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From *Shrinking Cities* to *Toshi no Shukushō*: Identifying Patterns of Urban Shrinkage in the Osaka Metropolitan Area

By Sophie Buhnik

Abstract

Japanese cities losing population represent an emerging research field among international studies on shrinking cities. Japanese-speaking works exploring this topic (Oswalt et al. 2008; Yahagi 2009) use the words *toshi no shukushō* to translate “shrinking city”, as a notion originating in Western research on urban decline, which particularly affects cities from OECD countries at the beginning of the 21st century (Pallagst et al. 2009). This paper explores the transfer and the idea and whether some Japanese cities in decline constitute a Japanese-specific version of this global phenomenon, combining de-industrialization waves, socio-economic crisis and demographic transition. To see how shrinking cities/*toshi no shukushō* relates to the evolution of Japanese urban spaces, this article investigates the factors behind urban decline within a metropolitan area considered shrinking in Japan, the Osaka Metropolitan Area. Osaka’s decline is particularly affecting its distant suburbs, where depopulation and devitalization are associated with the rapid aging of its remaining residents in addition to the decline in the manufacturing base of the area. The paper discusses the problems that such patterns of urban decline raise for urban planners in Japan. While certain actors within the public and private have responded to depopulation by creating local policies to serve elderly residents, at a higher level, there are gaps between metropolitan and local views on strategies to address peri-urban decline, as well as between cities and suburbs within regions. This gap suggests urban shrinkage requires regional governance and coordination, in addition to local solutions.

Keywords: Depopulation; de-industrialization; Osaka Metropolitan Area; shrinking city; urban decline

Introduction

Since the mid-2000s Japan has been losing population and aging faster than any OECD country. Articles commenting on the various economic and social impacts of demographic decline top the headlines of Japan’s main newspapers every week. While by the early 2000s, the Japanese

society was starting to recover from the painful, 10-year long crisis that followed the outburst of the financial bubble in 1991, depopulation trends may now be impeding the Japanese economy. In relation to such trends, a majority of Japanese cities are losing population after several decades of growth in central and suburban cities from development and sprawl. Physical symptoms of urban shrinkage (Oswalt et al. 2006) such as vacant houses, closed shopping streets, underused infrastructures, and deserted public spaces are prevalent in the urban landscapes.

For these reasons, Japanese cities are drawing the attention of research networks and international study groups that consider shrinking cities a global phenomenon (Oswalt et al. 2006; Cunningham-Sabot and Fol 2009). The notion of urban shrinkage originates in research on US and Western European shrinking cities, where post-fordist de-industrialization processes have resulted in the restructuring of a city's economic base, with far-reaching social consequences (Weaver 1977; Pallagst 2009). For ten to fifteen years, the words "shrinking cities" (or "schrumpfende Städte" in German) have been regularly used to describe the decline processes that many post-socialist East-German and East-European cities are experiencing (Florentin et al. 2008; Wiechmann 2009). Beyond Germany and the US, studies note the rising number of shrinking cities worldwide (Oswalt et al. 2006; Turok and Mykhnenko 2007; Pallagst et al. 2009) as contemporary globalization generates new forms of de-industrialization and emphasizes international competition between cities or city-regions for the attraction of knowledge-based, high-profit activities, questioning the future of urban spaces that fail to connect themselves to information networks (Audirac 2007; Cunningham-Sabot and Fol 2009). In most OECD countries, impacts of economic changes combine with the effects of the second demographic transition (Van de Kaa 1987 2002), which is characterized by falling fertility rates and rapid aging of national populations resulting in changes to average household size and urban dynamics. Thus, considered a worldwide phenomenon, urban shrinkage processes broadly cover demographic, economic and social factors. Depending on the country or region, the articulation between global factors and local contexts gives birth to specific types of and approaches to shrinking cities. In North America, for instance, urban shrinkage is particularly linked to capital and human mobility, suburbanization, and subsequent segregation caused in part by "white flight" from inner cities (Beauregard 2003). In mature industrial economies such as Germany and Japan, "key concerns are [more] about national population growth and how it might impede economic development" (Martinez and Wu 2009).

But while the prospect of a "shrinking population" (*jinko no shukushō*) and "aged society" (*koureika shakai*) is presently one of Japan's most

discussed topics, Japanese planners rarely describe the consequences of depopulation in cities as urban shrinkage (Yahagi 2009). Only recently have bilingual or Japanese-speaking works translated the notion of shrinking cities into the Japanese language by the words *toshi (no) shukushō* (Oswalt et al. 2008; Yahagi 2009). Such late transfer does not mean that the notion of urban shrinkage hardly applies to the Japanese context. It is more likely that the local effects of a global process and national population decline have only recently become apparent, in the aftermath of Japan's structural crisis during the 1990s. As a result, precisely how urban shrinkage processes relate to development within Japan's urban spaces has not been clearly articulated.

This article explores the possibility of defining the shrinking cities phenomenon in Japan, in comparison to the Japanese policies designed to tackle urban decline in the current demographic, economic and social context of Japan. Building on previous research on urban decline in Japan (Gilman 2001; Aveline 2003; Oswalt et al. 2006; Ducom 2007; Yahagi 2009), we ask the following questions:

- In what ways are the causes of urban shrinkage in Japan similar or different from the causes of shrinking cities in other countries (especially in the US and Europe)?
- Does urban shrinkage in Japan have comparable or specific spatial manifestations?
- Do patterns of urban shrinkage in Japan call for specific regional and local planning policies?

To answer these questions, we begin by defining the mix of factors that define urban shrinkage in Japan. We define city shrinkage by the combination of decreasing demographic, economic and social trends in urban spaces. We then analyze the trends in the Osaka Metropolitan Area, particularly the difference between the central city and peri-urban areas. We conclude with a discussion of the planning issues that suburban decline raises for urban planners and private operators. In metropolitan areas, views on the causes of urban shrinkage and strategies to cope with it often differ among the local governments, raising the question of whether the growing number of municipalities that are implementing anti-devitalization planning policies are responding appropriately to the current and long-term situation.

Study Area and Data Sources

This paper adopts the Metropolitan Employment Area (MEA) definition from Kanemoto and Tokuoka (2002). A MEA considers population, density, the existence of one or several employment cores, and the number of residents by municipality who commute to an employment

core located in another municipality. Thus, the MEA takes into account the unprecedented extent of suburbanization processes around Japan's main cities during the High Growth Period from 1955-1985 (despite several national plans designed to prevent sprawl (Sorensen 2001)). Moreover, Japanese MEAs were modelled after the US definition of Standard Metropolitan Statistical Areas, allowing for comparison with the decline processes of North American shrinking cities.

According to the 2005 census, approximately 80 municipalities within 6 Prefectures compose the Osaka Metropolitan Area (see figure 1). Figure 1 shows that "Osaka" is simultaneously the name of the metropolitan

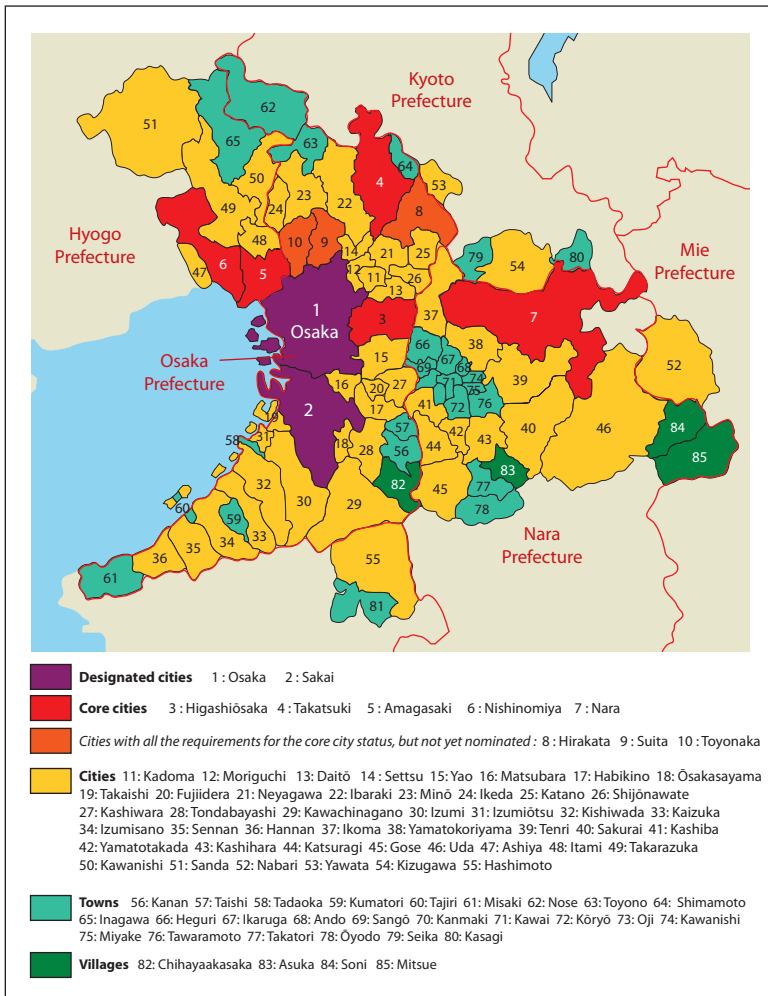


Figure 1: The municipalities belonging to the Osaka Metropolitan Employment Area. Map: S. Buhnik, 2010.

area, the Osaka Prefecture and the city of Osaka. The city serves as the administrative capital of the Osaka Prefecture and the historical capital of the Kansai region¹. In this text, “Osaka” used alone refers to the central city of the study region; otherwise, the level of geography is specified, e.g. “Osaka Prefecture” and “Osaka MEA”.

Tables and figures displayed in this article are based on the 2000 and 2005 national census as well as time series data provided by the Portal Site of Official Statistics of Japan (www.e-stat.go.jp). This work was completed by interviews with researchers from the Osaka Graduate School for Creative Cities (Osaka City University), the Ritsumeikan University (Kyoto) and Waseda University (Tokyo).

I Urban Shrinkage in a Country Losing Population

1.1 Urban Shrinkage in Japan: The Demographic Factor

Japan is certainly the country where urban shrinkage is linked the most to demographic transition and the progression of an “ultra-ageing society” (Doteuchi 2003). Since the late 1990s, annual growth rates of the Japanese population have stagnated, and began a negative plunge in 2005 (Japan Statistics Bureau). Between 2008 and 2009, the total population of Japan declined by 0.14%. The causes of this declining and ageing population are very low birth rates (9% in 2007) that have begun to fall below already low death rates. Further, these low proportions are not compensated by immigration rates: Japan has traditionally restricted immigration policies in spite of openings to Asian and other migrant workers². In 2007, people over 65 years old in the total population reached 21%. If current demographic trends do not change, Japan’s population may continue to shrink from its 2005 peak of 127.5 million inhabitants, to a population of less than 100 million by 2050. Already, 1,605 of Japan’s 2,217 municipalities lost residents between 2000 and 2005, with alarming impacts in remote areas, leading to heightened concerns among small and mid-size cities. But Japan’s biggest cities are also projected to have a 20% population loss by 2050, after a brief increase from 2010-2015 (Aveline 2003).

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1. The Kansai region lies in the southern-central part of Japan’s main island Honshu (See Figure 2); it is a multi-centered region that includes the metropolitan areas of Osaka, Kyoto, Nara and Kobe. But its “boundaries are rather vague, for Kansai is a socio-cultural designation rather than a state administrative unit” (Tsukamoto 2010).
 2. In 2008, 2,217,000 foreign residents were living in Japan and accounted for 1.74% of the total population. This figure increased by 50% in about 10 years. The two biggest migrant groups are Chinese (665,000) and Korean (589,000), followed by Brazilians and Filipinos. In 2008 and 2009, Japan signed bilateral treaties with Indonesia and the Philippines regarding Indonesian and Filipino workers in the care sector (Ito 2005).

The demographic factor is also prevalent in the post-socialist type of urban shrinkage (Wiechmann 2009). However, while a majority of East European shrinking cities are situated in a stagnating regional environment, they are on the European continent whose demographic balance is still positive; whereas Japan is an insular country coping with absolute loss. Although this trend is expected to appear in several other OECD countries in the near future, Japan is the first mature industrialized country to experience it at a fast pace.

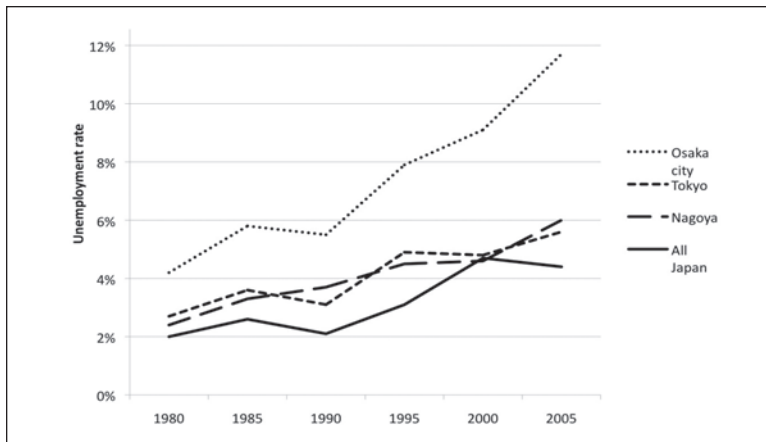
Paradoxically, the essential role that demographics play in city decline questions the definition of urban decline in Japan. On one hand, the national extent of population loss and rapid aging makes urban decline a long-term phenomenon that will significantly change urban forms (Aveline 2003; Doteuchi 2003), and not only a temporary economic crisis. To researchers and urban planners interested in aging urban societies worldwide, some Japanese cities are well ahead in their exploration or implementation of sustainable policies adapted to sluggish demographic and economic trends, as opposed to planning paradigms based on predictions of growth (Flüchter 2006; Ducom 2007). On the other hand, Japan also has urban areas experiencing depopulation amidst a thriving economy, and central cities that continue to gain residents. Economic and population growth will continue to be the case in a certain—though restricted—number of Japanese cities in the coming years. For instance, the industrial city of Amagasaki in the northern part of the Osaka metropolitan area managed to develop its GDP although the size of its workforce decreased³. The city of Osaka has continued to gain residents even though other cities within the Osaka Prefecture have had declining population. These are different types of shrinking cities from those defined as places where de-industrialization has led to a lack of economic and human attraction, or suburbanization has led to central city population loss.

However, Japan also has cities that are both demographically and economically shrinking from industrial restructurings and Japan's financial difficulties from the burst of its bubble economy in 1991.

1.2 Economic Restructurings in Japanese Cities Before and After the Bubble's Collapse

Following the Plaza agreement in 1985, the appreciation of the yen and large trade surpluses, among many other reasons, led to the unprecedented inflation of real estate and stock prices in Japan, forming an economic bubble from 1986 to 1991. After 1991, when the bubble burst, the economy declined for more than a decade, with real estate and stock prices bottoming in the early 2000s; and then declining further in the global

3. Interview with Prof. Hiroshi Yahagi 2010.



Graphic 1: Evolution of unemployment rates from 1980 to 2005 in Tokyo, Osaka and Nagoya. Source: Portal Site of Official Statistics of Japan.

crisis of 2008. This bursting prompted a vast financial crisis resulting in bankruptcies, mediocre economic performance, rise of unemployment and widening social inequities during the “Lost Decade”. But the effects were not equal throughout the country (Aveline and Li 2004).

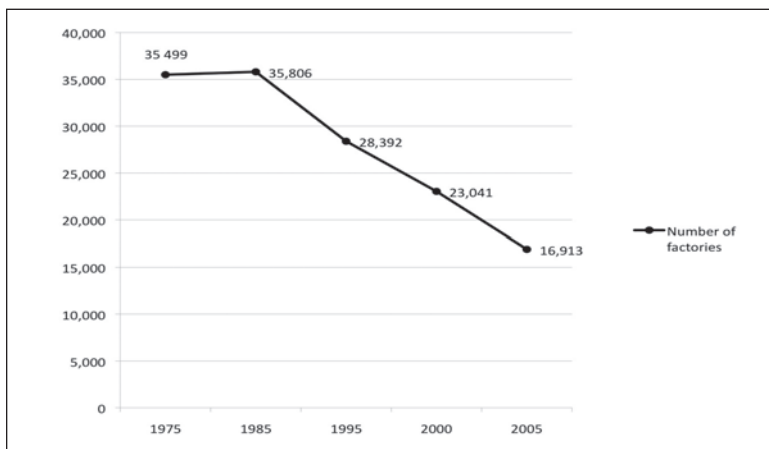
Graphic 1 shows that in the aftermath of the bubble, Japan’s main cities (Tokyo, Nagoya, Osaka) had higher rates of unemployment than the country overall. It also shows that unemployment rates were twice as high in Osaka, Japan’s second biggest city.

During the same period, the city of Osaka lost about one half of its factories from 1990 to 2005 (figure 2), from approximately 32,000 to 16,900. Within the Osaka Metropolitan Area, secondary industrial employment poles like Kadoma and Moriguchi in the Osaka Prefecture were similarly hit, but other employment poles, including Amagasaki, fared better. Osaka’s domestic product was particularly hit by the loss of subcontractors in the manufacturing industry, which represent an important part of Osaka’s economic profile, in comparison to more service-oriented cities like Tokyo or Fukuoka in the Kyūshū Island. Increased borrowings made by Japanese firms during the 1980s, guaranteed on real estate properties and stock market values that, at the time, were believed to never decrease, were the direct cause of these bankruptcies in the financial, industrial and service sectors during the 1990s (Uesugi 2004). Small and Medium Enterprises (SME) in these sectors were especially hit by these unsound investments.

The decline in manufacturing was also the result of a decline in consumption during the country’s economic crisis, which had a grave impact on the electronic goods sector, and a credit crunch brought on by the reluctance of banks to lend after the bad loans, especially to SMEs (Uesugi 2004).

However, as indicated in Graphic 2, the Osaka manufacturing sector was declining before 1991 and continued unabated after 2002: at this point, the Japanese economy had started to recover via exports to the rest of Asia, particularly China (Dourille-Feer 2008). Furthermore, while most of Japan's large cities maintain today lower unemployment rates than mid-size cities (Mizuno et al. 2003), Osaka's high unemployment rate is at first glance a puzzling exception (Graph 1). It can be explained, however, by the restructuring of manufacturing activities in the Osaka region. With the *endaka* (yen revaluation), the rise of Japan's financial power after 1985 stimulated foreign investments and incited many Japanese firms to outsource their production to cheaper Asian countries. In 1985, 3% of Japan's production was off-shore; by 1990 it was 6.4%, and in 2003 it had reached 15.5% (Dourille-Feer 2008). With the rise of overseas production, Osaka's domestic producers and subcontractors have consistently faced competition from developing Asian nations (Fujita, Hill 1993).

Consequently, the restructurings of the Osaka Metropolitan Area's regional economy date back to at least the mid-1980s when the de-industrialization process began. This process was then aggravated by the burst of the economic bubble. Other Japanese cities have encountered a similar evolution, such as the coal-mining city of Yubari, Kitakyūshū (a harbour city with heavy industries) or "company towns" like Hitachi in the Ibaraki Prefecture (Fujii 2004). These examples are close to US and Western European types of urban shrinkage. However, they are small cities inside Japan's urban hierarchy, and much smaller than the large cities that are shrinking in the US and other countries, such as Detroit and Manchester. Japan's heavy industries were hit by the 1973 Oil shock,



Graphic 2. Number of manufacturing industries in Osaka City.

Source: Ministry of Economy, Trade and Industry, "Census of Manufacturing" (Osaka City Planning and Coordination Bureau's industrial statistics survey).

but the industrial base was not organized after a fordist model, partly explaining why there seems to be “no real counterpart to cities like Detroit and Manchester in Japan, except maybe Osaka” (Fujii 2004).

1.3 Osaka’s (and Japan’s) “Tokyo Problem:” Metropolization and Urban Shrinkage in Japan.

Regardless of its industrial difficulties, Osaka and its metropolitan area maintain the second highest level of economic performance among Japanese cities: in 2006, thanks to its commercial functions, Osaka represented the second largest share of Japan’s GDP, 7.7%, behind Tokyo’s 16.5%. Osaka’s GDP is comparable to that of internationally renowned cities or even countries. To counter their manufacturing decline, Osaka and the surrounding Kansai region have launched programs to upgrade their technology (information technology Services and robotics in particular), sustain growth in the service economy, and improve the communication infrastructure (Edgington 2000). But in Japan, as in other developed countries (Cunningham-Sabot and Fol 2009), the global economy and metropolization—the process of concentration of human capital and finance within growing and dominant regions (Sassen 1991)—trigger industrial relocations and amplify the concentration of strategic activities in Tokyo at the expense of other Japanese cities, especially Osaka.

Placed in a longer historical perspective, the relative economic stagnation of the Osaka Metropolitan Area expresses the gradual weakening of Osaka’s position within the national urban hierarchy. In medieval times, Kansai was the commercial centre of Japan, and Osaka was a flourishing harbour through which goods and technology were introduced from China and Eurasia to Kyoto, the former imperial capital (Edgington 2000). After the Meiji restoration, the development of textile and heavy industries earned Osaka the sobriquet of “Manchester of the Orient”, making Osaka Japan’s biggest city until the 1920s. But with the Meiji restoration, the attributes of political and institutional power were established in Tokyo. This modern capital benefited from the consolidation of state capitalism and strong centralism before and after 1945, in an effort to catch up with western countries (Tsukamoto 2010). Such benefits to Tokyo hindered Osaka’s domestic primacy and entrepreneurial sector. In the 1980s and 1990s, several corporations born in the Kansai capital moved their headquarters to Tokyo (Edgington 2000; Fujii 2004). In addition, the Osaka region does not sport the same touristic, brand image that Tokyo and Kyoto enjoy among foreign visitors. As the Manchester of the Orient, Osaka’s relationship with Tokyo is similar to Manchester’s with London.

1.4 The Uneven Distribution of Urban Decline in Japan

To summarize the factors of urban decline described above; Japan's urban demographic transition is not directly correlated to the mutations of Japan's economy before or after the bubble and its collapse, but the negative impacts of both demographic trends and economic restructuring and decline have occurred along the same timeline, resulting in an uneven distribution of depopulation throughout Japan.

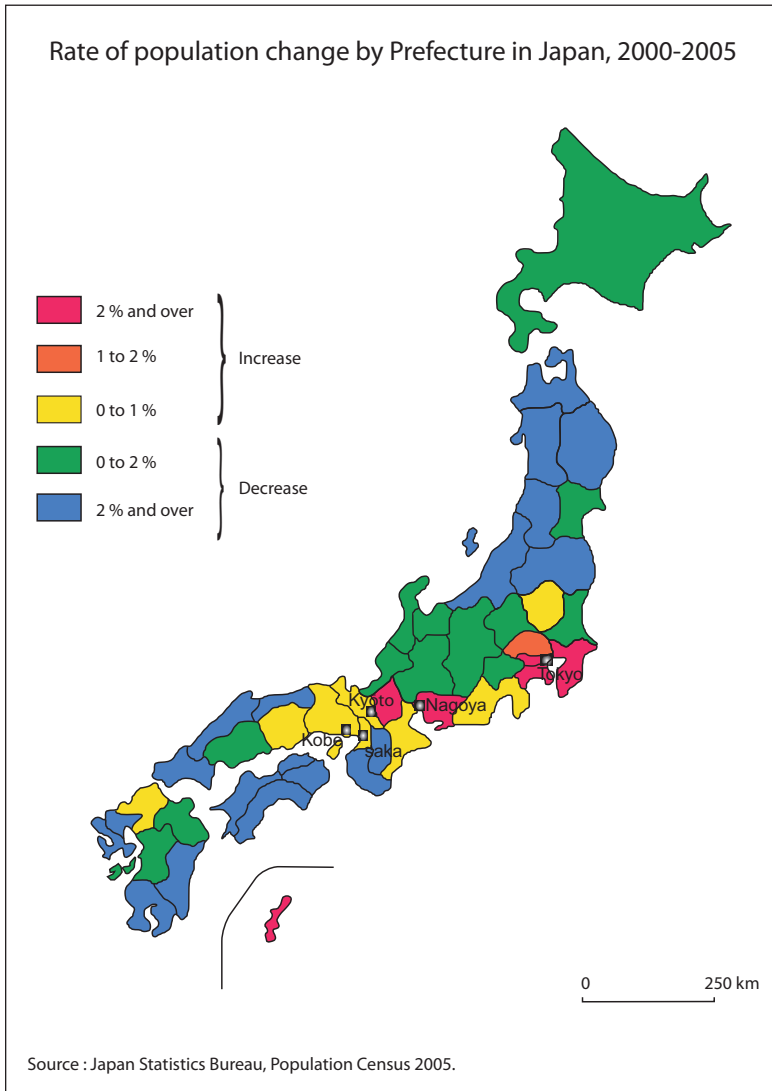


Figure 2: Rate of population change by Prefecture in Japan, 2000-2005.
Map: S. Buhnik, 2009.

Excerpts from the 2005 national census show that more than 30 of the 47 Japanese prefectures experienced negative rates of population change since the end of the 1990s (figure 2), particularly on the northern and southern ends of Japan. Only the prefectures encompassing the heart of the Megalopolis (Tokyo, Nagoya, Kyoto, Osaka, Fukuoka) kept a steady population in the 2000s⁴. The Prefectures facing the highest losses are peripheral regions that underwent a strong rural exodus during Japan's High Growth period (1955-1985) and even before. Figure 2 also shows the demographic stagnation of the region surrounding the Osaka Prefecture, the south-eastern part of the Osaka MEA in particular. The annual growth rates of the Osaka MEA Prefectures from 2000-2005 were -3.2% to 1%. These rates stand out against the demographic vitality of the Aichi Prefecture (home to the city of Nagoya) and, above all, the prefectures encompassing the Tokyo Metropolitan Area, ranging from 1.7% to 4.2% (Figure 2 and Table 1).

Metropolitan area	Prefecture Name	Rate of population change 1995-2000 (%)	Rate of population change 2000-2005 (%)	Rate of in-migrants from other prefectures in 2008 (%)	Rate of Out-migrants to other prefectures in 2008 (%)
Osaka	Osaka-fu	0.1	0.1	1.83	1.88
Osaka	Hyogo	2.8	1	1.76	1.76
Osaka	Nara	0.8	-1.5	1.87	2.17
Osaka	Wakayama	-1	-3.2	1.22	1.59
Osaka/Kyoto	Kyoto	0.6	0.1	2.15	2.28
Osaka/Nagoya	Mie	0.9	0.5	1.73	1.74
Nagoya	Aichi	2.5	3	1.76	1.51
Tokyo	Tokyo-to	2.5	3.6	3.32	2.67
Tokyo	Kanagawa	3	4.2	2.62	2.29
Tokyo	Saitama	2.6	1.7	2.36	2.15
Tokyo	Chiba	2	2	2.72	2.33

Table 1: Population changes and domestic migration rates in the Osaka, Nagoya and Tokyo Metropolitan Areas by Prefecture, 1995-2008.

Source : Japan Statistics Bureau, Portal site of official statistics of Japan.

4. More than 50% of the Japanese population was living in the Megalopolis before the 2000s, and this tendency has progressed in the 2000s (Japan Statistics Bureau).

	1980	1985	1990	1995	2000	2005
Osaka City	2,648,200	2,636,250	2,623,800	2,602,400	2,599,000	2,628,800
Tokyo (City and Pref.)	11,618,000	11,829,400	11,855,600	11,773,600	12,064,000	12,576,000
Nagoya City	2,088,000	2,116,400	2,154,800	2,152,200	2,171,600	2,215,062
Sendai City	792,000	857,300	918,400	971,300	1,008,100	1,025,100
Fukuoka City	1,088,600	1,160,440	1,237,000	1,284,800	1,341,470	1,401,300

Table 2: Total population evolution in several Japanese cities, 1980-2005.

Source: Portal site of official statistics of Japan.

The reason for the relative demographic apathy of the Kansai region is not only natural population decline, but also negative net migration since the late 1980s. In 1990, 35,000 people moved from the Osaka MEA, while the cities of Tokyo and Nagoya grew from domestic migration, as did smaller, service-oriented cities like Sendai and Fukuoka in the Miyagi and Fukuoka Prefectures Prefectures (Figure 2 and Table 2).

Consequently, even in a context of overall and accelerating demographic shrinkage, several Japanese metropolises are still gaining population due to positive net migration. Hence, it is possible to distinguish cities or agglomerations losing population from low birth rates from cities losing population due to both sluggish demographic trends and economic restructurings, such as the Osaka agglomeration. “If one understands shrinkage as a decline in the economy, society, culture as well as depopulation, the Osaka MEA may well be a typical shrinking city” (Fuji 2004).

II. Patterns of Growth and Decline in the Osaka Metropolitan Area: The Shrinking Suburbs

2.1 Demographic “Recentralization” and Periurban Decline

Time series economic data reflect both the economic and demographic stagnation of the Osaka Metropolitan Area. However, a closer, municipal-scaled observation emphasizes the fragmentation of decline and growth within this area. First, the city of Osaka has experienced a slight demographic revitalization since the early 2000s (Table 2): Osaka gained about 30,000 inhabitants from 2000 to 2005, and counted 2,642,000 residents in 2008. This is a reversing trend, as the city of Osaka continuously declined after a peak of 3,160,000 inhabitants in 1965. Such losses were partly due to changes in land uses—from residential

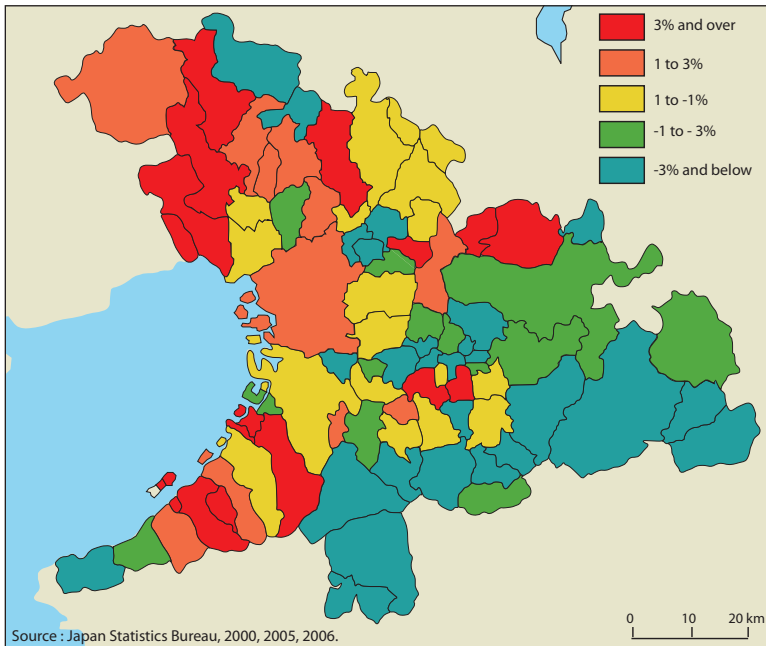


Figure 3: Rate of population change by municipality in the Osaka Metropolitan Area, 2000–2006. Note: The 2006 annual population estimates were added to the results of the 2005 national census.

to commercial and office uses—to accommodate the metropolization of the Osaka region. The map of the 2000-2006 demographic evolution of each municipality in the Osaka Metropolitan Area depicts the slight revitalization of Osaka City: its gains are among the highest of the area in absolute numbers due to Osaka’s demographic size. However, other municipalities have grown at a faster pace since 2000, especially littoral municipalities located in the north-eastern part of the metropolitan area (Figure 3). Because of its proximity to the Kobe Metropolitan Area, many households affected by the devastating Kobe earthquake of 1995 have moved to this part of the Osaka region.

The remaining growing municipalities are more scattered within the Osaka MEA. The metropolitan government has made strong investments in clusters located on the borders of the Osaka, Kyoto and Nara Prefectures, drawing enterprises and residents. Thus, there is a link between demographic gains and job creation.

Conversely, the areas with the highest rates of population decline can be divided into three categories:

- 1) The first category includes blue-collar cities with significant manufacturing segments in their local economies, and dense and substandard residential

areas developed during the high growth decades (Flüchter 2006). Examples include Kadoma, Daito and Moriguchi (which has experienced a loss of 6% of its inhabitants since 1995) in the Osaka Prefecture. But as said above, not every industrial city of the Osaka Metropolitan Area losing inhabitants and workers is exposed to financial or economic depression: the city of Amagasaki in the Osaka Prefecture has managed to increase its GDP after several years of restructurings and population loss through an improvement of per-hour productivity.

- 2) The second category includes the Osaka MEA's distant peri-urban areas, such as Toyono (Osaka Prefecture) in the north, Kawachinagano, Tondabayashi in the Osaka Prefecture, or Hashimoto in the Wakayama Prefecture, and Uda, Sakurai or Gose in the Nara Prefecture, in the western part of the Osaka MEA.
- 3) The third category are the remaining small villages and a majority of towns, underlining an association between demographic change and city size: for instance, Chihaya-Akasaka in the Osaka Prefecture, Soni and Mitsue in the Nara Prefecture. The general decline in the Osaka MEA's southern and western peri-urban areas is quite pronounced, especially in the Nara Prefecture, an area primarily composed of urban-rural villages and towns (Chihaya-akasaka, Asuka, Uda). These distant rural suburbs have less than 1,000 people per km², compared to around 30,000 people per km² in Osaka (Sakanishi 2006).

2.2 The Suburbs of Osaka: From Attractiveness to Obsolescence

Osaka's inner-metropolitan evolution is similar to the findings on urban decline in other Japanese agglomerations, including Tokyo and some mid-size cities (Flüchter 2006; Ducom 2007). According to these studies, peri-urban areas with new towns and large public estates are declining because they no longer meet the needs and social expectations of Japanese households. In the Osaka Metropolitan Area, Senri New Town (located on the municipalities of Toyonaka and Suita) is an example: opened in 1962, it was planned by the Enterprise Bureau of the Osaka Prefectural Government, and is one of Japan's earliest new towns. Although the population neared 130,000 inhabitants in 1975, it has now dropped to 94,000. Senri's older population (21% of its residents are over 65 years old) is much larger in proportion than that of the entire Osaka prefecture (Tsutsumi 2005). "Common features of these communities are obsolete housing estate and homogeneity. Both the detached and attached houses, particularly those built early on, are rather monotonous. The homogeneous population of small nuclear families is getting older. The problems are not yet serious, but in the future derelict land and abandoned houses may become more common in the metropolitan suburbs" (Flüchter 2006).

The relative obsolescence of the new town's landscape and housing contrasts with the recent success of urban projects built in Osaka or other core cities

of the metropolitan area that mix housing, offices, shops and other uses and are specifically aimed at young households (Fujii 2004; Hatta 2006). In 2000, 54% of the condominiums built in the Tokyo region were developed within a 20-kilometer radius from the centre of the Japanese capital; this figure was 62% for the Osaka Prefecture (Flüchter 2006).

Two main factors explain Osaka's current peri-urban decline. First, during the High Growth decades, the extending distance between Osaka and its suburbs caused a strong work-residence mismatch. The declining peripheries are "bedroom towns" relatively far from local employment poles. From the 1970s and 1980s onwards, late but vigorous development of the service industry stimulated the construction of sky-scrapers in city-centres. Within the Osaka MEA, significant job decentralization occurred only by the end of the 1980s in several "secondary" employment poles, and the percentage of suburban residents working in Osaka city declined from 27.8% in 1990 to 24.6% in 2000 (Kanemoto, Tokuoka 2002; Sakanishi 2006). Still, Osaka city remains an important employment pole; in 2005 the day-to-night population ratio was beyond 141%.

The second factor relates to land planning and land ownership in Japan. In the suburbs of the Osaka Metropolitan Area, the fragmentation of land ownership and the power of individual property served as obstacles to the development of large-scale planned employment areas (Sorensen 2001). As a consequence, many contemporary Japanese suburban landscapes are a composition of intertwined fields, residences, facilities and local plants. Countering the lack of largely planned public infrastructures in the areas surrounding the cities of Tokyo and Osaka, private companies created a system of railway transport that has played an essential role in suburban residential areas from the beginning of the 20th century to this day (Aveline 2003). These operations, especially at terminus stations, were designed to guarantee regular traffic and transport on railway networks. Since the 1960s, single houses in such suburbs have represented the best way for many to afford a good living environment, regardless of the length of train commute to the Osaka and Tokyo CBDs (Ducom 2007). However, after real estate prices in Osaka's core declined from 1991 to 2000, urban renewal operations in Osaka city built housing units with more affordable prices than before the bubble, therefore dampening the competitive advantage of suburbs over central districts.

III. Peri-Urban Decline Within the Osaka Metropolitan Area: Planning Issues and Perspectives

From a regional viewpoint, the Osaka MEA's suburban municipalities are facing the strongest population losses. Throughout the country, the young and working-aged population has lost interest in the suburban

way of life, and many prefer to move to central districts if they can afford to live there. On the contrary, retired Japanese workers and elderly households are reluctant to move from their neighbourhoods, be it central districts or suburbs. In the Osaka MEA, economic hardships and stronger outmigration rates reinforce peri-urban decline and lower the regeneration trends in central districts. Such decline patterns draw a striking contrast with post-fordist cases of urban shrinkage (Pallagst 2009) like Detroit or St. Louis, where shrinkage has mostly occurred in inner cities.

From a regional point of view, urban decline on the fringes of a metropolitan area may appear as an “asset”, affording the region the possibility of “downsizing” its urban spaces to reduce its ecological footprint. Within a region, cities, such as Osaka, that grow then shrink along extensive railway lines may be more sustainable than the smaller car-dependant cities in the peri-urban area. But for the shrinking small town without rail, shrinkage is far from being an asset because of the heterogeneous and scattered pattern of decline within the town.

3.1 The Consequences of Physical Shrinkage and Changing Population Structure in Osaka’s Suburbs

In the Osaka MEA’s peri-urban municipalities, the emergence of urban decline is comparable to what happens in other shrinking cities worldwide: vacant houses, closed shops, underused infrastructure and scattered public spaces give an impression of physical emptiness and create perforations in the urban fabric (Florentin et al. 2009). The most evident symptom of shrinkage will be shopping streets with shutters down (Photo 1): the shrinking number of customers and the competition of suburban shopping centers led to their decline. Because of this uneven thinning of urban resources, distance between remaining residents and remaining services will likely grow.

While the high density of Japanese suburbs partially ameliorates this process, the decline in the numbers of shops and services or their concentration in commercial centres for car-users aggravates the isolation of elderly residents by impeding their access to daily resources.

Latest population estimates confirm the correlation between depopulation and ageing, strengthening an “age differential” between cities with the highest and the lowest growth rates of the Osaka Metropolitan Area. In Osaka’s declining suburbs, the proportion of elderly has increased by more than 20% from 1990 to 2000, while the population aged between 15 and 24 in 2000 has notably decreased (Sakanishi 2006). Age will be a factor of social differentiation between metropolitan centres and their



Photo 1: A “shutter shopping street” (*shatta suturito*) in Yao city.

Source: S. Buhnik, 2009.

suburbs. But income will also distinguish these places; many modest income households who sought to own homes in booming suburban residential areas during the bubble economy will now have to remain there as they cannot afford to move elsewhere since their property has lost sometimes more than one half of its pre-bubble value.

In addition, depopulation and aging represent a threat to the viability of transit in peri-urban areas, deepening the split between well-connected central districts and peripheries at the ends of railway lines. In distant suburbs, the predicted shrinking of the working-age population will reduce the number of daily commuters to employment cores and subsequently put more pressure on the cost-effectiveness of private railway companies. If falling numbers of commuting passengers, as well as commercial and leisure users, hurt the private railway operators' financial situation, “they will either raise their fares or lower the quality of service” (Sakanishi 2006). In Japan, railway is still seen as the most competitive mode of transportation, and planners support the concept of transit-oriented land use planning near stations “to induce the inflow of young families around railway stations” and to support rail use by placing homes, shops and workplaces together (Sakanishi 2006). But areas without sufficient population to support the rail service, or without rail, will not have these travel advantages and residents will need to rely on car travel or home delivery.

3.2 Government Responses: Rising Awareness, Local Contradictions

How have the Japanese policy-makers and urban planners responded to their specific patterns of shrinkage? With the precocity and intensity of depopulation trends in Japan, and frequent news stories on the topic since the 1990s, one might assume that local governments and authorities developed an early awareness of shrinkage. Indeed, some policymakers have responded: in the Osaka Metropolitan Area, more municipalities support innovative elderly-oriented services that use robotics and information technologies, or improve care services and home deliveries in order to overcome the distance between residents and urban resources.

So it is surprising to see Japanese urban planners admit that they have become aware of urban shrinkage only recently, and seemingly have more difficulties to admit it than planners of East-German shrinking cities (Wiechmann 2009): they anticipated aging, but fertility and birth rates fell sooner than they expected⁵. Case studies mentioning the limited acceptance of urban decline in Japanese planning discourses confirm this late recognition of the problem (Ducom 2007).

As of today, the Japanese society still displays a vitality founded upon construction dynamics that continued unabated in urban spaces until the end of the 1990s (Flüchter 2006): for a long time, these dynamics made it harder to discern signs of shrinkage or to decipher it in statistics, especially in big cities. Due to this construction dominance, the number of houses has increased at a faster pace than the number of households (Uemura et al. 2009). The strategic importance of the building sector in Japan has encouraged policy-makers to ignore signs of urban decline and the reduced demand for housing. The significance of the building sector in Japan rests on political and economic motives - since 1945, the Japanese state government has been characterized by a system of vested interests among a long-term ruling Liberal Democratic Party, bureaucrats, and business men, known as the "Iron Triangle". The Iron Triangle has advocated high government spending on construction activities and public works that exceeds public needs but employs many Japanese workers. This system has been harshly criticized since the 1990s (Feldhoff 2007).

Since some government sectors and the private construction industry have not acknowledged population decline, the growing awareness of urban shrinkage must rest with the planners in metropolitan areas. At a high level, the Tokyo metropolitan government or the city of Osaka, might argue for more compact cities, giving priority to strategic urban renewal in central districts, since distant suburbs are declining. Such policies may

5. Interview with Prof. Toshio KAMO, Ritsumeikan University, Graduate School of Public Policy, in July 2009.

address the economic and environmental aspects of sustainability by helping Japanese cities to better compete with Northeast Asian global cities and reducing the development impact of sprawl, but such concepts are not concerned with the social dimension of sustainable development, either in central cities or for the residents on the peripheries. The original goal of urban regeneration strategies in Tokyo and Osaka was to stop the fall of real estate prices, not to promote the broader concept of sustainability (Aveline 2003).

Such gaps among municipalities' views on planned development continue to widen as disagreements arise between urban and suburban municipalities. Some peri-urban municipal governments who feel isolated and do not want to bear alone the social and material impacts of shrinkage still defend paradigms of growth in their planning documents. Consequently, peri-urban shrinkage is increasing competition for local projects. Similarly, railway operators whose lines are located in peri-urban areas will compete to retain their users.

Given this situation, the decline of Osaka's suburbs might be tackled via more regional governance that would take into account the variation in local depopulation processes. As the capital of Kansai, the city of Osaka and its quest to overcome Tokyo's demographic pressure may be a stake for more integrated planning programs in the Kansai region, despite several earlier failed projects of administrative unification between Osaka, Kyoto and Kobe. And this appears to be happening; the Osaka region and its neighbouring regions are trying a federation-type regional government (Tsukamoto 2010).

Conclusion

Since the mid-2000s Japan has undergone a nationwide demographic decline, leading to absolute residential losses in a growing number of cities. Rural and peripheral regions with small to mid-size cities were affected first, but by 2020 every Japanese city will lose population, with the possible exception of Tokyo. However, even with population loss, some Japanese cities have and will continue to improve their economic performance, and therefore do not fit a multidimensional definition of shrinkage. However, the Osaka MEA does represent a case of the global urban shrinkage phenomenon; population loss is the result of natural population decline, but also high out-migration and unemployment rates that are the consequences of economic restructuring processes that started in the 1980s and worsened after the end of Japan's bubble economy. Yet, the Osaka region is also somewhat different from other shrinking cities. Like other regions throughout the world with shrinking cities due to economic restructuring, shrinkage in the region is an uneven process, but

unlike these areas, the shrinking trend is reversed in the Osaka MEA: the city of Osaka's "urban renaissance" policies have resulted in central city growth while the region's rural-urban suburbs have gradually declined. This is in contrast to earlier decades of booming growth in these sprawling residential areas outside the city of Osaka.

At a first glance, the "de-sprawl" of Japanese agglomerations may seem more sustainable: the prospect of shrinking suburbs might support the "compact city" scheme and lessen the region's ecological footprint. However, focusing growth in the core doesn't alleviate the problems facing shrinking municipalities, including scattered derelict and vacant retail spaces, facilities and homes. Paired with the rapid aging of its population structure, especially within peri-urban areas, a reduction of urban resources will create particular challenges for the elderly in meeting their daily mobility needs and access to infrastructure and other facilities.

In sum, while Japanese cities and regions share many similarities with shrinking cities in other Western nations; de-industrialization, out-migration, intra- and inter-regional competition, the Japanese case of shrinkage is somewhat unique because of their more rapid aging and depopulation issues, cities with shrinking population but economic growth, and suburban decline rather than central city decline. The first difference of an aging population may be unique to Japan for the time being as other countries may soon face a similar demographic. The unequal distribution of population decline, particularly the trend of losses in small and mid-size cities yet growth in larger cities is also similar to the experience in Germany.

These difference, similarities, and responses offer lessons for Japan and other countries. First, the innovative elderly-oriented projects implemented in Japanese shrinking urban areas may serve as examples for other mature industrial countries expecting similar demographic trends. On the other hand, Japan has not been a model for addressing the other issues associated with shrinkage. The continuation of planning practices established during the High Growth period, which make the notion of urban shrinkage itself seemingly harder to accept, has resulted in the supply of housing, particularly in core areas, exceeding demand. It has also furthered competition among local governments and private transportation operators, as each struggles to retain and attract residents and users. In this respect, urban decline in Japan, and possibly other developed nations, calls for more regional governance or coordination among the municipalities and prefectures within a metropolitan area in order to reconcile contradictory views on their future demographic development and avoid unnecessary competition for a dwindling demand. While the major central cities in Japan are currently not

declining from population loss, all cities are expected to lose population in the next few decades. By working with the surrounding cities today, the large cities may be better prepared to cope with population loss in the future, especially since shared resources within the region, particularly the rail lines, will cut back services to all areas if declining use is not managed appropriately. This city-suburban conflict may also offer a lesson for other countries with the reverse phenomenon. While US suburbs were not losing population as central cities were, until the recent foreclosure crisis, many US suburbs are beginning to deal with the same issues of declining inner cities. Regional cooperation in these areas may also be a way to combat the effects of unequal shrinkage. To meet all goals of sustainable development, including the social equity goal, such cooperation seems necessary.

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