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CONCEPTUALIZATION OF THE HISTORIC MINING TOWNS IN SLOVAKIA IN THE INSTITUTIONAL, URBAN-PHYSIOLOGICAL AND URBAN-MORPHOLOGICAL CONTEXT

Introduction

The issue of strengthening the competitiveness of towns has an increasing importance in contemporary globalizing world. The gradual removal of barriers and increasing information linkages of today's world, expose individual towns to the hyper-competitive environment. Towns compete with each other in order to attract financial and human capital. Globalization brings certain unifying tendencies, but on the other hand, it also encourages cities to become different in some ways and attractive to the inflows of financial capital, residents, and visitors. Individual cities are, therefore, seeking to strengthen their competitiveness. In these efforts, it can be observed a rising tendency to apply the tools of territorial marketing and branding.

These statements are particularly true in case of the historic towns possessing cultural heritage in the form of material relics and specific atmosphere (*genius loci*), which are related to their previous functions. If such potential is subject to proper preservation and promotion, it can be further exploited especially in the tourism industry. Historic towns, therefore, face the challenge of how to use this potential of cultural heritage and apply it on the market. It is increasingly more evident that the efforts of individual towns do not have to be successful. Consequently, cooperation between the towns in order to offer new products appears to be the more promising strategy. Generally, it is not enough to focus all the efforts only on the cooperation within micro-regional and meso-regional scale. The current globalizing tourist market requires enhanced cooperation in a broader territorial context. Within the region of Central Europe, the cooperation within the group of V4 countries (Czech Republic, Hungary, Poland, and Slovakia) appears to be promising. The setting of such cooperation strategy, however, requires a detailed review of the phenomenon of historic town. Consequently, in the next steps, based on the

theoretical and empirical knowledge, we can approach to the application and propose the draft form of a new tourist product.

In this paper we will introduce basic theoretical and methodological issues related to the conceptualization of the historic town in three different contexts: in the contexts of urban physiology, urban morphology and in the institutional context.

The issue of conceptualization of historic mining town

The issue of conceptualization of town is broadly developed in the urban geographic literature (Carter 1995, pp. 12-14). Along with developing urbanization, the level of settlement interactions and interdependencies was increased, the settlement system became hierarchically organised, and also the complex or mixed settlement systems were established (e.g. as a result of suburbanization). Such development only made it more complicated to adopt a clear definition of the town. A dichotomous division of towns into rural and urban was replaced by the concept of the urban-rural continuum. In an effort to make the definition of town objective, the multi-criteria approach was adopted. The most commonly used are the criterion of size, legal and administrative criteria, sociological criterion (urban lifestyle), functional criterion, and morphological and physiognomic criteria. In relation to the orientation of our research, in the next section we will pay more attention to the functional, morphological and physiognomic, and legal and administrative features of the issue.

Nowadays, in the literary sources, there are different views on the emergence of towns. Most authors consider the creation of the initial towns an evolutionary product which is connected with the social division of labour. Later on, under this labour division, the business was separated from agriculture. The existence of an advanced agriculture and agricultural surplus and also the emergence of social class (which obtained the overproduction), were the primary conditions of this development and in such way these towns began to dominate their rural backgrounds. This theory, which appeared also in the historic work of Arab thinker, Ibn Khaldun, was adopted by many other authors (see Maik 1992, p. 18). Another view was presented by J. Jacobs (1970), who argues that the initial towns were established during the existence of hunter-gatherer societies at the places of exchange of their products. According to her

opinion, also agriculture emerged in these towns and subsequently, it was spread to the countryside. In both cases, however, the emergence of towns is associated with the exchange (trade). It is assumed that there was a spatial diffusion of the urbanisation process from the listed initial urban centres to other areas (Maik 1992).

In respect to the long-term and spatially differentiated nature of the urbanization processes, the notion of town, in the time and space, is subject to change. There are many cases showing that, in the course of time, a specific town might gain, but also might lose the character of the town. This raises some theoretical and methodological problems in our discourse concerning the conceptualization of the historic town. In fact, we face a number of options in real life; however, only following of them can be considered a relevant:

- a) existing towns, which were formed by the progressive development of the rural settlements;
- b) existing towns, which have been continuously developed as towns since their inception (they were established on the greenfield);
- c) existing towns which had the character of the town in the past, however, they gradually lost this character;
- d) existing towns with preserved multiple discontinuities in their development;
- e) vanished towns (preserved only in the form of archaeological sites).

The dynamics and length of development are also important aspects in terms of listed options. In most cases, we talk about gradual (evolutionary, continuous) changes spread over a longer period of time. However, we can also come across the relatively rapid changes (revolutionary, discontinuous), which can appear as a result of natural and anthropogenic catastrophic events, crisis or vice versa of strong development impulses (e.g. connected with the emergence of disruptive innovation).

This general introduction has to be discussed in more detail in order to operationalize the concept of the historic town, which will be further used in the context of our research. For this purpose we can use various theoretical frameworks. In this paper, we are going to look at the problem from the institutional, urban-physiological, and urban-morphological perspective.

Institutional context

The institutional perspective is based on two basic approaches. The first approach includes the application of administrative and legal criteria for the definition of a town. The second one includes the institutional frameworks for the protection of monuments and cultural heritage.

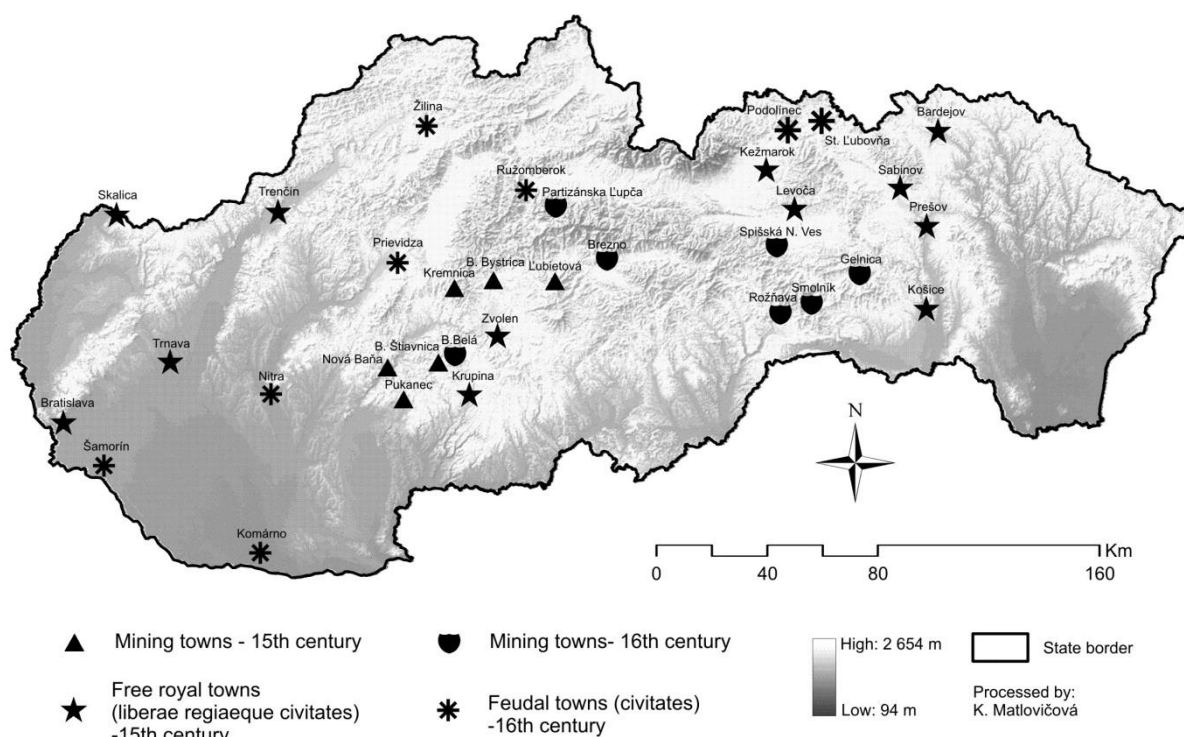
Administrative and legal definitions of town

In case of the first approach, we talk about the administrative and legal definitions of town. The advantage of these criteria is their explicitness. It means that a specific town either has or does not have the status of a town. The roots of applying these criteria in Slovakia date back to the Middle Ages. The territory of contemporary Slovakia is an example of diffuse spreading of urbanization processes from the areas of Western Europe. Early town settlements (oppidums) were founded by Celts here; however, the medieval urbanization became more intensive in times of the German colonization in the 13th century. Sets of urban privileges and urban codes were adopted from the German environment and accommodated to the national circumstances. The most widespread urban right in Slovakia was the Magdeburg Law. This law was adopted by Trnava, Krupina, towns in the Spiš region, and also by some mining towns. According to the jurisdiction to individual feudal manors, the towns were divided into royal and non-royal. Royal towns had a self-governing character, particularly *free royal towns* and *mining towns* (Tibenský, 1971), which reached the highest level of self-government. In 1238, Trnava became the first Slovak settlement, which was granted the privilege of the town (Map 1). It is believed that the process of creating the urban establishment was in individual cities gradual and the content of individual privileges varied in the details, based on the receiver or processor of the documents (Marsina 1984, p. 30). Governing competences of the town authorities covered the whole territory belonging to the town and also all people living there. The only exception was the aristocrats and religious clergy. These towns were not subordinated to the provincial units, but directly to the king. Their obligations to the monarch (or landlord) were determined collectively and the elected town representatives were responsible for their overall fulfilling. Towns were also given certain judicial competences, which were later expanded, and thus municipal courts were created (Marsina, 1984, p. 42).

The process of granting town privileges by a monarch (free royal town) and by religious and secular landlords (feudal town) had the greatest intensity in the 13th and 14th century. Later on, the network of towns in Slovakia was stabilized due to the economic factors. The market spheres of influence were already divided, the territory was saturated and thus the formation possibilities of other competing centres were reduced. In case of mining towns, there was a decline due to the lower profitability of mineral deposits, which also had implications for the scope of privileges (Štefánik, Lukačka, 2010, p. 7). On the basis of this development, it is possible to consider the transition period from medieval to early modern period (first quarter of the 16th century) a time span of the historicity of the towns in Slovakia.

In the early 15th century, the status of a free royal town (*liberae regiaeque civitates*) was granted to 18 towns, 12 of them had a character of craft and market centres (Bardejov, Bratislava, Kežmarok, Košice, Krupina, Levoča, Prešov, Sabinov, Skalica, Trenčín, Trnava, and Zvolen), and 6 of them were mining towns (Banská Bystrica, Banská Štiavnica, Kremnica, Ľubietová, Nová Baňa, Pukanec) (Žudel 2010, p. 82; map 1). At the end of the Middle Ages (in the first quarter of the 16th century), also Banská Belá joined this group of mining towns. During this period, the group of feudal towns (*civitates*) included also other market towns (Komárno, Nitra, Podolíneč, Prievidza, Ružomberok, Stará Ľubovňa, Šamorín, Žilina) and mining towns (Brezno, Gelnica, Nemecká (today called Partizánska) Ľupča, Rožňava, Smolník, and Spišská Nová Ves) (map 1) (Žudel 2002, p. 38-41). Mining activity was also developed in other settlements; however, these were either small towns (*oppidums*) (e.g. Dobšiná, Hybe, Jasov, Pezinok, Solivar - Soľná Baňa) or villages and settlements (e.g. Nižná Slaná, Vyšný Medzev).

Map 1: Historic towns in Slovakia in 15th and 16th century



Based on the above statements, as historic mining towns in Slovakia can be understood towns with mining function, which had the status of the free royal town or feudal town at the end of Middle Ages. In terms of administrative and legal criteria, for the needs of our further research, following 13 Slovak towns are considered historic mining towns: Banská Belá, Banská Bystrica, Banská Štiavnica, Brezno, Gelnica, Kremnica, Ľubietová, Nemecká (Partizánska) Ľupča, Nová Baňa, Pukanec, Rožňava, Smolník, and Spišská Nová Ves (map 2, tab. 1). Banská Bystrica, Banská Štiavnica, Brezno, Gelnica, Kremnica, Nová Baňa, Rožňava, and Spišská Nová Ves are the towns which keep the statute of the town up to the present day.

Map 2: Historic mining towns in Slovakia

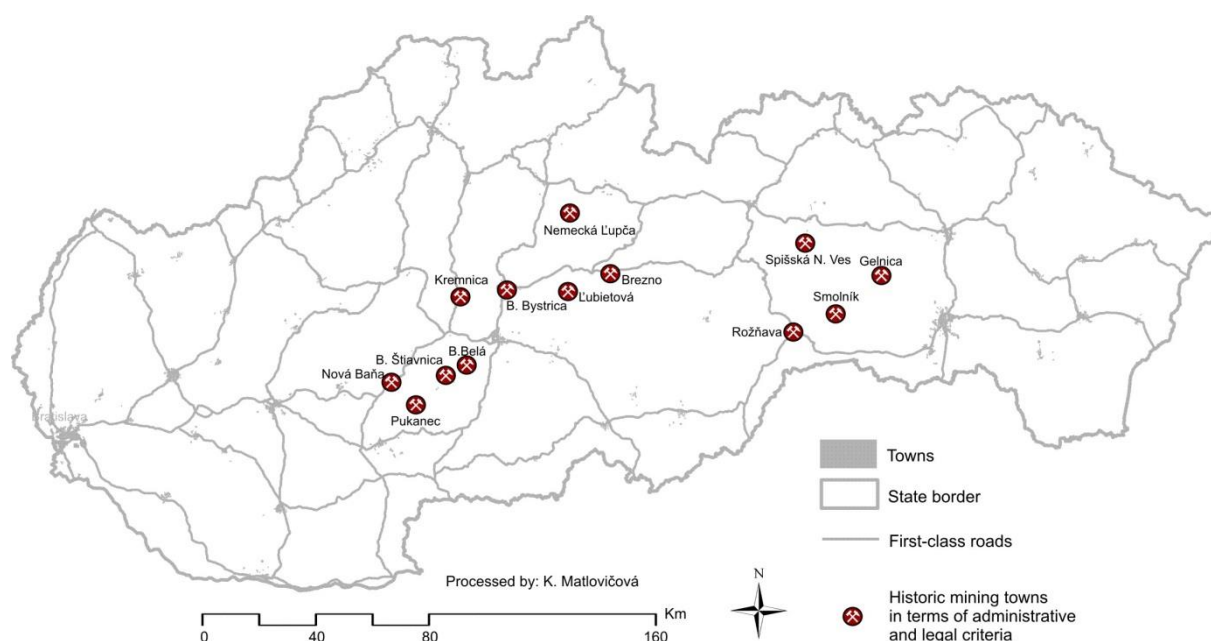


Table 1: Overview of the historic mining towns in Slovakia

Name	First written document (Year)	Granting of the town privileges (year)	Number of inhabitants ¹		
			Year 1869	Year 1940	Year 2011
1. Banská Belá ²	1228	1425	-	-	1 240
2. Banská Bystrica	1255	1255	5 950	13 045	79 775
3. Banská Štiavnica	1217	1238	14 029	12 962	10 387
4. Brezno	1265	1380	3 793	6 307	21 827
5. Gelnica	1248-1269	1287	5 025	3 947	6 232
6. Kremnica	1328	1328	3 433	6 110	5 571
7. Ľubietová	1340	1379	1 842	1 718	1 089
8. Nemecká Ľupča	1252	1270	2 397	1 997	1 225
9. Nová Baňa	1337	1355	4 269	5 336	7 556
10. Pukanec	1270	1321-1331	3 207	3 116	1 984
11. Rožňava	1291	1379	4 855	6 835	19 651
12. Smolník	1327	1327	2 633	2 238	1 129
13. Spišská Nová Ves	1268	1271	6 691	14 667	37 948

Source: Štefánik, Lukačka et al., 2010; Štatistický úrad SR; Verešik 1974, pp. 532-534.

¹ within the administrative borders at the time of census

²The town of Banská Belá was a administrative part of the town of Banská Štiavnica during the years 1786-1954

The institutionalization of cultural heritage protection

The other way of application of institutional perspective is the perception of the historic town as a part of the current cultural heritage. In such case, it is possible to highlight an institutional framework related to the cultural heritage protection. Thus, the definition of the historic town is in this case based on the statement that it is a town, which is declared a protected cultural heritage by national or international authority.

The protection of the cultural heritage has a long tradition in Slovakia, which dates back to 1853. At that time, in the territory of Slovakia operated *Kaiserliche und königliche Central - Commission zur Erforschung und Erhaltung der Baudenkmale*, which was established by the Imperial Decree of 31st December 1850. Gradually, this institution went through many changes. In 1872, it was constituted a Hungarian temporary Commission for monuments. The main role of this commission was the inventory, documentation, categorisation, and maintenance of monuments. According to the statute from the 1902, the other role was also the establishing of the registry of declared monuments. After the establishment of Czechoslovakia in 1918, the Slovak monument authorities were formed. In 1950, the first eight town monument reserves were declared (Banská Štiavnica, Bardejov, Kežmarok, Kremnica, Levoča, Spišská Sobota, Prešov, Spišská Kapitula). Later on, *The Monuments Board of the Slovak Republic* was established in 1951. Its primary role was to carry out an inventory and documentation of the monuments, research and methodological cooperation in restoring monuments, active restoration of cultural monuments and guiding in the field of education. In 1960, the regional centres of state monument preservation were founded in Bratislava, Banská Bystrica, and Prešov. In 1961, the first proposals of the national cultural heritage were submitted. In the further period, the institutional changes concerning the protection of monuments in Slovakia continued.

Nowadays, these activities are covered by national authority, *The Monuments Board of the Slovak Republic*, and also by the various Regional Monuments Boards. The activity of *The Monuments Board of the SR* is directed by the *Act No. 49/2002 Coll. on the Protection of Monuments and Historic Sites* (Brázdilová 2012). According to this act, the protection applies to the national cultural heritage monuments, historic reserves, and historic zones. The terms

“monuments and historic sites” may mean a movable or immovable property. A historic zone is a „territory with a historical residential arrangement, a territory of cultural landscape with cultural heritage values, or a territory with archaeological finds and archaeological sites which can be topographically definable“ (Act No. 49/2002). Another term, a historic reserve, is defined as a „territory with a homogenous historic residential arrangement and a massive concentration of immovable cultural heritage monuments, or territory with groups of significant archaeological finds and archaeological sites which can be topographically definable“ (Act No. 49/2002). The protective zone is understood as a „territory determined for the protection and controlled development of the area or surroundings of an immovable cultural heritage monument, historic reserve or historic zone“ (Act No. 49/2002).

The agenda of cultural heritage is particularly relevant in the context of the analysis of indicative settlement relics, which will be discussed below within the context of urban morphology.

Nowadays, there are 28 historic reserves in Slovakia. 17 of them have urban character (Banská Štiavnica, Bardejov, Kežmarok, Kremnica, Levoča, Poprad-Spišská Sobota, Prešov, Spišské Podhradie-Spišská Kapitula, Bratislava, Banská Bystrica, Nitra, Košice, Trenčín, Trnava, Žilina, Svätý Jur, and Podolíne) (map 3, tab. 2).

Map 3: Town monument reserves in Slovakia

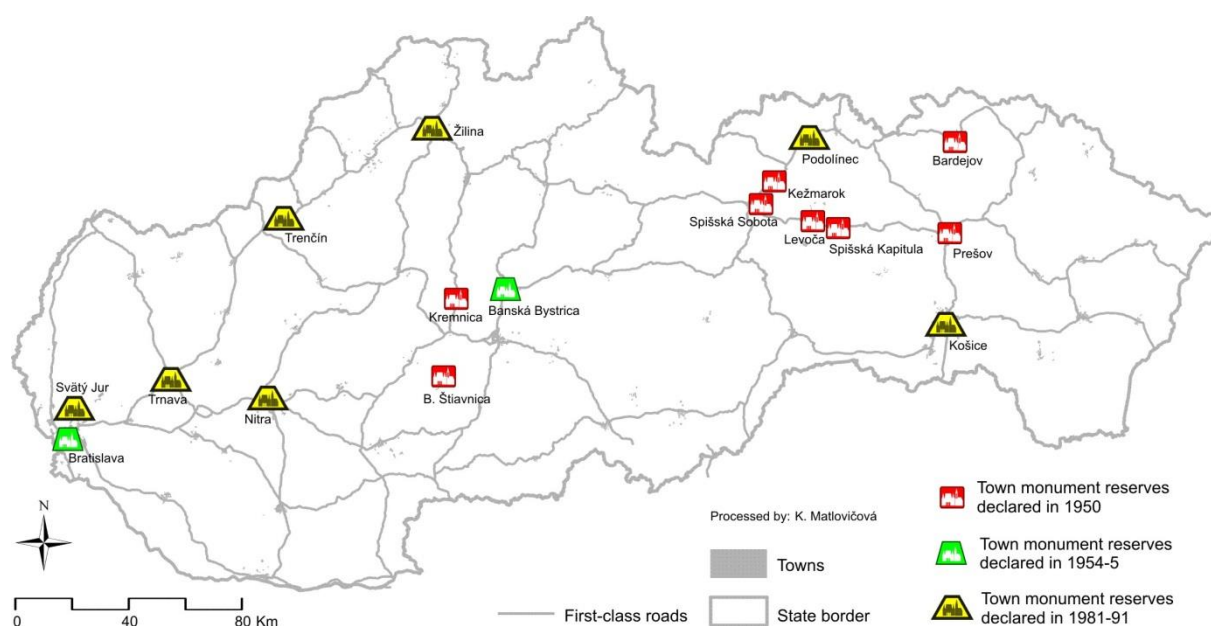


Table 2: Overview of the town monument reserves in Slovakia

Name	Year of declaration	Area in ha
Banská Bystrica	1955	43,5
Banská Štiavnica	1950	52,1
Bardejov	1950	21,9
Bratislava	1954	46,5
Kežmarok	1950	51,1
Košice	1983	85,4
Kremnica	1950	8,1
Levoča	1950	60,7
Nitra	1981	8,2
Podolíne	1991	-
Prešov	1950	42,9
Spišská Sobota	1950	13,8
Spišská Kapitula	1950	8,8
Svätý Jur	1990	-
Trenčín	1987	85,1
Trnava	1987	63,0
Žilina	1987	15,2

Source: Register pamiatkových rezervácií (2012)

Three of 17 town monument reserves are located in the historic mining towns (Banská Bystrica, Banská Štiavnica, and Kremnica). In terms of the historical function of mining, two town monument reserves are in rural settlements in Slovakia. The first one is the reserve of folk architecture in Špania Dolina and the second one is the monument reserve of technical works in Štiavnické Bane.

Besides the monument reserves, there are 83 monument zones in Slovakia, while 52 of them have urban character. Many of them are located in the territory of the historic mining towns and villages: Brezno, Gelnica, Partizánska Ľupča, Rožňava, Spišská Nová Ves, Vyšný Medzev, and Smolník. Special historic zones possess a specific character. They include former mining villages (e.g. Prešov- Solivar) and rural historic zones, some of which are

situated in the former mining settlements (e.g. Hodruša-Hámre, Hybe, Kremnické Bane, Nižná Boca, Širk-Železník).

Adoption of a special act on the city is another way of institutional acknowledgment of the (historic town) excellence in Slovakia. Such acts have been adopted on Bratislava as the capital of the SR, Košice, Martin, Bardejov, and Banská Štiavnica. Banská Štiavnica is the only historic mining town, which is protected by such special act. Specifically, it is the Act No. 100/2002 Coll. on the protection and development of the territory of Banská Štiavnica and its vicinity. The Act applies to a broader area and includes also cadastral areas of the surrounding villages with existing technical monuments (Banská Belá, Banský Studenec, Dekýš, Hodruša-Hámre, Ilija, Podhorie, Repište, Svätý Anton, Štiavnické Bane, Voznica, and Vyhne) (Act of National Council of the SR No. 100/2002 Coll.).

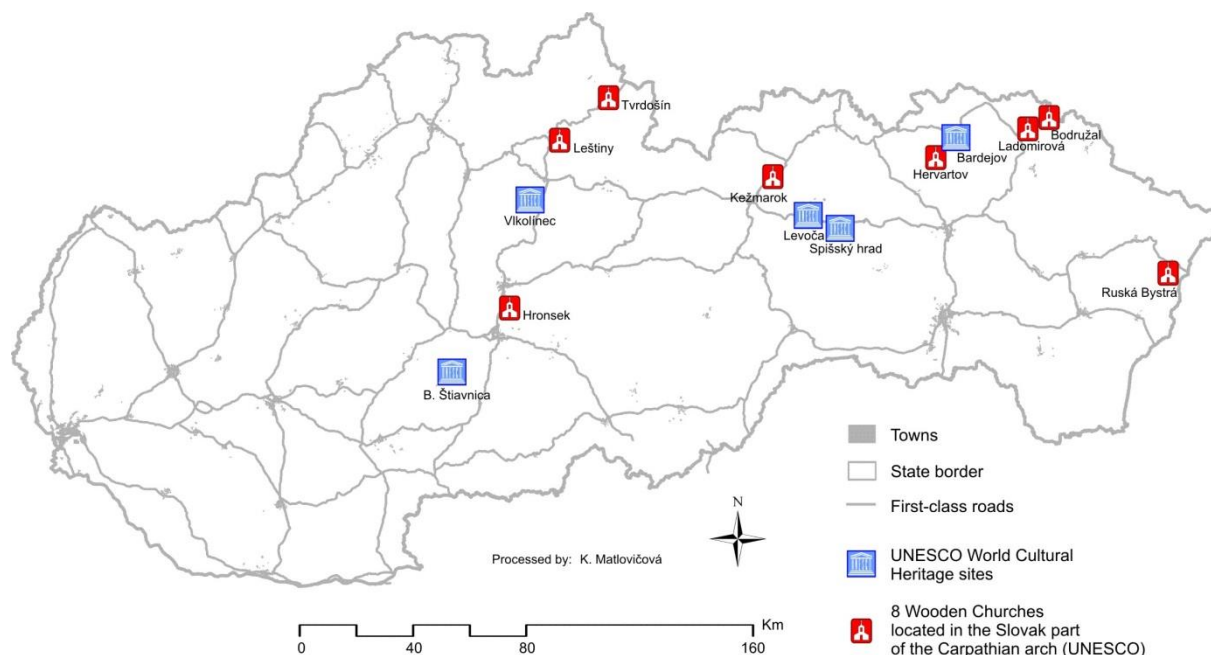
In addition to the national authorities, the historic monuments or the sets of monuments can be included on the cultural heritage lists also by the international authorities. From this point of view, UNESCO has the most important role because of the *Convention Concerning the Protection of the World Cultural and Natural Heritage*, which was adopted in 1972 in Paris. Convention was ratified by the Slovak in 1990 and according to this document, the following shall be considered as *cultural heritage* (UNESCO 1972):

- a) monuments - architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science;
- b) groups of buildings - groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science;
- c) sites - works of man or the combined works of nature and man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view.

The first Slovak monuments placed on the list of UNESCO World Cultural and Natural Heritage in 1993 were Banská Štiavnica (its historic town) and technical monuments in its vicinity, The Spiš Castle and surrounding monuments, and reserve of folk architecture in Vlkolínec. Since 2000, also the historic town of Bardejov has been on the list as well as Wooden Churches

located in the Slovak part of the Carpathian arch (Tvrdošín, Hervartov, Leštiny, Hronsek, Kežmarok, Ruská Bystrá, Ladomírová, Bodružal). Since 2009, the site of the Spiš Castle has been expanded with the historical centre of Levoča. While talking about mining towns, only Banská Štiavnica and technical monuments in its vicinity are listed as UNESCO sites (Map 4).

Map 4: UNESCO world cultural heritage sites in Slovakia



Another initiative providing the institutional acknowledgment of the cultural heritage is the Decision of the European Parliament and of the Council of the EU No. 1194/2011, which has established the action of the European Union to support the brand of European Heritage (European Heritage Label - EHL). The main idea is to offer added value in relation to other existing initiatives, while pursuing the objective to increase the international European dimension of cultural heritage, monuments, natural sites or settlements, including tangible and intangible heritage. The aim is to strengthen Citizens' sense of belonging to the EU and encourage intercultural dialogue. It is expected that the brand EHL will help increase the value of cultural heritage as well as its social contribution and its role in economic and sustainable development of regions, particularly through the cultural tourism (Rozhodnutie 2011). Slovakia has nominated two sacral objects in Pre-Romanesque religious architecture (St. Margaret's church in Kopčany and St. George's church in Kostol'any pod

Tríbečom), Červený Kameň Castle, the mound on Bradlo and the birthplace of General Milan Rastislav Štefánik in Košariská, and the Mint in Kremnica to be awarded by this label (PÚ SR 2012).

The Cultural Routes of the Council of Europe (European Cultural Routes) represent the European Community program with a longer tradition. This program was established in 1987 and its aim was to revive cultural traditions of the known pilgrimage routes to Santiago de Compostela. Gradually, this idea was transformed into the creation of 29 different thematic routes. These routes illustrate the idea of mutual unity and natural diversity of the European culture. The European Institute of Cultural routes in Luxembourg (The European Institute of Cultural Routes - EICR) is entrusted to coordinate all the routes. Several of these routes passes also through the territory of Slovakia – e.g. The European Mozart Ways (Bratislava), European Routes of Jewish Heritage (Bratislava -Museum of Jewish Culture, Chatam Sofer Memorial, Synagogue on Heydukova Street, Trnava - Synagogue, Košice - complex of objects of Jewish community, Prešov- complex of objects of the Jewish community), the Iron Road in Central Europe (Slovak technical Museum in Košice, Slovak Mining Museum in Banská Štiavnica).

Based on the listed findings, it is clear that most of the identified historic mining towns are subject to the protection and have a status of cultural heritage, which is defined by national or international authority. The most comprehensive level of institutional acknowledgment of excellence has Banská Štiavnica, which is a town monument reserve, is protected by a special act, is on the list of UNESCO World Cultural and Natural Heritage, and also one of the European cultural routes runs through this town.

Context of urban physiology

Urban physiology (urbophysiology) is understood in accordance with M. Koter (1994) as a sub-discipline of urban geography, which deals with urban functions (from intra-urban as well as inter-urban perspective). This, nowadays rather metaphorical designation, can be considered a part of the ideological heritage in the development of geographic thought in the 19th century. During this period, organismic understanding of the town concepts and functions was applied based on the analogy with living organisms, which was brought in Human Geography by F. Ratzel (Suliborski 2010, p. 56). When applying this understanding to the

inter-urban perspective, the city was seen as a body which undertakes certain role (function or functions) in relation to the greater whole. Today, we distinguish five basic levels of socioeconomic systems. Consequently, within these systems, the town functions are defined on the basis of inter-urban perspective (local, regional, national, macro-regional - supranational/continental, global) (Suliborski 2008, p. 241). In terms of the intra-urban perspective, the analogy of the body was applied in relation to the urban territories that performed a particular function within the urban organism.

Inter-urban perspective

The concept of function is rather ambiguous. A. Suliborski (2010, p. 61) defined six possible interpretations of this concept in the geography of settlements:

- a) function as a cognitive reflection - a metaphor
- b) function as a type of residents' activities
- c) function as a feature of an object or site
- d) function as a type of job in town
- e) function as a group of towns offering job or housing opportunities
- f) function as a relationship – structural and functional understanding.

Based on the above, it is evident that it is a relatively large field of research that has already gone through several stages of its formation. According to Suliborski (2010, p. 14), functionalism can be understood as a specific epistemological and methodological framework of the interpretation of town and urban space. In the current functionalism (neofunctionalism), the concept of function is being developed from the traditional organismic understanding to the logical-mathematical understanding, which is also reflected by the structural-functional approach in geography. In terms of such understanding, the function of the town reflects the activity, role, and the importance of the town in a certain entity, while as opposed to organismic understanding, the function does not determine the entity existentially, however, rather characterizes the relationships of parts with the entity (Suliborski 2008, p. 241). The concept of function is, therefore, significantly synthesizing and relative concept. It always characterizes the town in relation to other elements of the settlement structure (Suliborski 2008, p. 242). The special as well as enriching insight about the function of the town was brought by the humanistic geography, which works with a metaphorical form of this term and gives a deep and a holistic reflection of the urban space. As pointed out by D. Jędrzejczyk (2004), in terms of the

humanistic perspective, the human reality is understood as the world of values, which form individual and collective attitudes. Towns can be then understood as a myriad of places perceived and experienced by residents and visitors, who also assess these places. Places, which are assessed as the essence (fundamental point) of urban reality, can be identified and characterized in terms of their functions. Function, in this regard, is the final result of thinking about the town. It reflects aspects that are specific to the town but also unavailable for immediate observer (Suliborski 2010, p. 62). Suggestions of the humanistic geography are particularly valuable when working with non-material aspects of the cultural heritage of historic towns and when using their specific atmosphere (*genius loci*) in the development of new tourism product.

Functional approach ranks among the most fruitful in urban geography. Central place theory, urban economic base theory, and the issue of functional classification and typology of towns belong to the classical functional theories. In recent years, these results have been extended with neofunctional approaches, with genetic and functional approaches, and with the concept of institutional town organization (Suliborski 2010). In this paper, we will discuss only selected theoretical aspects of the problem, which will be used in our further empirical research.

Already the representatives of the first development period of urban physiology, tried to address the problem of obtaining and losing the character of the town. W. Sombart (1907) was looking for an explanation of such development in the mechanism of economic and social importance of its residents. He focused on the effects of the relationships between the employment structure of the urban population and the outside world. He understood town as a complementary social system consisting of the residents who do different jobs and therefore, perform different tasks (functions) in relation to themselves, as well as in relation to the external world, i.e. world lying outside the town. Crucial role in the mechanism of town development is related to the group of people that are, because of their abilities and initiatives, likely to attract economic (financial) resources from the external environment. However, such activity of theirs would not have been possible without the work of other groups, which ensure the normal operation of the town (Suliborski 2010, p. 82). These Sombart's thoughts were gradually developed by scholars from the USA and European countries and led to the conceptualisation of the urban economic base theory. This term *urban economic base* was brought to the geographical literature by H. Hoyt (1954), who pointed out that the towns are

territories living thanks to the export and import of various goods, services, and other values. Consequently he distinguished the town-forming (exogenous) and town-serving (endogenous) segments of the urban economy, which are based on the precise analysis of each sector of the economy. He also pointed out that there is a possibility of extension of the above analysis with the balance of financial flows. Decisions about the importance (competitiveness) of the town in the national settlement system/global system are made primarily by the exogenous segment of the urban economy (Suliborski 2010, p. 84-85).

In relation to the conceptualisation of historic towns, it is necessary to characterize those functions, which had a key town-forming importance during the various stages of urbanization. To some extent, it is possible to find inspiration in the genetic-functional approaches (Suliborski 1994). The works of A. R. Radcliff – Brown, a social anthropologist and author of the structural functionalism, can serve as theoretical inspirations of these approaches. A. R. Radcliff – Brown pointed out that the general regularities work on the synchronous platform and cannot be applied to the specific historical conditions or to the forecasting. Historical principles are the counterparts of these general regularities and reveal the causes of changes or events. Only these principles can provide us with an answer to the question concerning the elements that were the most functional in the certain historical stage. Path dependence concept was another inspiration, which appeared in the economics in 1980s (Suliborski 2010, p. 103). Thus, in the genetic-functional approach, the towns are not understood as static, but as dynamic and variable socioeconomic systems, which are characterized and explained by the analysis of their origin, permanence and change of their functions. From the methodological point of view, this approach is based on creating the temporal sequence of events characterizing the different synchronous functional sections as well as on understanding of this sequence as a historical process (story), which illustrates the change of town functions and functional-spatial structure (Suliborski 2010, p. 107). According to this conception, the towns and their functions have been the social products since the beginning of their existence. In the towns, there have also been simultaneously developed two elementary settlement structures: social and physical, which are in mutually complementary relationship. This means that certain material components, in the form of buildings and other permanent facilities, correspond to the certain social elements. If development is heading towards increasing discrepancy between these elementary structures, it means that the town is threatened by stagnation and decline (Suliborski 2010, p. 110). This mutual

linkage also points to the necessity of equal methodological attention to the both elementary structures in the scientific research and definition of historic town. This recognition led us to the fact that, in addition to the urbophysiological perspective; we will also deal with urbomorphological perspective in the second part of this paper.

While solving our problem concerning the identification of the key town-forming functions at different stages of urbanization processes, we can also build on some of urbanization conceptions. In this case according to W. Maik (1992, p. 24), the modernization theory and conceptualization of post-industrial society by American sociologist D. Bell (1973) and the model of changes in the employment structure of the population by French economist J. Fourastier (1963) can be considered useful theoretical inspirations. In analogy with the stages of development of communities, it is possible to distinguish three stages of urban development: pre-industrial, industrial, and post-industrial. Thus, according to genetic-functional approach, various urban settlement forms are consistent with a certain type of community within which the towns are created and also operate. In terms of Fourastier model, four development phases of urbanization can be distinguished - primary (rural), secondary (industrial), tertiary (associated with the development of services) and quaternary (associated with the development of a quaternary sector of the economy - research, innovations, financial sector). According to these conceptions, the individual stages of urbanization correspond to the key functions, which had a decisive influence on the formation and dynamics of urban systems (Maik, 1992, p. 24). In the first (pre-industrial) stage, the key function was an exchange (trade), while later on, also a production (crafts), defensive, administrative, religious and cultural-educational functions played an important role. Mining towns had a specific character. Dominant were mining function and processing of minerals (especially the processing of precious metal ores). During the industrial stage of urbanization, crucial role was performed by the industry, which became the main engine of urban development at that time. In the post-industrial stage, the service sector and in certain specific cases also quaternary sector (technopols) started to be dominant. During the post-industrial stage, cities with metropolitan functions (political, cultural, and financial centres) experienced particularly dynamic development.

One of the most frequently addressed issues within the urban physiology is the functional classification and typology of towns. A number of researches have already been conducted on this topic. One of the first attempts to the

functional classification was made by Ch. Harris (1943), who studies American towns. He identified 8 different types of towns (mining, industrial, commercial, transportation, university, metropolitan, recreational, and polyfunctional). Later on, functional classification of towns was made also in other states (for more see Suliborski 2010, p. 97). The main aim of these efforts was to find out:

- a) the functions, which are of fundamental importance to the town, i.e. which are dominant,
- b) the importance of the town function in a wider context of the considered set of places
- c) the relationship between jobs and housing places of workers in the town.

In the first two cases, we generally build on the analysis of employment structure or on the structure of the exogenous group in terms of the theory of the urban economic base. In the first case, the main objective is to determine the dominant functions, which concentrate the largest number of employed people in the city (Maik 1992). If there is one dominant function in the town, we talk about a monofunctional town. If there are two dominant and roughly equivalent functions, we talk about a bifunctional town. In case of a balanced representation of multiple functions, we talk about a polyfunctional town. In terms of our research, it is suitable to point out at the functional classification of towns in Slovakia - Bašovský (1963), Verešík (1974). Verešík (1974, p. 563), based on census data from 1961, defined three basic functional types of towns in Slovakia:

- a) towns with specialized functions (monofunctional towns, more than half of the town -forming population was working in the dominant industry);
- b) towns with complex functions (poly-functional towns);
- c) towns with residential functions (satellite towns).

Consequently, based on the prevailing functions in the towns, he distinguished several monofunctional towns: industrial (e.g. Nováky, Kysucké Nové Mesto, Svit, Krompachy, Dubnica nad Váhom, Považská Bystrica), transportation (Leopoldov), and healing and recreational (Trenčianske Teplice, Starý Smokovec).

In the geographic literature, we encounter many types of towns with specialized functions. The most often defined are military (defence) towns and urban fortresses, market towns (local centres, regional centres, centres of international and global trade), industrial towns (mining towns, towns of

processing industry), cultural towns (religious and pilgrimage centres, university towns, technopols, towns - museums , congress and festival centres, towns of arts and creative towns, spa & relaxation towns (spa, tourist centres, towns of pensioners), administrative and political centres (capitals, global cities) (Beaujeu-Garnier, Chabot 1971). With regard to the functional classification of towns, it is stimulating for our research to think about developing tourism product, which would establish a network of towns, which are similar from the functional point of view. Based on this approach, it is possible to think about creating the thematic routes in mining towns, spas, towns with post-military function, religious and pilgrimage centres, university and research centres etc.

Intra-urban perspective

Our previous considerations were related primarily to the inter-urban perspective. However, in terms of our research focus and objective, it is also necessary to highlight the intra-urban perspective, which focuses on the internal differentiation of urban space. Theoretical and methodological inspirations will provide us with conceptions of the spatial structure of the town. In our previous works (Matlovič 1998, 2002), we conceptualized the spatial structure of the town as a superstructure, consisting of mutually interconnected partial intra-urban structures –i.e. physiographic, morphological, functional, and sociodemographic. These intra-urban structures are complementary dimensions of the whole superstructure. Therefore, it should be given them adequate attention in the comprehensive study of the spatial structure of the town. Spatial structure (superstructure) of the town is an instantaneous manifestation of the spatially differentiated urbanization processes within the town, which also resembles the spatial mosaic of places with varying degrees of urbanization. It incorporates elements of the old structures and vice versa it also creates conditions for the emergence of new structures, which give rise to the importance of the space-time approach to the study (Matlovič 2002, p. 130). From the listed partial intra-urban structures, functional intra-urban structure is the main object of interest in urban physiology. Under the functional intra-urban structure, we understand the spatial differentiation and the mutual relations of places of certain socioeconomic activities (functions) within the town. These possess the tendency to occupy the most advantageous urban areas under given economic and legislative conditions and thus, create relatively homogeneous functional areas. The most frequent functional urban areas are business and service centre (city), residential, industrial-logistic, and transportation centres, trade and service areas, rest and recreational areas, and unused areas (Matlovič

1998, p. 10). In the suburban area, there are also agriculture, forestry and water management areas. Functional intra-urban structure is closely linked with other intra-urban structures. Good examples include the changes in functions with a slow reaction of material structure (morphological intra-urban structure). In the urban area, they are usually manifested by the existence of the neglected and unused areas, often with environmental burden (brownfields). Functional alterations are associated with transformation processes in the society and economy (e.g. commercialization, de-industrialization, demilitarization, functional fragmentation, sacralisation, etc.). Town development plan is an essential tool for guiding the development of functional intra-urban structures (Matlovič 1998, 2004).

From the point of operationalization of the appropriate concept of historic town, in terms of urban physiology, it is necessary to consider the historical functions of the town. Under historical functions we understand those, the formations of which fall into the previous stages of the urbanization process, i.e. pre-industrial and industrial stages (in the mid-20th century). Thus, these functions have a long-term tradition in towns, which is a potentially interesting element for making tourism product. In terms of tradition and continuity of existence, it is possible to consider a number of options:

- a) existing historical functions - continuously existing since their formation
- b) existing historical functions with the traditions reaching into the past stages and renewed after a transitional period of their depression,
- c) lost historical functions.

In terms of multiplicity of historical functions occurrence, it is possible to think about the following historical towns:

- a) monofunctional – with one existing dominating historical function
- b) monofunctional - with one lost dominating function
- c) polyfunctional - with several existing historical functions
- d) polyfunctional - with several existing but also lost historical functions
- e) polyfunctional - with several lost historical functions

At the same time, we suppose the interconnectedness of the listed historic functions with the material structure of the town or with its immaterial atmosphere (*genius loci*). This means that we expect the occurrence of historic buildings, other permanent facilities, and artefacts (indicative relics), which are associated with some of the developmental stages of the existing historic function or with some relic objects and artefacts representing the lost historical

functions. For objectification of definitions of historical functions and related relics or artefacts, we can use also administrative-legal (institutional) and morphological criteria. Thus, we assume that these functions were in some way identified by the relevant authority as part of the cultural heritage and become the object of protection. These aspects, however, will be closer analysed in the next part of the article.

Consequently, from the urban-physiology perspective, we can identify and define Slovak historic mining towns. These are settlements which were granted the privilege of a free royal town (*liberae regiaeque civitates*) or a town (*civitates*)¹ in the pre-industrial phase of urbanization and had either a character of monofunctional mining town or polyfunctional with the dominant mining function. These criteria were fulfilled by the following towns (in 1514):

- a) free royal towns: Banská Belá, Banská Bystrica, Banská Štiavnica, Kremnica, Nová Baňa, Pukanec, Zvolen
- b) towns: Brezno, Gelnica, Nemecká (Partizánska) Ľupča, Rožňava, Smolník, and Spišská Nová Ves.

Although some other cities also performed mining functions, later on, the dominant become other functions – e.g. Pezinok (viticulture) or they were just small mining towns (*oppidums*) and settlements, which did not have fully urban character (e.g. Medzev, Nižná Slaná, Sol'ná Baňa, etc.). Another case is mining towns, where the mining function appeared much later, during the stages of industrial and post-industrial urbanization (e.g. Handlová).

Context of urban morphology

Urban morphology deals with the material features (built-up areas) of the town². From this viewpoint, it emphasizes intra-urban perspective and only to a lesser extent, it applies also inter-urban perspective (analysis of spatial forms of built-up area, analysis of the spatial pattern of the settlement network,

¹ Based on the Hungarian act no. 5/1514, which established the statutory memberships of Hungarian cities, it was possible, based on the previously granted privileges, to categorize cities into the free royal towns and towns. At that time, there were 8 free royal mining towns in Slovakia. Later on, during the 17th century, other towns with mining function acquired the status of a free royal town (Brezno and Pezinok).

² Morphology is generally a science of forms (from the Greek *morphe* = shape, form). The morphology exists in the linguistics, anthropology, biology, physical geography (geomorphology) etc.

comparative analysis of urban territorial plans etc.). In terms of intra-urban perspective, morphological structure of the town is of the primary interest in the urban morphology. Morphological structure of the town can be understood as a spatial differentiation and spatial relations of material substance (morphological elements) of the town. The main morphological elements include streets, squares, plots, and buildings. Elements can create higher hierarchical units (street network, urban blocks, and neighbourhoods). Therefore, analysis of the urban morphological structure lies in the analysis of an urban ground plan and in identification of relatively homogeneous units in the urban area in terms of operations with the main morphological elements (morphological units). Morphological structures of the towns have their external (physiognomic) and internal (purely morphological) features. The external features are related to the architectural forms (e.g. styles, building materials, and roofing of buildings) and the internal features are related to the urban forms (urban ground plan). While the physiognomic features of the intra-urban morphological structure can be easily observed in the terrain, the morphological features require the use of cartography, aerial photography, remote sensing, and other photogrammetric materials (Matlovič 1998, p. 9-10).

Urban morphology originally dealt with the external aspects of the urban built-up area, i.e. with physiognomy of the town. O. Schlüter, one of the main protagonists of urban morphology, considered topographic position and physiognomy of the town to be basic research problems (Koter 1974). Later on, the interest of urban morphology was extended with the inner aspects of urban built-up area (ground plan of the town and of its individual districts). Urban morphology gradually became a sub-discipline of urban geography. It was dealing with external and internal structures, origin and evolution of the urban organism and its individual components, while it was also considering various factors and processes that influence the formation of a material (physical, morphological) structure of the town (Larkham 1991, Koter 1994, Matlovič 1994). In case of urban morphology, several schools were formed. However, the most productive was British Morphological School, which was based on the work of M.R.G. Conzen (1962). Conzen paid attention to the medieval towns, though, several of his thesis have more general validity. These are e.g. a conceptualization of additive and transformation morphological processes, burgrave cycle, transitional zone at the edge of settlements (fringe belt), and morphological units. According to Conzen, each of the historical periods is characterized by different ways of operations with fundamental morphological

elements, which allow identifying of residential and morphological periods in the development of the town. While the settlement periods may be identified mainly on the basis of socioeconomic and legal criteria, the morphological periods are defined solely on the basis of urban spatial organization (Koter 1979, p. 30), as „any cultural period that exerts a distinctive morphological influence upon the whole or any part of town. The forms resulting will represent the socio-economic demands of that society and will survive to a varying degree as residual features depending upon the demands of successive societies“ (Conzen 1988 in Larkham, Jones 1991, p. 55). Based on the above, we can distinguish several urban morphogenetic units which represent planned and built town areas, and which are relatively homogeneous from the morphological and genetic perspective (Matlovič 1998, p. 17). Conzen also studied procedural aspects of changes in the morphological urban structure. He distinguished additional and transformation morphological processes, and recognized the cyclical nature of additional processes. Within the morphological cycle of urban building plots, Conzen distinguished five phases – initial phase, repletive phase, climax phase, recessive phase, and the phase of urban fallow (Larkham, Jones 1991, p. 69). Other new theoretical and methodological ideas were brought to urban morphology by Polish geographer M. Koter (1974, 1994). These ideas were related to the concepts of urban stratigraphy and indicative relics. Koter particular brought new empirical evidences on the morphogenesis of the industrial town of the 19th century. In terms of our research, the concept of urban stratigraphy is particularly relevant. Koter (1994, p. 24) understands this concept not only as a description of the settlement layers, but also as dating of their genesis. In the urban morphology, this process is realized by means of indicative sites (relics), the architectural form of which corresponds to individual settlement and cultural classes and historical functions. They are often the subject of historic protection and e.g. in Slovakia, they acquire the status of a cultural monument.

Within urban development, it is possible to consider three basic types of towns (Morris, 1994, p. 9-10):

- a) spontaneously developing towns
- b) towns built according to the development plan (e.g. checkerboard, radial-concentric)
- c) polygenetic towns - contain spontaneously developing but also planned built-up areas.

Spontaneously developing towns have a complicated and irregular morphology. Irregular morphology may be determined by location specificities of the town, especially by its physical-geographical micro-location³. In this context, we can rely on the knowledge of urban physiography. A physiographic intra-urban structure is formed by spatial differentiation of urban areas in terms of their natural potential (suitability) for the development of various types of urban building. Analysis of this intra-urban structure is based on physical-geographical analysis and physiographic analysis of the urban area as well as on the identification of urban physiographic areas, which are relatively homogeneous in terms of their natural environmental potential for development of the various functions and morphological types of urban development (Matlovič 1998, p. 9).

Several location characteristics, that reflected the primary functions of towns, were used at the formation of towns in Slovak republic. Landscape features, which provided natural protection for enemy attack, were used in connection with the defence function. These were rivers, hills, lower mountains, river terraces, meandering rivers, or spurs above the confluence of rivers. Trade function required suitable location for transport, e.g. at the crossroads of military and trade routes or at the crossroads of mainland routes and river. During the industrial phase of urbanization, also the location at the railway lines or railway junctions became important. Many medieval towns benefited thanks to the position at the interface of qualitatively different natural units (gateway position). In the Middle Ages, important was also a position under the passes, also called rest location. Towns with so called rest location were formed near mountain passes and usually buyers with their caravans were having breaks in these towns after or before passing through the mountains. Location of the town in depressions and lowlands is also very common (Verešík 1974). Specific location characteristics were typical of the mining town. The occurrence of mineral resources (iron ore and precious metals) played a crucial role and suppressed the importance of other location demands. In Slovakia, according to Verešík (1974, p. 545) mining towns are located:

³ Generally, in relation to the location and size of the considering space, we distinguish makro-location, meso-location, and micro-location (Bašovský, Mládek 1989). From the intra-urban perspective, it is important to pay attention to the micro-location of the town, i.e. location in relation to the area, where the town develops.

- a) at the edge (foot) of ore mountains (Banská Bystrica, Krupina, Pukanec, Spišská Nová Ves, Rožňava, Partizánska Ľupča, Brezno)
- b) in the intra-mountain valleys and valleys of ore mountains (Banská Štiavnica, Kremnica, Ľubietová, Tisovec, Dobšiná Medzev).

Mikro-location of the mining towns in the intra-mountain valleys did not allow the formation of their regular morphological intra-urban structure. Historic cores of these towns, therefore, largely follow the course of the rivers, edges of the slopes of surrounding mountains etc. Shapes of squares, streets, urban blocks and building ground plots are irregular. Such mining towns include e.g. Banská Belá, Banská Štiavnica, Ľubietová. Another situation arose in the case of mining towns located in basins (plains) at the foot of ore mountains. In case of these towns, the morphological intra-urban structure has some regular features. These are for example the checkerboard ground plans in Gelnica, Rožňava, Brezno, Kremnica, and Smolník. The towns emerging along the military and trade routes represent another type, in which the main road is expanding and the square is shaped. These squares usually have the shape of spindle/lens, triangle or trapezoid. Spišská Nová Ves and to some extent also Banská Bystrica are the only Slovak mining towns with such ground plans (Mencl 1938 , Verešík 1974).

From the morphological point of view, identification of indicative relics (monuments), which are related to individual settlement classes of the urban cultural stratigraphy as well as to historical functions, play a crucial role in the definition of the historic mining town. In case of mining towns, we talk about the anthropogenic accumulation (i.e. mine dumps, heaps, ponds) and erosion (quarries, mine pits) landforms. The other relics of mining activity include mining tunnels, shafts, and other permanent man-made objects associated with mining – e.g. knockers, machine rooms, gapels, boiling houses, stores, administrative buildings, schools, water reservoirs called *tajchy*, dams, channels, aqueducts, houses of miners, mining chapels and churches (St. Barbara - Patron saint of miners and metallurgists). Mining is closely related to the metallurgy, which is represented by ore processing places, melting furnaces, forges, iron-processing places (also called *hámre*) etc.

Conclusion

Definition of the historic towns through three applied contexts does not completely exhaust the complexity of addressing issues. It would be interesting

to extend our debate also with other aspects – e.g. historical events, historical personalities, mythology, etc. Despite some limitations, however, we can conclude that the conceptualization of the historic (mining) towns can be based on the triad of contexts.

Based on above findings, as historic mining towns in Slovakia can be understood those, which were granted a status of a free royal town or feudal town in the late Middle Ages (in Slovakia). These towns also had either character of a monofunctional mining town or polyfunctional town with the dominant mining function. The existence of mining function in these towns is evidenced by the relics of preserved anthropogenic landforms and by existing man-made objects associated with mining. These towns are generally declared a cultural heritage by national or international authority and are subject to protection. Preserved cultural heritage is a prerequisite for uniqueness and high cultural value, which can contribute to the economic and social development of the region, particularly through the development of tourism. This development can be accelerated by the increased cooperation with similar actors (towns) and by applying approaches of destination management, marketing and branding.

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