

CITY CONGLOMERATES IN THE CZECH REPUBLIC

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Abstract

The main purpose of this article is to identify city conglomerates which function in the settlement system of the Czech Republic and to present their typology with reference to the characteristics of their form of settlement and their functional and spatial structures. This paper is comprised of two principal parts. The first part discusses the issue of city conglomerates in the context of the discourse regarding polycentric urban forms, and attempts to organize the terminology applied to city conglomerates and double towns in particular. The second part raises the issue of urban incorporation within the Czech Republic, with a particular focus on the causes underlying the loss of administrative independence. Against this background, seven towns with the characteristics of double towns, i.e. city conglomerates that contain within their borders two settlements with their own urban pasts and characteristics, have been identified. Four of the identified double towns (Brandýs nad Labem-Stará Boleslav, Frýdek-Místek, Sedlec-Prčice and Veselí nad Lužnicí-Mezimostí nad Nežárkou) have a twin layout, in which their parts have similar functions and represent competing centres (focal centres of similar rank). The other three double towns (Bohumín, Hranice-Drahotuše, Kutná Hora-Kaňk) have a satellite (monocentric) layout with the constituent parts of varying degrees of importance, regardless of their functional type (the larger town is usually several times larger than the smaller one).

Key words: city conglomerates, double towns, polycentric urban forms, administrative changes of cities, Czech Republic.

INTRODUCTION

In the 20th century, several dozen towns in the Czech Republic lost their administrative autonomy and became part of another city, usually larger, in their vicinity. In the majority of cases, the underlying administrative decision was a consequence of the spatial development of the larger “neighbour”, and triggered or intensified spatial and functional transformations, both of which resulted in the incorporated locality becoming an integral part (district) of the urban settlement that expanded its borders. The highest number (16) of urban localities was incorporated into Prague, which saw rapid growth in the 20th century (Libeň in 1901, Břevnov, Bubeneč, Karlín, Košíře, Královské Vinohrady, Nusle, Smíchov, Vršovice, Vysočany and Žižkov in 1922, Modřany in 1968, Horní Počernice, Radotín,

Uhřetěves and Zbraslav in 1974). However, similar processes also occurred in smaller cities such as Ostrava (which incorporated Mariánské Hory, Přívoz, Slezská Ostrava, Svinov and Vítkovice), Brno (Husovice and Královo Pole), Olomouc (Hodolany and Nová Ulice) and Liberec (Horní Růžodol, Rochlice and Vratislavice nad Nisou).

Towns were also subject to changes in administrative boundaries as they incorporated surrounding villages, and this sometimes involved even small towns or townlets (městys). In these cases, changes were often made somewhat prematurely or without regard for the direction of spatial development, hence the constituent settlements rarely integrated into a single, coherent urban organism and thus the larger space remained a de facto conglomerate of several separate settlements. Accordingly, they

may be considered as city conglomerates (Szymtykie 2009). The combination of the terms “city” (a settlement having an urban status) and “conglomerate” (a form created from the combination of varying parts) is an accurate representation of the nature of this group of urban forms. The term “conglomerate” is used in geology and physical geography to denote sedimentary rocks made from rock clasts cemented together by a binding material. In the case of city conglomerates, their constituents are settlements and the binding material is the administrative decision which contributed to their merger.

Such forms are particularly prevalent in countries that have undergone frequent territorial division changes at the local level, particularly in Germany and Poland, which both have around 24 city conglomerates, e.g. Albstadt, Bitterfeld-Wolfen, Ebersbach-Neugersdorf, Oranienbaum-Wörlitz, Zeulenroda-Triebes in Germany and Boguszów-Gorce, Czerwionka-Leszczyny, Jelenia Góra, Kędzierzyn-Koźle in Poland (Szymtykie 2009). City conglomerates also exist in other European countries, e.g. Knokke-Heist in Belgium, Kohtla-Järve in Estonia, Charleville-Mézières in France and Vysoké Tatry in Slovakia. In the Czech Republic, most of the 592 urban localities have incorporated some basic settlement units (*základní sídelní jednotka*) with a rural character within their borders. However, only a few incorporated settlements have an urban past.

The main purpose of this article is to identify city conglomerates which function in the Czech Republic’s settlement system, and to present their typology with reference to the character of their settlement form, as well as their functional and spatial structures. This paper is comprised of two principal parts. The first part discusses the issue of city conglomerates in the context of the discourse regarding polycentric urban forms and attempts to organize the terminology applied in respect of city conglomerates, in particular double towns, used in the literature. The second part raises the issue of urban incorporation/integration processes in the Czech Republic, with a particular focus on the causes underlying the loss of administrative autonomy. Against this background, seven towns with the characteristics of double towns, i.e. city conglomerates containing two urban settlements within their borders, have been identified.

METHODS

The first stage of the research involved the identification of city conglomerates which function in the urban network of the Czech Republic. The first requirement was to determine the criteria that distinguish city conglomerates from other spatial forms of cities. The specificity of conglomerate cities is expressed in the separateness of their constituent parts, which can be considered from different aspects (e.g. spatial, functional or as local communities functioning within the city), or in the preservation of the individual character of settlements (now parts of the city). The distinctiveness of the units which form city conglomerates was determined on the basis of three basic criteria: the function of the settlement in special divisions (as a basic settlement unit, as part of the municipality and/or the cadastral area), their spatial separation and the character of their population changes since incorporation – significant population growth usually leads to the transformation of the original spatial structure, significant depopulation and loss of urban character (see Szymtykie 2009).

The second stage of the research covered the typology of identified city conglomerates in relation to the character of the settlement form and functional structure. The character of the settlement form was determined on the basis of the proportional size of former towns included in particular city conglomerates (expressed in terms of the population) and their hierarchy in the settlement system, in reference to the territorial division units which function in the Czech Republic. On this basis, units are divided into three hierarchical categories: municipality with extended powers (*obec s rozšířenou působností – obec III. stupně*), municipality with an authorized municipal authority (*obec s pověřeným obecním úřadem – obec II. stupně*) and municipality (*obec – obec I. stupně*). To determine the functional types of settlements, the method proposed by Jerczyński (1977) was used. According to this method, which is based on the analysis of the Ossan triangle in order to present the proportions of employment in three main sectors of the economy (agriculture, industry and services), 10 functional types of settlement can be distinguished.

This paper uses the available cartographic materials Geoportál ČÚZK (ČÚZK 2010) and statistical data published by the Czech Statistical Office (CZSO 2014; Růžková and Škrabal et al. 2006).

THEORETICAL BACKGROUND

Because of the nature of city conglomerates (which are urban settlements containing two or more localities with their own urban past), they should be treated as polycentric urban forms. Polycentricity may be considered on different scales of reference. Hall (2009) distinguishes four levels on the polycentricity scale: intra-urban or local scale, regional scale, national scale and continental scale. In turn, Davoudi (2003) divides polycentric forms into: intra-urban scale, regional scale, inter-urban scale and inter-regional scale. Champion (2001), in respect of polycentric metropolitan areas, proposed the following scale: micro (individual metropolitan area), meso (polynucleated metropolitan region) and macro (polynucleated urban field). With reference to the above typologies, city conglomerates should be classified as polycentric forms in the intra-urban scale (Davoudi 2003; Hall 2009). However, in most papers, the notion of polycentricity is considered in the context of polycentric agglomerations (conurbations) or polycentric metropolitan areas (e.g. Annas et al. 1998; Champion 2001; Kloosterman and Musterd 2001; Parr 2004; Meijers 2005; Hall and Pain 2006; Green 2007).

Kloosterman and Musterd (2001:623) note that “polycentricity can, in principle, refer to any clustering of human activity”. They offer a list of characteristics, summarized here, that a polycentric urban configuration can be assumed to possess (Kloosterman and Musterd 2001:628): a number of historically distinct cities, no obvious leading city, a small number of larger cities of similar size to one another (together with a greater number of smaller towns), constituent cities located relatively close to one another (within maximum commuting distance suggested), and constituent cities that are spatially and politically distinct from one another.

Parr (2004) defines the polycentric urban region as a cluster of discrete similarly sized settlements, separated by open tracts of land, with above-average

(relative to a baseline region) interaction between them and each having a specialized economic structure.

Champion (2001:664) suggests that there are three basic definitions for a polycentric urban region, varying in how restrictive they are:

- a collection of settlements in a region (least restrictive);
- as above, but with some interaction between settlements;
- as above, but each centre has a specialist function within the region (most restrictive).

According to Green (2007:2081), the most precise definition of polycentricity within a polycentric urban system is that offered by Spiekermann and Wegener (2004), who developed a formal definition of polycentricity based on the rank-size distribution of settlements in an urban system. They suggest that polycentricity can be measured and that four basic requirements be met: (1) in a polycentric urban system, there is a distribution of large and small cities; (2) in a polycentric urban system, the rank-size distribution is log-linear; (3) the flat rank-size distribution is more polycentric than a steep one; and (4) the polycentric urban system is not dominated by one large city.

The polycentricity of city conglomerates is chiefly manifested in their spatial structure. This is because the specificity of city conglomerates is expressed by several aspects. These settlements: (1) were created as a result of the administrative merger of around a dozen hitherto separate localities, including at least two with an urban character; (2) are characterized by incoherent spatial structures in terms of continuity of development (incoherent spatial character), as well as diverse development and planning; (3) comprise loosely connected and distinctly separate settlements (localities) and not integrated districts (integral parts of the city); (4) usually do not have a distinct centre, or the individual parts have their own central locations and, accordingly, are polycentric settlements; (5) are characterized by significant functional variations in settlements. This is attributable to the combination of settlements of various functions

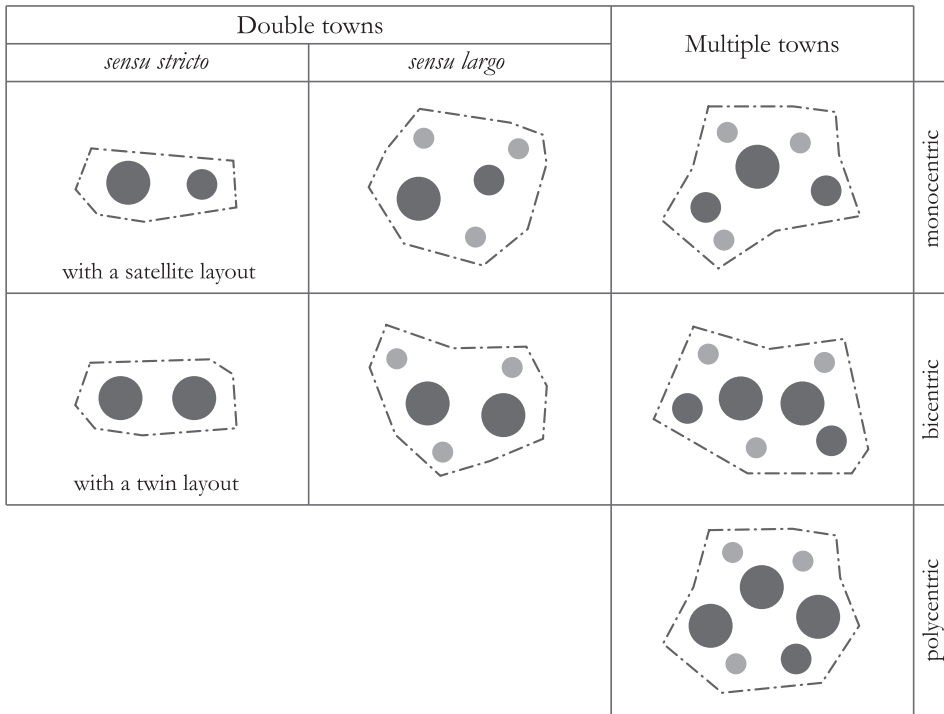


Figure 1 Typology of double towns with reference to settlement form character. Author's processing.

and origin. However, the individual constituent parts should not be treated as functional districts, rather as units with separate functions; and (6) have an extensive surface area (relative to their rather small population), which is largely occupied by undeveloped space, separating the individual parts of the city.

In the case of city conglomerates, the settlement form is affected by the number of constituent elements (settlements), their morphogenesis and intra-urban hierarchical structure. This structure is attributable to the level of localities in the settlement system (prior to their merger), size proportions and relations between constituent elements of the city (Szmytkie 2009). With reference to the type of settlement form, city conglomerates may be divided into several primary groups (Figure 1):

- double towns in a literal meaning (*sensu stricto*), created as a result of the administrative merger of two urban settlements or quasi-urban units;
- double towns in a broader context (*sensu largo*), containing two urban settlements (or

quasi-urban units) within their administrative boundaries and other (rural) settlements;

- multiple towns comprising at least three towns and other (rural) settlements.

In terms of an urban spatial structure, the prevailing view is that structural complexity depends on size (Koter 1994). Towns are usually treated as simple or, at best, complex forms, whereas large cities are considered to be compound-complex forms. The complexity of large cities is a consequence of their natural spatial development, which occurs as a result of the amalgamation of consecutive neighbouring localities. It references the 19th century urban development model proposed by Lawton (Daniel and Hopkinson 1996) and Conzen's fringe-belt concept (Whitehand 1988). Champion (2001)¹ considers the origin of polycentric forms from a much broader perspective as he distinguishes three paths for their development (Figure 2).

¹ Though Champion's paper relates to the origin of polycentric metropolitan areas, the typology he proposed corresponds well with the origin of polycentric urban forms in general and thus also city conglomerates.

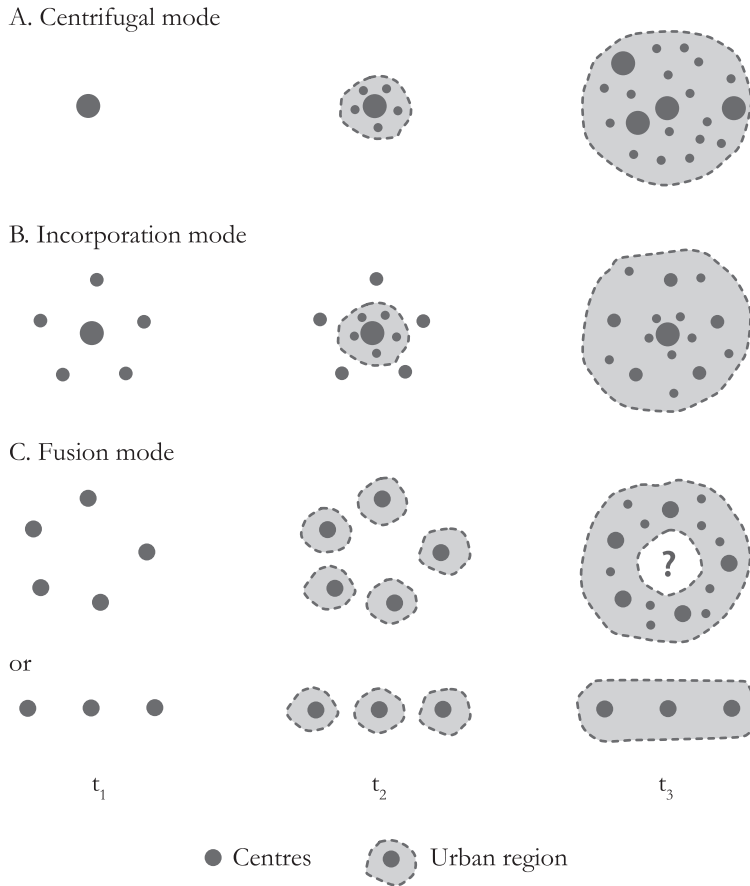


Figure 2 Development paths of polycentric urban regions according to Champion (2001).

The centrifugal mode (urban development based on centrifugal forces, by creating new sub-centres in historical surroundings) applies to large cities, which have assimilated sub-urban areas (a manifestation of natural urban development). The incorporation mode (growth through gradual incorporation of neighbouring areas into the main urban core) applies to the incorporation of small towns into the boundaries of larger cities (which creates monocentric conglomerates). The fusion mode (growth through gradual fusion of the spatial structure of the individual constituent parts, without a distinct core or through axial spatial development, resulting in the gradual spatial fusion of neighbouring localities) applies to the integration processes of urban settlements of similar size or rank (which leads to the creation of polycentric conglomerates).

This approach to urban spatial complexity does not fully account for the nature of city conglomerates. Such localities are created or developed as a result of changes to administrative boundaries. With the incorporation of surrounding localities, the resulting city or town becomes a conglomerate of settlements which were hitherto separate. In the case of large urban centres, this is a transitional state as the incorporated localities gradually become integral parts (districts) of the city. In the case of small or mid-sized urban settlements, a change in administrative boundaries is usually attributable to their spatial development, resulting in urban localities with incoherent spatial structures (city conglomerates). In reality, these settlements comprise several de facto separate localities, linked only by their administrative boundaries.

TERMINOLOGY RELATED TO CITY CONGLOMERATES

There is a certain degree of terminological chaos in the literature dealing with the issue of city conglomerates and this needs organizing in the course of further deliberations. First, terms describing this group of urban settlements are extremely rare in literature and their understanding varies. Second, city conglomerates are referred to using various terms which are also used to define other settlement forms. The term city conglomerate to some extent lends order to the terminological chaos associated with the naming convention of this group of urban settlements, as it fairly accurately characterizes the nature and origin of city conglomerates. Although in the English language the term “united city” is in use, and in terms of meaning this corresponds to the nature of city conglomerates, nevertheless, it is used irrespective of the degree of spatial cohesion of the city. Typically, the term “united city” (or “reunited city”) is used in the context of consolidated cities, which over a certain period functioned as two separate urban centres divided by a state border (a so-called divided city). This issue is described using the examples of Berlin (e.g. Becker-Cantarino 1996; Desyllas 1997; Cochrane and Jonas 1999; Verheyen 2010), Jerusalem (e.g. Romann 1989; Nakhleh 1993; Safdie 2002; Newman 2006) and Nicosia (Papapolyviou and Kentas 2015). In this context, the work of Cho (2011) on the spatial structure of United Changwon City is particularly interesting. The city was established in 2010 through the merger of three different cities: Changwon, Mesan and Jinhae, and is therefore a typical example of a city conglomerate.

In Germany, following a reduction in the number of territorial units at the local level, the term “Städtefusion”, meaning fusion of towns (or municipalities), became very popular (in a broader sense the term “Gemeindefusion” is also used). The term “Städtefusion” in a literal sense also relates to the process of merging urban localities, as well as urban settlements merged administratively (e.g. Reuber 1999; Reiher 2008; Nolde 2010; Hesse 2013). This term has been used, among others, in relation to double towns: Leinefelde-Worbis (Schröder and Sinning 2007) and Böblingen-Sindelfingen (Nolde 2010). In

the literature, the term “Doppelzentrum” (or “Doppelstadt”) is also used. This term is generally used to denote a bicentral system, in which the constituent urban centres retain their administrative autonomy (i.e. are de facto bicentric agglomerations). One example is Berlin-Cölln which existed in the Middle Ages (Ribbe and Schmäddeke 1994; Vahldiek 2005). Moreover, the term “doppelzentrum” (or “doppelstadt”) is also used with respect to de facto double towns (Knittler 1971; König 1992; Nolde 2010) and border towns (Gude et al. 2002; Gessler and Konieczny 2004; Kube et al. 2006; Weiske et al. 2008), while urban settlements divided by a state border are also referred to as “Zwillingsstädte” (Schultz 2004).

The term “Doppelstadt” references the English term “twin city”. In English-language literature it is, however, also used to refer to other urban spatial forms or relation between urban localities, e.g. in relation to:

- de facto double towns, e.g. in the Encyclopedia Britannica Charleville-Mézières, France, founded in 1966 from the unification of Charleville and Mézières, is referred to as “twin towns” (in the same publication, the same term is also used in reference to urban centres situated close to one another, i.e. agglomerated forms such as Corowa and Wahgunyah, Australia, lying on the opposite banks of the Murray River, and the Minneapolis-St. Paul conurbation in the United States of America, forming the “twin cities” metropolitan area);
- two urban centres making up one urban system, particularly the agglomeration referred to as the Twin Cities Metropolitan Area in Minnesota; a metropolitan area with the cities of Minneapolis and St. Paul as its centre (e.g. Borchert 1961; Galaskiewicz 1997; Brezonik and Stadelmann 2002; Yuan et al. 2005);
- border towns (e.g. Kearney and Knopp 1995; Matthiesen and Bürkner 2001; Jańczak 2011), which are also referred to as double towns (Joenniemi and Sergunin 2013) or divided towns (Lundén 2007; Jańczak 2009; Dolzblasz and Raczyk 2012)²;

² A discussion on the terminology used in reference to border towns is presented by, among others, Buursink (2001).

- twin towns, i.e. two towns (located in two different countries) which signed a partnership agreement (e.g. Lundén 2004; Zelinsky 2010; Anishenko and Sergunin 2012)³.

The last two terms mentioned above are most often used in Polish-language literature to explain the term “twin towns” (“miasta bliźniacze”) (Brzozowska 1998; Kostrubiec and Łoboda 2002; Halas and Porawski 2003; Nowak 2008; Drobek and Dawidejt-Jastrzębska 2011; Szalbot 2011; Jańczak 2013), which is mainly attributable to the somewhat inaccurate literal translation of the term from English. In Poland, double towns (“miasta podwójne”) were also referred to as:

- a) twin towns (“miasta bliźniacze”) or twinned towns (“miasta zbliżnione”) (Dziewoński 1962). Their formation is associated with the existence of a border which is difficult to cross (natural or artificial). A twinned system can also arise as a result of the construction of a large industrial plant within easy reach of an existing urban settlement and the subsequent emergence of a new town associated with the plant.
- b) twin towns (“miasta bliźniacze”) or double towns (“miasta podwójne”) (Szmytkie 2009) that are the result of an administrative merger between two settlements with urban pasts which are similar in size and rank. The towns are separated by a border which is difficult to cross and which prevents their full integration. Twin towns can also be composed of a specialized district (housing a large industrial plant) with a commercial and residential district in the vicinity.
- c) local-scale bipolar systems (“układy bipolarne o skali lokalnej”) (Jakubowicz and Ciok 2003) are usually formed by two small towns located along rivers, traffic routes or strips of technical infrastructure. Their low potential is compensated for by the towns’ proximity to each other. Sometimes urban settlements are so close that they are merged into one organism (one urban settlement).

The terms double towns (“miasta podwójne”) and multiple towns (“miasta wielokrotne”) were also used by Sloń (2011) in his monograph describing the phenomenon of the location of new towns near those that existed in medieval Europe. Such urban localities are typically referred to as new (second or subsequent) towns.

In the Czech language, double towns are also referred to as “dvojměstí”. This term refers to two towns of comparable size situated close to each other which usually have varying complementary functions. Sometimes they may also form one city, i.e. a double town. Interestingly, in the literature this term is used exclusively to denote double towns with a twin layout, such as Brandýs nad Labem-Stará Boleslav (Jacura et al. 2007; Kolářová 2013), Sedlec-Prčice (Sedláček 2011) and Frýdek-Místek (Beskidová 2006). The term “dvojměstí” is also used with respect to bicentral agglomerated layouts, for example: Liberec and Jablonec nad Nisou, Česká Třebová and Ústí nad Orlicí, Choceň and Vysoké Mýto (Osman et al. 2016), Pardubice and Hradec Králové (Musil and Müller 2008), and towns separated by a state border, such as: Cieszyń and Český Těšín (Kotra 2012; Matoušek 2013), and Gubin and Guben (Kašpar 2014).

ADMINISTRATIVELY MERGED TOWNS IN THE CZECH REPUBLIC

The formation of city conglomerates occurs in two main stages. The first involves the formation of a cluster of towns (i.e. an urban agglomeration) and the second sees the formal merger of the towns into one urban organism. The first urban clusters emerged in the Middle Ages (Sloń 2011; Krzysztofik 2014) but did not become commonplace until the 19th and 20th centuries, along with the progression of urbanization. A close coexistence between towns was conducive to the urban unification processes which accelerated at the end of the 19th century, and became widespread in the 20th century. Evidence of the relationships between merged towns may be found, for example, in the manner of their merger. Integration (equal merger) demonstrates equality between the merged settlements, while incorporation indicates the dominance of one town over the

³ The terms “sister cities” is also used to refer to this form of cooperation (cf., among others, Ramasamy and Cremer 1998; Cremer et al. 2001; Zelinsky 2010).

Table 1 Czech towns which lost their administrative autonomy after 1950 and became integral districts of urban centres which incorporated them. Source: Růžková and Škrabal et al. (2006). Author's processing.

Incorporated town	Year of		Incorporated into the city	Population of the town		Population increase/decrease
	gain of an urban status	incorporation into other city		before incorporation	2011	
Boletice nad Labem	1964	1981	Děčín	2,744	4,683	+70.7%
Březové Hory	1896	1953	Příbram	2,322	12,561	+441.0%
Horní Počernice	1969	1974	Praha	9,043	15,262	+68.8%
Modřany	1963	1968	Praha	10,004	30,703	+206.9%
Neštěmice	1970	1986	Ústí nad Labem	4,905	9,979	+103.4%
Radotín	1967	1974	Praha	6,813	8,486	+24.6%
Stará Role	1926	1976	Karlovy Vary	7,018	8,096	+15.4%
Svinov	1936	1957	Ostrava	4,722	4,301	-8.9%
Švermov	1968	1980	Kladno	4,936	4,854	-1.7%
Uhřetěves	1913	1974	Praha	4,544	7,805	+71.8%
Vratislavice nad Nisou	1960	1980	Liberec	5,683	8,109	+42.7%
Zbraslav	1967	1974	Praha	5,687	9,523	+67.5%

other (the incorporation of one town within the boundaries of the other). The integration and incorporation processes are found not only in towns, but also in degraded towns (that is localities stripped of their urban status) or quasi-urban settlements, such as townlets in the Czech Republic (“městys”), Germany (“Städchen”) and Lithuania (“miestelis”), market towns (“Marktgemeinde”) in Austria and Switzerland and urban-type settlements (“osiedla miejskie”) in Poland (Szymytkie 2003). Changes (e.g. formal and legal degradation) could also occur in respect of the status of the urban organism following a merger (Kantor-Pietraga et al. 2015).

In the Czech Republic 70 identifiable towns are now part of another urban settlement. Over time, most of them have become an integral part (district) of the town or city which incorporated them. This is particularly true for towns which lost their administrative autonomy before 1950, i.e.: Vyšehrad, Libeň, Karlín, Vysočany, Břevnov, Bubeneč, Košíře, Smíchov, Nusle, Vršovice, Královské Vinohrady and Žižkov (parts of Prague); Husovice and Královo

Pole (parts of Brno); Podmokly (part of Děčín); Kukleny and Pražské Předměstí (parts of Hradec Králové); Josefův (part of Jaroměř); Rybáře (part of Karlovy Vary); Fryštát (part of Karviná); Kročehlavy (part of Kladno); Horní Růžodol and Rochlice (parts of Liberec); Kateřinky (part of Opava); Mariánské Hory, Přívoz, Slezská Ostrava and Vítkovice (parts of Ostrava); Nové Strakonice (part of Strakonice); Šumbruk (part of Tanvald); Šanov and Trnovany (parts of Teplice) and Střekov (part of Ústí nad Labem).

It is worth noting the degree of dependency of incorporated settlements on the incorporating urban centres. Most gained their urban status shortly before incorporation and their urbanization was initiated by and followed on from the growth of their larger neighbour. Incorporation was therefore a frequent confirmation of the actual functional and spatial relationships between a city and other urban localities in its vicinity. In many cases, due to long-standing coexistence, as well as far-reaching functional and spatial transformations, integration is currently so advanced that

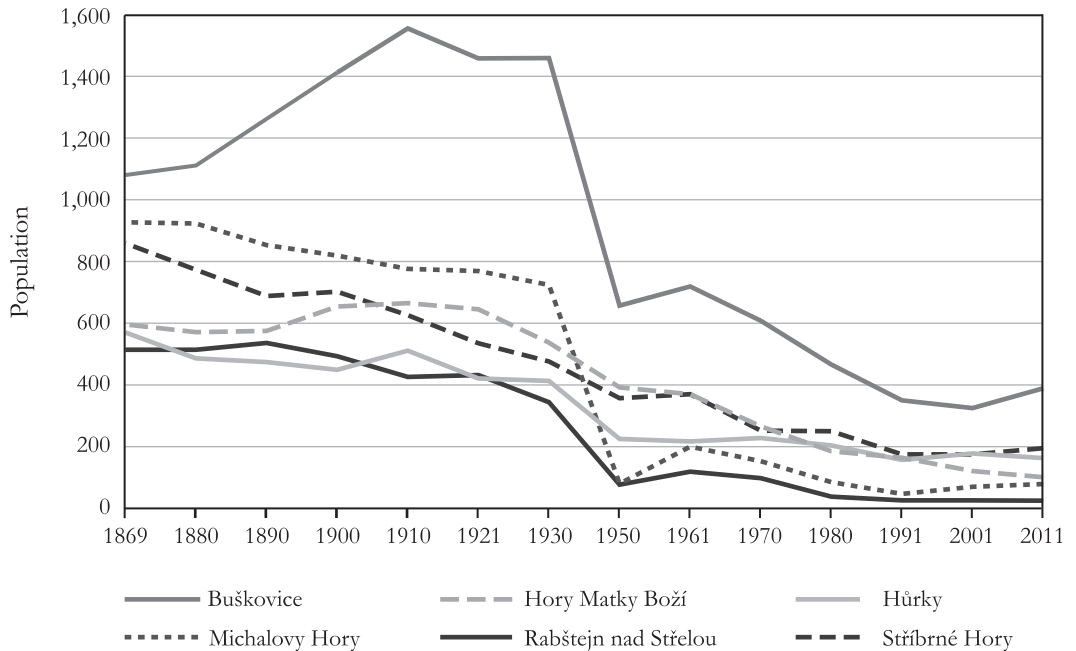


Figure 3 Changes in the population of the Czech towns which lost administrative autonomy as a result of depopulation. Source: Růžková and Škrabal et al. (2006). Author's processing.

it is difficult to discern explicit boundaries of the former settlements, and their inhabitants consider themselves part of the community of “the big city” (cf. Szmytkie 2009). A similar situation has also occurred in other urban settlements which were located near a larger neighbour (Table 1) and lost their administrative autonomy after 1950. Incorporation into the boundaries of a larger city contributed to a sharp rise in the number of inhabitants (with the exception of Švermrov and Svinov) and to substantial functional and spatial changes, all of which rapidly transformed them into urban districts and caused them to lose their individual character. As a result of the blurring of the initial intra-urban structures, the urban spatial structure became unified. Accordingly, it is difficult to define them as city conglomerates, but rather as administrative conglomerates.

The second group of incorporated urban settlements is comprised of historical, largely depopulated towns which lost their administrative autonomy following gradual post-war depopulation processes

(Figure 3). This group includes settlements (Table 2): Buškovice (part of Podbořany), Hory Matky Boží (part of the Velhartice municipality), Hůrky (part of Nové Bystřice), Michalovy Hory (part of Chodová Planá), Rabštejn nad Střelou (part of Manětín) and Stříbrné Hory (part of Nalžovské Hory). Due to the significant depopulation and loss of basic functions, these localities largely lost their urban character and became de facto degraded towns in terms of socio-economic development.

Urban settlements that no longer exist (demolished or abandoned after World War II) are a separate group of incorporated towns. At the time of their disappearance or abandonment they became part of other administrative units (towns or cities) and functioned as cadastral areas. This group is comprised of seven towns (Table 3), four of which (Dolní Jiřetín, Ervěnice, Kopisty and Kralupy u Chomutova) have been demolished due to mining work (brown coal strip mines were established in their place), two of which (Doupov and Čistá) became military training grounds, while Přísečnice was replaced by a reservoir

Table 2 Towns in the Czech Republic which lost administrative autonomy as a result of depopulation. Source: Růžková and Škrabal et al. (2006). Author's processing.

Town	Year of		Area [km ²]	Population (2011)	Physiognomy ratio
	gain of an urban status	incorporation into other municipality			
Buškovice	1535	1981	8.80	389	1.2
Hory Matky Boží	1522	1980	1.06	101	1.1
Hůrky	1637	1985	2.29	163	2.0
Michalovy Hory	1660	1980	1.82	79	1.1
Rabštejn nad Střelou	1337	1980	8.91	25	1.3
Stříbrné Hory	1853	1952	8.78	195	1.1

Note: the physiognomy ratio is calculated as the ratio of the number of apartments to the number of residential buildings (Szymytkie 2015).

Table 3 Extinct towns being a part of other administrative units. Source: Růžková and Škrabal et al. (2006). Author's processing.

Former town	Year of		Cause of the extinction	Currently administrative part of
	gain of an urban status	extinction		
Dolní Jiřetín	1862	1980–1983	demolished as a protective zone for chemical plants and as a result of progressing mining work	Horní Jiřetín (town)
Doupov	1421	1953	demolished, became a part of military training area	Hradiště (military training area)
Ervěnice	1515	1959–1960	extraction of lignite	Most (city); until 1988 Komořany (municipality)
Kopisty	1911	1974–1979	extraction of lignite	Most (city)
Kralupy u Chomutova	1548	1976	extraction of lignite	Málkov (municipality)
Čistá	1550	1949	became a part of military proving ground	Rovná (municipality)
Přísečnice	1546	1973–1974	demolished due to construction of Přísečnice water reservoir	Kryštofovy Hamry (municipality)

Table 4 Settlements comprising of double towns in the Czech Republic.
Source: CZSO (2014). Author's processing.

Double town	Area [km ²]	Population (2011)	Population density [inh./km ²]	No. of basic settlement units	No. of parts	No. of cadastral areas
Bohumín	28.9	21,649	749	25	7	7
Brandýs nad Labem-Stará Boleslav	22.7	17,537	774	22	3	3
Frýdek-Místek	51.6	56,356	1,092	37	7	7
Hranice	49.8	18,397	369	31	9	8
Kutná Hora	33.1	20,497	620	47	12	7
Sedlec-Prčice	64.1	2,904	45	29	36	15
Veselí nad Lužnicí	29.6	6,386	216	8	3	2

on the Přísečnický potok (river). Between 1947 and 1991, the town of Kuřivody was part of the Ralsko military area. While Soviet troops were stationed in the area the town was unoccupied. After 1991, Kuřivody become part of a municipality and since 2006 it has been part of the town of Ralsko.

Against this background, seven towns stand out. They have the features of double towns, i.e. city conglomerates comprising two units with an urban past. These towns are:

- Bohumín, established in 1973 with the merger of Starý Bohumín and Nový Bohumín;
- Brandýs nad Labem-Stará Boleslav, established in 1960 with the merger of Brandýs nad Labem and Stará Boleslav;
- Frýdek-Místek, established in 1947 with the merger of Frýdek and Místek;
- Hranice, which incorporated Drahotuše in 1976;
- Kutná Hora, which incorporated Kaňk in 1950;
- Sedlec-Prčice, established in 1958 with the merger of the town of Sedlec and Prčice municipality;
- Veselí nad Lužnicí, which incorporated Mezi-mostí nad Nežárkou in 1946.

DOUBLE TOWNS IN THE CZECH REPUBLIC

Double towns are urban centres which have resulted from the administrative merger of two urban localities. The specificity of double towns is expressed in their spatial structure, comprising the administrative boundaries of two formerly separate settlements with urban origins, formally merged into one urban organism (Szymytkie 2016). In the literal sense, double towns are towns comprised of two constituent elements with urban origins (*sensu stricto* double towns). More generally, double towns may consist of a greater number of constituent parts, two of which are settlements with an urban origin (*sensu largo* double towns). The factor which determines the nature of the spatial structure of double towns is the coexistence of two urban localities merged administratively into one urban organism. Each of the analyzed urban settlements in the Czech Republic contains within its boundaries more than two settlements (Table 4), consequently they can be classified as *sensu largo* double towns. Of particular interest in this context is the case of Sedlec-Prčice, which has within its boundaries the town of Sedlec and the townlet of Prčice, as well as 34 villages and hamlets.

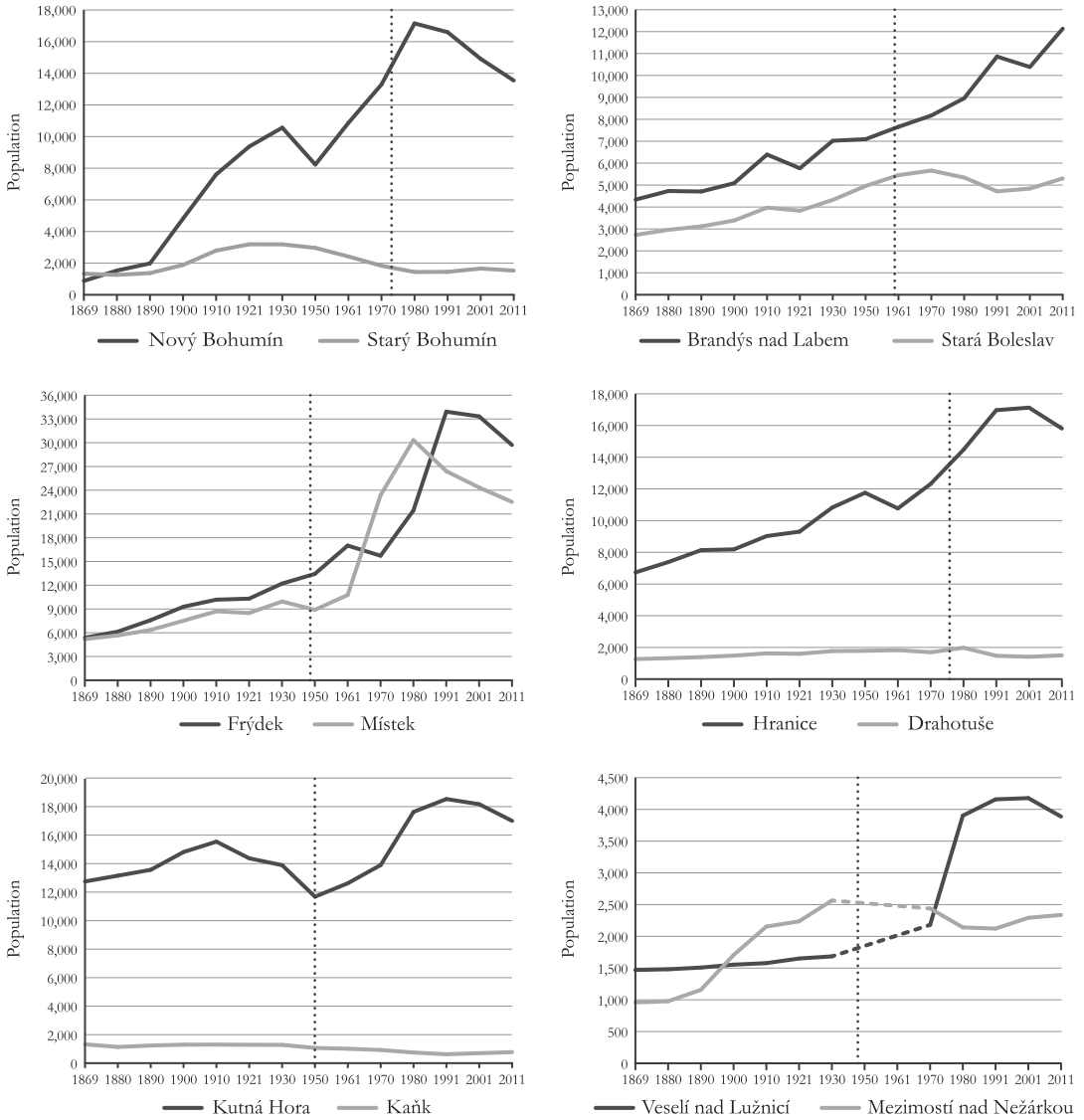


Figure 4 Changes in the population of double towns in the Czech Republic.

Source: Růžková and Škrabal et al. (2006). Author's processing.

In the case of double towns, the form of the settlement is also affected by the hierarchical arrangements between the constituent parts of the merged town, especially the relationship between their size and rank (Szmytkie 2009). This allows us to distinguish between double towns with a twin layout where there are two towns of similar size and rank, and double towns with a satellite layout where one of the towns is significantly larger than the other.

In this regard, Brandýs nad Labem-Stará Boleslav, Frýdek-Místek, Sedlec-Prčice and Veselí nad Lužnicí-Mezimostí nad Nežárkou have the layout of twin towns (the size ratio in their cases ranges between 1.3 and 2.3), while Bohumín, Hranice-Drahotuše, Kutná Hora-Kaňk have the satellite (monocentric) layout (the size ratio in their case ranges between 8.9 and 22.0). This is reflected in the current names of the towns. The names of double

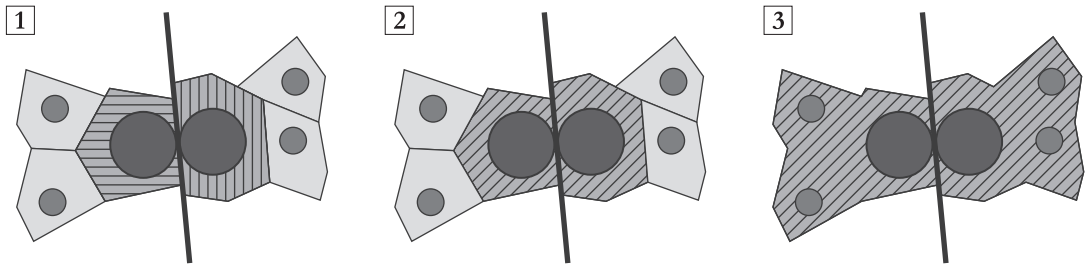


Figure 5 Pattern of the formation of double towns with a twin layout. Author's processing.

towns with a twin layout incorporate the names of both constituent towns (with the exception of Veselí nad Lužnicí), and the names of double towns with a satellite layout have the name of the larger urban centre. Moreover, in the case of double towns with a satellite layout, the disproportion between the incorporating town and the incorporated town has only become more pronounced since incorporation.

Another issue is the variability of the hierarchical system within the town. Usually this system is permanent, with only the size ratio between towns changing (Figure 4). The cases of Frýdek-Místek and Veselí nad Lužnicí-Mezimostí nad Nežárkou indicate the existence of competition between towns, in which any advantage gained is only temporary. For Veselí Lužnicí and Mezimostí nad Nežárkou, the advantage of the former over the latter was only achieved after the towns were merged (which indicates the impact of administrative functions). In Starý Bohumín and Nový Bohumín, the change occurred before the merger. In this case, competitive advantage was achieved thanks to the construction of a railway hub (in 1848) located 3 km south of Starý Bohumín. The hub contributed to the creation of a new town near the railway station (urban status from 1924), which quickly outgrew its neighbour and in 1949 took over its functions.

The formation of double towns in the Czech Republic was based on two principal patterns. Double towns with a twin layout (Brandýs nad Labem-Stará Boleslav, Frýdek-Místek, Sedlec-Prčice and Veselí nad Lužnicí-Mezimostí nad Nežárkou) were formed in three principal stages (Figure 5):

1. The first stage saw the creation of a cluster made up of two towns separated by a natural obstacle, a river. Accordingly, the towns may be considered as twin “gateway cities” (cf. Burghardt 1971; Bird 2013; Krzysztofik 2004, 2014). Such a system begins at the infrastructural intersection of the obstacle by a transport corridor (Krzysztofik 2014), such as a convenient river crossing. The borders between the following towns were formed by rivers: the Elbe separating Brandýs nad Labem and Stará Boleslav, the Ostravice separating Frýdek and Místek. There is also the confluence of the Lužnice and Nežárka rivers in the case of Veselí nad Lužnicí and Mezimostí nad Nežárkou and the Sedlecký potok valley separating Sedlec and Prčice.
2. In the second stage, neighbouring towns were administratively merged and according to Krzysztofik (2014), this may be attributed to a shift in the balance of urbogenic forces. Veselí nad Lužnicí and Mezimostí nad Nežárkou were merged in 1946, Frýdek and Místek in 1947, Sedlec and Prčice in 1958, whereas Brandýs nad Labem and Stará Boleslav were merged in 1960.
3. In the third stage, the bi-town incorporated surrounding rural settlements. Popovice, a village, was incorporated into Brandýs nad Labem-Stará Boleslav in 1964. The following villages were incorporated into Frýdek-Místek: Panské Nové Dvory in 1960, Chlebovice, Lískovec, Lysůvky and Zelinkovice in 1979 and Skalice in 1980. 31 villages were incorporated into Sedlec-Prčice in 1980 and three more in 1993. The village of Horusice was incorporated into Veselí nad Lužnicí in 1980.

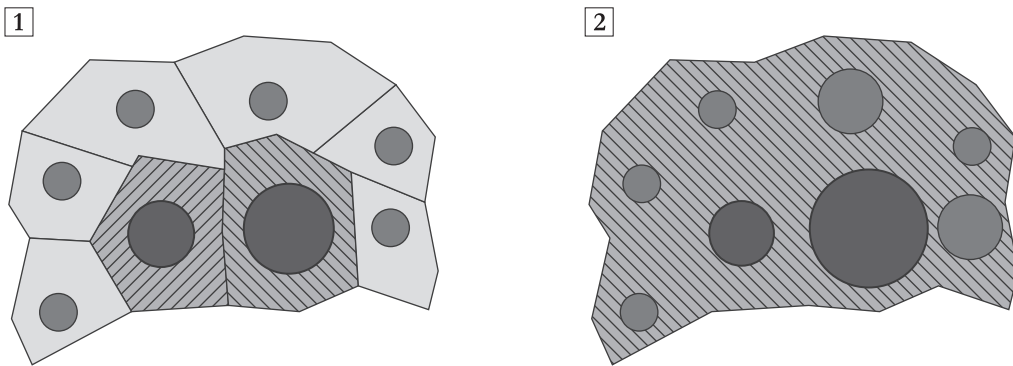


Figure 6 Patterns of the formation of double towns with a satellite layout. Author's processing.

Double towns with a satellite layout (Bohumín, Hranice-Drahotuše, Kutná Hora-Kaňk) were formed in two principal stages (Figure 6):

1. In the first stage, a town was established in close proximity to another urban centre. The origins of such a layout can, however, be diverse. It was common for a smaller town to be established in the vicinity of a medieval town (Kutná Hora has been a town since 1318 and Hranice since 1276; Kaňk gained urban status in 1621, and Drahotuše was referenced as a townlet in 1353 and from 1408 onwards as a town), performing supplementary functions, which may be considered an effect of centrifugal forces (Krzysztofik 2014). The process was slightly different with the Bohumín urban complex. The town of Bohumín (Starý Bohumín) was founded in the 12th century at the crossroads of important trade routes: the salt road from Moravia to Cracow and the amber route from Hungary to the Baltic Sea. The town provided a convenient crossing point across the Oder. The formation of Nový Bohumín was spurred on by the construction of a railway hub 3 km from the town. This can be interpreted as the effect of centrifugal forces during conditions of loss of specialized functions and translocation of the town (Krzysztofik 2014). The qualitative dimension of this transformation, in relation to the nature of the economic base, is explained by the change in the dominant means of transport in the 19th century.

2. In the second stage, the boundaries of the larger town were expanded as it incorporated surrounding localities, including neighbouring towns. Bohumín was expanded in the years 1973–1974, Hranice in the years 1975–1976, and Kutná Hora in 1950 and 1960.

The functions of localities comprised of double towns can be considered from three main aspects: in the context of their functional types, in the context of their rank in the urban system and in the context of the relationships between the towns. On this basis we can distinguish five types of functional systems of double towns that are formed when they administratively merge:

- A) double towns whose constituents have similar functions and represent competing centres (typically, these are focal centres of similar rank);
- B) double towns whose constituent parts are specialized centres, which is attributable to them belonging to a specific functional area (an industrial region);
- C) double towns with constituent settlements having varied functions, which are independent from one another from a functional point of view;
- D) double towns with a varying rank of both constituent elements, regardless of their functional type (the larger town is usually several times larger than the smaller one);

Table 5 Functional typology of double towns in the Czech Republic. Author's processing.

Town	Part of town	Layout type	Population	Functional type	Settlement hierarchy
Bohumín	Nový Bohumín	D	13,544	S-I	III
	Starý Bohumín		1,528	I-S	
Brandýs nad Labem- -Stará Boleslav	Brandýs nad Labem	A	12,134	S-I	III
	Stará Boleslav		5,304	S-I	
Frýdek-Místek	Frýdek	A	29,713	S-I	III
	Místek		22,525	S-I	
Hranice	Hranice	D	15,810	S-I	III
	Drahotuše		1,501	I-S	
Kutná Hora	Kutná Hora	D	16,999	S-I	III
	Kaňk		774	I-S	
Sedlec-Prčice	Sedlec	A	1,050	S	I
	Prčice		532	S-I	
Veselí nad Lužnicí	Veselí nad Lužnicí	A	3,887	S-I	II
	Mezimostí nad Nežárkou		2,337	I-S	

Notes:

Functional types: S – services; S-I – services and industry; I-S – industry and services;

Settlement hierarchy: III – municipality with extended powers; II – municipality with an authorized municipal authority; I – municipality.

E) double towns with an interurbation character (Beaujeu-Garnier and Chabot 1967; Krzysztofík 2009) – a settlement complex (Zagożdżon 1966) whose elements have different and mutually supplemental functions (with one town being a focal centre while the other is a specialized centre).

With double towns in the Czech Republic, two groups of functional systems dominate (Table 5): type A – double towns whose constituents have similar functions and are competing centres (Brandýs nad Labem-Stará Boleslav, Frýdek-Místek, Sedlec-Prčice, Veselí nad Lužnicí-Mezimostí nad Nežárkou) and type D – double towns with both constituent parts differing in rank, regardless of their functional types (Bohumín, Hranice-Drahotuše, Kutná Hora-Kaňk).

CONCLUSIONS

The post-war period in the Czech Republic was marked by dynamic changes in administrative boundaries at the local level (Hampl 1996; Hampl and Müller 1998; Hledíková et al. 2005). The merging of neighbouring localities was an extremely common occurrence. Usually incorporation processes occurred in respect of rural settlements. However, in that period several dozen towns (and townlets) also lost their administrative autonomy. In most cases their incorporation was a consequence of the dynamic growth of the larger neighbour, which contributed to the rapid integration of incorporated localities within the border of the expanded urban centre. In some cases the loss of administrative autonomy was the result of the actual degradation or even disappearance of a

town. In many cases, administrative changes at the local level did not relate to the natural directions of spatial development or were even somewhat exaggerated, resulting in the formation of towns with inconsistent spatial structures, which in reality were a conglomeration of multiple localities. Some of them have the features of city conglomerates as their boundaries incorporate at least two units with an urban character. All forms of this type identified in the Czech Republic are examples of sensu largo double towns. Four of the identified double towns (Brandýs nad Labem-Stará Boleslav, Frýdek-Místek, Sedlec-Prčice and Veselí nad Lužnicí-Mezimostí nad Nežárkou) have the twin layout, whose parts have similar functions and represent competing centres (focal centres of similar rank). The other three double towns (Bohumín, Hranice-Drahotuše, Kutná Hora-Kaňk) have the satellite (monocentric) layout and both constituent settlements have different rankings, regardless of their functional type (the larger town is usually several times larger than the smaller one). The characteristic features of double towns are their complexity, shaped by the spatial and functional structure of the town, and the origin of its settlements.

The question of polycentricity is usually considered in the context of large cities, urban agglomerations and in particular metropolitan areas, while city conglomerates are mainly small or medium-sized towns. So the study of city conglomerates extends the discourse on polycentricity, which considers them on the intra-urban scale. Moreover, city conglomerates, due to their genesis, indicate the importance of changes in administrative boundaries (commonly occurring in the post-war period in Central and Eastern European countries) in shaping spatial forms of cities. This process should be identified as a factor of polycentric urban development (Beaujeu-Garnier and Chabot 1967), which is quite rarely considered in urban geographical research (Han 2005; Yue et al. 2010; Liu et al. 2016).

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Résumé

Městské konglomeráty v České republice

Hlavním účelem tohoto příspěvku je identifikovat městské konglomeráty, které fungují v sídelním systému České republiky. Sekundárním cílem tohoto příspěvku je provedení a prezentace typologie těchto konglomerátů s ohledem na charakteristiky jejich formy osídlení a jejich funkční a prostorové struktury. Článek se skládá ze dvou hlavních částí. První část v teoretické rovině jednak pojednává o problematice městských konglomerátů v kontextu diskursu polycentrických městských forem, jednak se pokouší o organizaci terminologie sídelní geografie související s fenoménem městských konglomerátů a především s fenoménem dvojměstí.

Druhá část se zabývá problematikou začleňování sídel do měst v České republice, přičemž se zvláště zaměřuje na příčiny ztráty administrativní nezávislosti. V tomto kontextu bylo identifikováno celkově sedm měst, která lze charakterizovat jako dvojměstí, přesněji řečeno jako městský konglomerát. Těchto sedm městských konglomerátů obsahuje ve svých administrativních hranicích dvě sídla, která disponují vlastními historiemi a také vlastními, specifickými charakteristikami. Čtyři ze sedmi identifikovaných dvojměstí, konkrétně Brandýs nad Labem-Stará Boleslav, Frýdek-Místek, Sedlec-Prčice a Veselí nad Lužnicí-Mezimostí nad Nežárkou, má tzv. dvojitě uspořádání. Tzn., že sídelní části těchto dvojměstí jsou prostorově oddělené, plní obdobné funkce a reprezentují konkurenční centra (fokální centra podobného významu). Ostatní tři městské konglomeráty, konkrétně Bohumín, Hranice-Drahotuše a Kutná Hora-Kaňk, disponují satelitním (monocentrickým) uspořádáním, jehož sídelní součásti mají různý stupeň významu, bez ohledu na jejich funkční typ (větší sídlo je obvykle několikanásobně větší než sídlo menší).

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