Prague and Central Bohemia

Current Population Processes and Socio-spatial Differentiation Martin Ouředníček (ed.)

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Contents

	eword	
1/	Prague and the Central Bohemian Region: Main Socio-spatial Processes in the Period After Transition (Martin Ouředníček)	11
2 /	Methodological Approach: Concentric Zones of Prague and Typology of Municipalities in the Central Bohemian Region (<i>Martin Ouředníček, Jiří Nemeškal</i>)	25
3 /	Spatial Patterns of the Foreign Population in Prague and the Central Bohemian Region: The State 10 Years After the Financial Crisis (<i>Adam Klsák, Ivana Křížková</i>)	35
4 /	Migration and Residential Mobility of Foreign Citizens in Prague and the Central Bohemian Region (Ivana Křížková, Adam Klsák, Martin Šimon)	59
5 /	Residential Segregation in Prague and the Central Bohemian Region in 2012–2018: A Multiscalar Approach Using Individualised Neighbourhoods (<i>Martin Šimon, Ivana Křížková, Adam Klsák</i>)	73
6 /	Real Population and Daily Mobility in Prague and the Central Bohemian Region (Jiří Nemeškal, Martin Ouředníček, Lucie Pospíšilová, Pavel Frydrych)	91
7 /	The Dynamics of Age Structure and Primary School Network Development and Its Consequences for Municipalities Within the Central Bohemian Region (Jana Jichová, Zuzana Kopecká)	109
8 /	Residential Mobility Within the Central Bohemian Suburbs (<i>Nina Dvořáková, Marie Horňáková</i>)	131
9 /	Demographic Future of the Central Bohemian Region: A Prognostic Vision for the Next Three Decades (<i>Tomáš Kučera, Boris Burcin</i>)	151

Foreword

The topic of socio-spatial differentiation has, for a significant length of time, belonged to the core issues of social geography and urban studies. Some ten years ago, it was referred to as "new socio-spatial differentiation" in the post-socialist context of settlement systems and internal city structure development (Ouředníček, Temelová, 2011). The traditional tool for such description is cartographic visualisation and presentation of spatial patterns using various forms of thematic maps. Maps, therefore, form a significant part of this volume and contain crucial information within the majority of presented chapters. Aside from the static information presented in the maps, current population processes appear in the individual subtitles of the book. The presentation and evaluation of processes require more dynamic forms of cartographic visualisation and new methods of investigation. Amongst others presented in this book; new tools of segregation measurement, various approaches to the use of mobile data and an innovative form of population forecasting. The common thread connecting all chapters is the regional focus on Prague as well as the Central Bohemian Region and the quantitative approach to comparing spatial patterns and regional processes. The majority of maps and analyses of this dynamic area are produced using typologies of the capital city's internal structure and the municipalities of the surrounding region. The methodology and selected results have a high potential for application in the decision-making sphere, particularly for dealing with the segregation of foreigners, school networks and population forecasts.

The book was planned as the fifth volume of publications edited by the main investigator (Ouředníček, 2006; Ouředníček, Temelová, 2012; Ouředníček, Špačková, Novák, 2013; Ouředníček, Jíchová, 2017) focusing on the changes of socio-spatial differentiation, suburbanisation or social environment within the Prague Metropolitan Region. While all previous books were presented in the Czech language, the thematic content of this volume would be valuable not only to domestic readers, but to a wider international audience as well. Attention paid to issues of international migration, mobile phone data analyses, residential mobility, population forecasts and generally the dynamics of Prague and the Central Bohemian Region could attract readers from abroad as well as students of social geography and urban studies in specific subjects taught at the Charles University and other schools. Throughout the last 20 years, many foreign students have been recruited through the ERASMUS programme and there is therefore a need for books to be accessible in English language as well.

Most of the research was done by members of the research group Urban and Regional Laboratory affiliated at the Faculty of Science, Charles University. Additionally, this volume includes texts produced by authors from the Department of Social Geography and Regional Development, the Department of Demography and Geodemography and the Institute of Sociology of the Czech Academy of Sciences.

The research leading to publication of this book has received funding from the Czech Science Foundation under the grant project number GA18-14510S "Contemporary changes of social environment within the Czech suburbs" and various other sources stated within the individual chapters. A substantial amount of empirical data was processed for the project of the Technology Agency of the Czech Republic in programme Eta number TL01000170 "Real populations in Prague and Central Bohemia Region: daily mobility monitoring and population prognosis". The editor would like to thank the Czech Science Foundation and Technology Agency of the Czech Republic for the financial support, the town of Hostivice, which provided the front page photo, Jana Hámková and Jiří-Jakub Zévl for technical support, Jiří Nemeškal for cartographic design of the maps and two reviewers of the book, Ondřej Mulíček from Masaryk University in Brno and Zdeněk Szczyrba from Palacký University Olomouc for valuable comments and suggestions for the changes, which considerably improved the quality of individual chapters and the book as a whole.

The empirical findings presented in this book are based on research into long-term trends of the development of the settlement system in Central Bohemia. Unfortunately, in the last two years following the Covid-19 pandemic and in recent weeks as a consequence of the Russian invasion to Ukraine, these long-term trends have developed in different ways. The authors were not able to respond to this development in the texts. The most significant trends currently changing the socio-spatial structure and mobility of the population in Prague and the Central Bohemian Region can be considered: significantly increased mortality rates and even declining life expectancy due to pandemics, general reduction in daily mobility, commuting and traffic, and a massive wave of immigrant women and children from occupied Ukraine. During the fourteen days of the war, this number exceeded 250,000 of asylum seekers with a significant concentration in Prague and Central Bohemian mu-

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nicipalities. The wave of migration cannot be considered complete and will certainly be followed by efforts to reunite families, whether with the arrival of men or the return of women and children to Ukraine. Migration will significantly affect the results of all topics identified in the book – from demographic and migration trends, the distribution of foreigners to population forecasts.

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1 / Prague and the Central Bohemian Region: Main Socio-spatial Processes in the Period After Transition

Martin Ouředníček

1.1 INTRODUCTION

Much of the current geographical discourse in the field of urban and settlement studies focuses on the internal differentiation of large or capital cities and the processes that transform their inner spatial organisation. Currently, a smaller part of topical literature is focused on the themes of settlement geography, which characterised geography's traditional branch in the second half of the twentieth century. This shift is observable in the Czech Republic in general, and more specifically, in the research direction of Albertov School¹ of social geography. The geography of settlements as a subject has disappeared from the curriculum of study programmes at the Faculty of Science, being replaced by subjects focusing rather on the particular processes of internal transformation of (post-socialist) cities. Similar processes of discipline transformation can, to a large extent, be observed within the global context as well. On the national level, the last considerable contributions to settlement geography include paradigmatic theories associated with stages of urban development (van den Berg et al., 1982; Cheshire, Hay, 1989 summarised in Ouředníček, 2000; Champion, 2001) or works focusing on the global settlement system (Taylor, 2004; Derruder, Taylor, 2020). Since then, research and publications on the internal differentiation of individual cities have clearly dominated. Suburbanisation belongs to the most investigated processes, but the majority of publications describe the situation in individual cities and their surroundings, only exceptionally evaluating this process at the level of the national settlement system (Ouředníček, Klsák, Špačková, 2019).

The present book seeks to, at least partially, fill this research gap in contemporary knowledge. Its individual chapters stand halfway between settlement and urban geography and offer a relatively complex but largely generalised case study of Prague and the Central Bohemian Region. In Europe, it has recently not been possible to pinpoint a dominant process of transformation in the settlement system (Champion, 2001), which is the similar in the Czech Republic as well (Čermák, Hampl, Müller, 2009). It is, however, true that polarisation occurs within sub-regional settlement systems. In comparison to the extent of population movements during the industrial period, the current changes are lower in magnitude, and their significance is mainly limited to the redistribution of the population within metropolitan areas (Čermák, Hampl, Müller, 2009, 49). This internal differentiation is probably most visible in the case of Prague and the Central Bohemian Region.

The general aim of the book is to describe and explain the current socio-spatial differentiation of Prague and the Central Bohemian Region² and the processes that have influenced it during the first fifth of the twenty-first century. We would like to refer to this period as the period after transition. It is clear that dramatic changes took place exclusively in the distribution of the economy in the first decade of "true transformation" (Hampl, Müller, 2019, 386). Other transformation processes were finalised at the beginning of the 2010s (see Ouředníček, Pospíšilová, 2016; Ouředníček, Špačková, Pospíšilová, 2018; Ouředníček, 2019). This introductory text offers its own theoretical perspective on the structuration of spatial patterns and the social environment, a general view of the regional development, and the main socio-spatial processes during the period after transition. The concluding part briefly characterises the individual chapters of the book with its main empirical results highlighted.

1.2 THE CONCEPT OF SOCIAL ENVIRONMENT AND SOCIO-SPATIAL PROCESSES

The theoretical framework employed for our research is the concept of social environment, which was considerably influenced by the social ecology of Jiří Musil (1991; 1993) and

¹ Although this is not an official designation, we are referring to the theoretical and methodological approach in social geography connected with the ideas of Jaromír Korčák, Martin Hampl and their students (see Novotná, 2014).

² We differentiate between Central Bohemia and the Central Bohemian Region. Central Bohemia is presented as a whole region consisting of the Capital City of Prague and the Central Bohemian Region (see more in the Chapter 2).

the theories of time-space (Hägerstrand, 1970; 1982; Pred 1984) and structuration (Giddens, 1984). The main rationale for this theoretical and methodological approach is the recognition of the wide spectrum of actors, institutions, and processes which, together, create the local and regional physical, functional, and social environment. As well as being influenced by the permanent residential population, the character of a neighbourhood is significantly structured by the existence of various social spaces that change over time (Chombart de Lauwe, 1956; Buttimer, 1969). Another aspect that constructs the social climate of such spaces are the encounters of different users of the area – their behaviour, inter-relationships, activities and movements to, from and within the locality.

For analytical purposes, we can divide the social environment into two parts - the social composition of the population and the social climate of the locality (Figure 1.1). Social composition in a particular locality is largely determined by the social, cultural, demographic, ethnic, and economic characteristics of the local resident population. These characteristics are relatively stable and are the traditional research objective in urban geography, but the method samples only some of the users of the local environment. Consideration of the non-resident population, which may constitute a significant element of the daily population especially in largely non-residential areas, can improve the conceptualisation of urban localities. They influence the local environment through their behaviour in that locality rather than through their compositional characteristics, and they therefore contribute to the social climate. Two localities with relatively similar social compositions can be very different in this respect. Empirical verification of our concept has been published in case studies of Czech suburbs (Ouředníček, 2007; Špačková, Ouředníček, 2012) and housing estates (Temelová et al., 2011; Ouředníček, Kopecká, 2021). The social climate is shaped by actions in the immediate area, such as encounters between its users, the daily rhythms and dynamics of place, but also by media discourse and public opinion regarding the given locality.

The social environment can be influenced by three types of processes:

- i. in situ changes of the social status (social mobility) and social behaviour of residents, which can be influenced by loss of work, improvements in education level, or the acquisition of new skills and qualifications;
- ii. various kinds of spatial mobility, which can influence the permanent (migration) or temporary (commuting) composition of residents and users of a locality as well as their encounters in accordance with the specific functions of the locality; and
- iii. global and regional forces, which can indirectly influence both the foregoing processes via use by institutions (Thrift, 1983) of various information channels (the legislature, the media, the Internet, and other written and spoken information).

Socio-spatial differentiation in the Czech Republic and other countries of Central and Eastern Europe (CEE) is nowadays formed by global and continental political, societal, cultural, and economic processes (see the right-hand side of Figure 1.1). This is not simply globalisation. It also encompasses processes taking place at various scales outside the locality which can, directly or indirectly, change the local social environment. For post-socialist states, all these processes can be considered "new", as they have no parallel in the past development of residential differentiation under socialism (Ouředníček, Pospíšilová, 2016). Consequently,



Figure 1.1: The theoretical concept of social environment.

they create new spatial patterns and conditions for human activities within the urban environment. Among the key macro-processes influencing the social environment of post-socialist cities are:

(1) The second demographic transition. New demographic processes have been significantly changing the composition of the population in developed countries for the last 40 years (Van de Kaa, 1987). The impact of this second demographic transition, with its significant changes in household structures, as well as the increased importance of migration, is now apparent in post-socialist countries (Steinführer, Haase, 2007) and has been described in the Czech Republic as a demographic shock (Rychtaříková, 2000). This is associated with an aging population and new demographic behaviour moving from familism to consumerism and individualism. The new demographic and social composition of the urban population (higher proportion of singles, retired people, students, cohabitees, apartment-sharers, foreigners, and tourists) leads to demand for new types of housing (see below).

(2) International migration. The composition of urban (and also rural) populations is diversifying more and more under the influence of international migration in post-socialist countries (Drbohlav, 2003). Ukrainians, Vietnamese, Slovaks, Russians, and Poles represent the largest groups of newcomers, who together account for 68 percent of all non-natives in the Czech Republic (Janská, Čermák, Wright, 2014). The largest Western migrant groups originate from Germany and the United States (Drbohlav, 2012). Although the proportion of foreigners (those without Czech citizenship) in the total population of the country is 4.7 percent (i.e. 490 thousand according to the 2021 Population Census), the social climate in the special parts of cities (tourist centres, university campuses, transport hubs) is significantly structured by the presence of foreigners.

(3) New economic development. Variability in the flexibility and location of labour is currently changing significantly in the developed world (Beck, 1992) and also in CEE countries (Svoboda, Ouředníček, 2015). In addition to jobs tied to one location, the number of occupations conducted via electronic communication is growing. These jobs are no longer dependent on physical location and can be carried out from home, while traveling, or from elsewhere. The place of work is also hard to localise for professions, which can operate in various places and have a wide spatial range of activities during the day or year. The decrease in local anchorage for many new professions has a direct influence on the intensity and rhythms of commuting, which traditionally affects the basis for the delimitation of socio-geographical regions (i.e. metropolitan areas). A new phenomenon is unemployment, which immediately after the establishment of the market economy started to "sift and sort" the winners and losers of the economic transformation into clear spatial

patterns (Novák, Netrdová, 2011; Feřtrová, Temelová, 2011). Apart from these specific "new" processes, general tendencies of deindustrialisation, tertiarisation, and globalisation are producing similar changes in the structure of jobs across the post-socialist countries.

The majority of changes in contemporary European cities tend to make the urban environment more mobile (Urry, 2007), flexible, fluctuating, or fluid (Bauman, 2000), which can be perceived as an opportunity but also as a risk factor for contemporary urban society (Beck, 1992). As described above, this situation is common in post-socialist countries, and this could be integrated into the methodology of urban research. From the geographical perspective, many functions (work, education, leisure, services, business, and housing) have lost at least part of their spatial embeddedness. This is partly due to the rapid development of electronic media, which enables various forms of e-business, e-services, e-learning, and so on, and partly due to the translocal (Brickell, Datta, 2011) nature of work and housing. From a practical point of view, it is now much more difficult to work with such categories as permanent home address or workplace, and data is also less valid given that many of the more mobile members of the population are not registered (Haase, Grossmann, Steinführer, 2012).

Consequently, it is clear that traditional research methods based on residential function (using segregation indices, comparison of the social composition from population censuses, etc.) could be enriched by methods that are more able to describe and explain the constantly changing social environments and important encounters between residents and other users of the localities, which create specific social climates. The specific methodological approach is described in the following chapter (Ouředníček, Nemeškal, 2022, in this book).

1.3 MAIN SOCIO-SPATIAL PROCESSES IN PRAGUE AND CENTRAL BOHEMIA

The macroprocesses discussed above have had significant regional impact on the territory of Central Bohemia, and can be used as context for the interpretation of empirical results found in individual chapters within this book. Among the main impacts of such macroprocesses, is the gradual change of the socio-spatial structure and the whole social environment of Central Bohemia. As a result of the second demographic transition, growing international migration, and the decrease in local embeddedness of a wide range of human activities, the structure of the housing demand has changed in recent years. Figure 1.2 illustrates the number of dwellings completed during 2000–2019 and the number of family houses (detached or semidetached) in Prague and the Central Bohemian Region. Since the economic crisis, the recovery of housing construction has lasted a relatively short amount





of time, especially in Prague where the number of completed dwellings has considerably grown, but also in the Central Bohemian Region, with recent construction having reached almost similar values to that of the mid-2000s. A considerable difference between the types of newly completed housing is shown in the chart (Figure 1.2). In Prague, only 12 percent of apartments were built as family detached or semidetached houses, while in the Central Bohemian Region, this proportion has reached 68 percent. Altogether, 107 thousand new apartments in Prague and 115 thousand in the Central Bohemian Region were completed between 2000 and 2019.

Despite suburbanisation being considered one of the main process changing the socio-spatial structure of settlements in CEE countries in recent years, the proportion of housing construction in the monitored area of Prague and the Central Bohemian Region confirms that this is not the only process taking place. Previous research in the field explains that the settlement system is influenced in parallel by various urbanisation processes (Ouředníček, 2000; 2007; Šimon, 2014; Ouředníček, Šimon, Kopečná, 2015). In addition, it is possible to hypothesise that these urbanisation processes are mutually conditioned and complementary. In recent years, increasing international migration has been placed amongst the most important regional processes. The growing attractiveness of Prague for foreign migrants is illustrated by Figure 1.3. International migration can create pressure on the domestic population and its subsequent de-concentration in the form of suburban or counterurban



Figure 1.3: Development in the number of foreign citizens in Prague and the Central Bohemian Region during the 2000–2019 period. Data source: CZSO (2020c).



Figure 1.4: Development of the net migration rate in Prague, the suburban zone, and the Central Bohemian Region during the 1988–2019 period. *Data source: CZSO (2020b).* Note: The suburban zone consists of two adjacent administrative districts: Prague-East and Prague-West.

migration. In relation to the relatively high share of foreigners among the citizens of Prague and the city's growing ethnic heterogeneity, considerably distinguishing Prague from other post-socialist cities (Přidalová, Ouředníček, 2017; Křížková, Ouředníček, 2020), a question arises as to what extent the foreign population will suburbanise the wider metropolitan zone. Recent studies have already indicated the changing structure of suburban Czech households as well as their ethnic heterogeneity within the Prague Metropolitan Area (Janská, Čermák, Wright, 2014; Křížková, Ouředníček, 2020). An extremely specific element of the Central Bohemian area is the concentration of foreigners around production plants in such districts as Mladá Boleslav or Kolín. Three chapters of the book develop this topic in more detail (Klsák, Křížková, 2022; Křížková, Šimon, Klsák, 2022; Šimon, Křížková, Klsák, 2022, in this book).

The contemporary state of residential suburbanisation can be illustrated through the migration statistics data. Figure 1.4 shows net migration rates for three spatial units within Central Bohemia – Prague, the Central Bohemian Region, and the Prague hinterland consisting of two adjacent administrative districts; Prague-East and Prague-West. The beginnings and the dynamics of suburbanisation around Prague have been described several times (Ouředníček, 2003; 2006; 2007), so we can rather focus on the development of recent years. After the economic crisis, it seems that net migration gains in the Prague hinterland region have been fixed at around 20 per mille. The same stable development can be seen in the case of Prague and the Central Bohemian Region, but with half of the intensity of the hinterland.

Suburbanisation is characterised by intense housing construction and the development of in-migration within suburban municipalities. Recently, less sprawl and more concentration within municipalities located closer to core cities, as well as less development around smaller cities and towns can be confirmed. A clear tendency towards growing

	Type of municipality/zone of Prague	Population number	Net migration	Net migration rate (‰)
	Suburban cores*	372 677	-3 533	-0.5
Central Bohemian	Suburbs	536 751	188 341	19.5
Region	Rural municipalities with population gain	134 062	27 238	11.3
-	Rural municipalities with population loss or stagnation	188 372	10 793	3.2
	City centre	82 354	-5 862	-4.0
Due auro	Inner city	694 293	60 077	4.8
Prague	Outer city	341 141	30 801	5.0
	Periphery	114 023	48 505	23.6

Table 1.1: Net migration and net migration rate in the zones of Prague and types of municipalities in the Central Bohemian Region during 2000–2017.

Data source: CZSO (2020b); Přidalová, Klsák, Nemeškal (2018). Note: *without Prague.



Figure 1.5: Migration development in Prague and the Central Bohemian Region during the 2000–2017 period. *Data source:* CZSO (2020b); Přidalová, Klsák, Nemeškal (2018).

suburban development density on the national level has recently been confirmed by Ouředníček, Klsák, Špačková (2019) and by Zévl and Ouředníček (2021) in the Prague Urban Region. They measured a similar amount of housing construction and suburban migration to the period of the 2000s, but a more concentrated amount around smaller centres and those in close proximity to larger centres (Ouředníček, Klsák, Špačková, 2019). According to Přidalová, Klsák, and Nemeškal (2018), an accelerated growth between 2000 and 2017 can be seen in the peripheral suburban zone inside the administrative boundaries of Prague (net migration rate 23.6 per mille), suburbs (19.5 per mille), and rural municipalities with population gains (11.3 per mille). A slow increase was detected in the category of rural municipalities with population loss or stagnation, while a slow decrease was typical in small and medium sized cities and towns as well as in the centre of Prague (see Table 1.1. and Figure 1.5). An interesting topic



Figure 1.6: Development of natural change in Prague and the Central Bohemian Region during the 2000–2017 period. *Data source:* CZSO (2020b); Dvořáková, Nemeškal (2018).

for future research would be the recent growth of small settlements outside of metropolitan areas, as well as the question of counterurbanisation, which seems to be not only an additional side process but a relatively frequent migration strategy for selected categories of people, and is quantitively comparable with urbanisation and suburbanisation flows (Šimon, 2014; Šimon, Ouředníček, 2010).

The consequences of socio-spatial processes, metropolisation (Hampl, Marada, 2016), and suburbanisation for the economic and social structure of the population and related processes in Central Bohemia, are currently rather clear. The districts of Prague-East and Prague-West for instance show the youngest age structure within Czechia and they have seen the highest increase in life expectancy during the last ten years (CZSO, 2020d). At the same time, these two districts show the highest migration rates and many completed dwellings. Changes are occurring in the peripheral areas of the Central Bohemian Region, with more rural