the research dedicated to shrinking cities has been conducted in the past decade in Germany.

What about the growth machine and the main argument discussed in this symposium, namely that the model of urban growth has come to an end? As far as the USA is concerned, the question is whether planning will be capable of dealing with a taboo topic in a proactive way. The changes in planning practice from sprawl to smart growth raise hopes that the one-sided focus on growth is over. A precondition for investigating shrinking cities would be — much like smart growth — a 'label', symbolizing consensus, perspectives and chances for shrinking cities. 'Shrinking Smart' might have

the potential to inaugurate a new planning discourse drawing on experiences with smart growth to offer a new planning perspective for shrinking cities.

In Germany the existence of integrated city-wide urban development strategies became a precondition for state funding for the demolition of abandoned or underused buildings. The idea is that local urban restructuring strategies should facilitate a city's adaptation to the consequences of urban shrinkage and offer favourable conditions for new development opportunities. However, local action is often focused on the removal of abandoned residential buildings, and these problems cannot be solved simply in the housing market since they are caused by the overarching trajectories of depopulation and economic decline (Glock and Häußermann, 2004). Still, in some ways, the experiences with conversion strategies in East Germany could be of value for many shrinking areas in Europe and elsewhere. Here, maybe for the first time in contemporary urban planning, planners have disengaged from the illusion of new growth and aspire to conduct a pragmatic deconstruction. It seems generally accepted that dealing with the results of demographic, economic and physical shrinkage processes and planning for the future of considerably smaller but nevertheless liveable cities is one of the most challenging tasks for urban planners in the future.

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Résumé

De nombreuses grandes villes américaines et européennes sont confrontées à des trajectoires démographiques et économiques conduisant à un 'rétrécissement' urbain. Selon des données officielles, 13% des régions métropolitaines aux États-Unis et 54% dans l'UE ont vu leur population diminuer sur la période récente. Toutefois, l'ampleur et la répartition spatiale de ce déclin divergent nettement entre les deux zones géographiques. En Allemagne, la situation tient à la chute des taux de natalité et aux conséquences de la réunification. Aux États-Unis, le 'rétrécissement' est surtout lié à une mutation industrielle sur le long terme. Or, les problèmes des villes en décroissance ont rarement figuré dans les programmes des hommes politiques ou des urbanistes, du moins jusqu'à ces dernières années. Cet article donne un aperçu critique des voies de développement et des stratégies locales de quatre villes en décroissance: Schwedt et Dresde dans l'est de l'Allemagne, Youngstown et Pittsburgh aux États-Unis. Une typologie de la croissance et du 'rétrécissement' urbains, du point de vue économique et démographique, permet de distinguer quatre types de ville et d'analyser les différences entre les États-Unis et l'Allemagne orientale. Un nouveau débat transatlantique sur les stratégies en matière de politiques publiques et d'aménagement concernant la restructuration des villes en décroissance semble nécessaire pour dominer l'orientation prépondérante en faveur de la croissance qui, le plus souvent, accentue les effets négatifs du 'rétrécissement'.